

### THE MARKETING OF SOUTH AFRICAN

### CITRUS FRUITS.

A Thesis submitted to the

FACULTY OF AGRICULTURE

of the

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in Agriculture by

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# THE MARKETING OF SOUTH AFRICAN CITRUS FRUITS.

### INTRODUCTION.

when goods or agricultural products are produced in quantities greater than the requirements of the individual producer, it becomes necessary to dispose of the surplus. Agriculture to-day exists primarily for the purpose of production for sale to consumers and it is this movement or distribution of articles from the primary producer to the ultimate consumer that is termed "marketing".

During his recent stay in Pretoria Dr. Butterfield, in one of his most interesting lectures, expressed his opinion that agriculturists in general, though rightly stressing the importance of improved methods of production, had given too little attention to the all-important problem of marketing.

have showed the farmer how to increase his agricultural production per unit acre of land, they have not aided him in disposing of the increased production. The mere increase of quantity and quality have not meant increased wealth and contentment for the farmers because such do not depend on increase of quality and quantity but rather on prices received for the output. Is it not true that the years of maximum production see the lowest prices paid for the product? It goes without saying that farmers as a whole have been keenly dissatisfied with their financial returns. On the other hand the consuming public protests that it pays too much for most food products.

It.......



It is generally admitted that the difference between the price paid by the ultimate consumer for a given article and the price received by the producer for the same article has been in most cases entirely too great. This spread between producer and consumer is taken up in the marketing process and the attitude taken by the farmer is that he is entitled to a larger proportion than he now gets of the money paid by the consumer for the farmers' products.

At present, then, the problem before agricultural producers is one of marketing rather than one of actual production, as the latter question has received and is receiving a great deal of attention.

The rapid increase in the world's production of citrus fruits during the last decade and the certainty of an even greater increase in the near future makes the immediate solution, if that is possible, of the marketing problem of the utmost importance to citrus farmers.

In this paper, a thesis presented for the degree of Bachelor of Science of Agriculture the writer attempts to outline the various phases in the marketing of South African citrus fruits and attempts to put forward recommendations that may be of assistance to the farmer in the profitable marketing of his citrus fruits even under conditions, weakened by a greatly increasing production of fruits, and by the fact that his markets are six thousand miles away.

Owing to the fact that the writer had only a very limited time in which to make a detailed study of a subject of this nature, and to the fact that, in compari-



son with the overseas market, the local market for South African citrus fruits is, at its best, a small one he has, on the advice of Professor Clark Powell, only referred to certain phases of the problem of local markets.

Conclusions, in many cases, have had to be drawn from rather meagre data for no other reason than that data on a South African subject of this nature do not exist.

The evidence presented has been taken from the following publications:-

- 1. The Official Year Book of the Union of South Africa.
- 2. The Commercial and Industrial Casettes.
- 3. The Monthly Reports of the South African Railways and Harbours.
- 4. The Citrus Grower ( a quarterly publication).
- 5. The South African Fruit Exporter.
- 6. The South African Fruitgrowers' Gazette.
- 7. The South African Fruit Grower.
- S. Farming in South Africa.
- 9. The South African Fruit Growers Exchange, Bulletins.
- 10. The Bulletins referring to the subject issued by the Agricultural Department of the Union of South Africa.
- 11. Various American Publications dealing with the subject.
- 12. Publications of the Empire Marketing Board.
- 13. Crops and Markets.
- 14. Records of the South African Fruit Exchange including several reports, and different phases of the subject, that have been made from time to time and
- 15. The Linlithgow Committee Report, and the writer feels himself highly indebted to Professor H. Clark Powell, Dr. Bruno Hahne, Mr. M. v.d. Hock, Mr. R. Rusk, Mr. H.

Pickstone ....

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Pickstone, Members of the South African Citrus Exchange Limited, Mr. Putterill, the Chief Government Fruit Inspector, Members of the Perishable Products Export Control Board, Members of the Administration of the South African Railways and Harbours, The Inspector of Co-Operative Societies and last, but not least, the Members of the Division of Economics and Markets of the Department of Agriculture of the Union of South Africa, for their valuable advice and assistance.

### CHAPTER I.

The Importance of the Citrus Industry as compared with that of other Industries to South Africa.

### The Importance of Agriculture.

A division of labour only takes place and capital is only obtained when there is a surplus production.

Obviously other industries can be inaugurated only after a surplus food supply enables some members of the community to devote their energies to pursuits other than farming.

The potentialities of any country are in the first place the potentialities of that country for food production. In the case of South Africa manufacturing has practically not started and hence practically no exchange for concentrates from other countries is possible, so that any increase in its carrying capacity must be where by cropping more will be obtained from the crops than from vegetation.

The mining wealth of any country is not an inexhaustable asset and, though it has played a great role in the development of South Africa, it cannot increase the carrying capacity of this country to any great extent in the future.

owing to her geographical position the climate and soils of South Africa, in general, are unsuited to forestry with the result that large, heavily forested areas, in which extensive lumbering activities could be centred, are not found. In 1926 the total area of South African plantations was only 347,027 morgen and of her indigenous forests 4,580,686 morgen of which 4,192,832 morgen was

dwarf.....



dwarf or scrub forests.

Therefore, as the mining resources are not permanent assets, as forestry is not possible on a large scale, and as extensive development of manufacturing is out of the question for at least two or three generations agriculture must be the basic industry of South Africa.

That agriculture is the most important industry in South Africa can be seen by reference to Table 1 showing the estimated value of the agricultural production, as compared to the value of the mining and manufacturing production, of the Union.

Table 1.

Year	Value of Agric. production.	. Value of th	iuot. pro	anufacturing
			Gross Value	Added Value.
1917-18	£70,800,000	£48,600,000	£60,100,000	£25,900,000
1919-20	110,900,000	68,300,000	92,900,000	39,100,000
1921-22	65,800,000	40,500,000	79,400,000	36,600,000
1922-23	81,600,000	54,600,000	74,500,000	37,300,000

The valuation of the agricultural production was made on the basis of wholesale and open market prices and shows that agricultural production is increasing at a faster rate than mining which is remaining more or less stable. The sudden inflation immediately after 1918 was due to the effects of the "World War".

#### Importance of the Citrus Industry.

Table 2, shows the relation of the value of citrus fruits exported to that of some of the other most important agricultural products.

Table 2.....



Table 2.

The values of some of the most important agricultural products exported from South Africa.

Year.	Citrus Frui	t. Deciduous Fruit.	Maise.	Beef.	Wool.
1924	£222,872	£203,711	A192,001	<b>£118,</b> 966	<b>215,763,95</b> 2
1925	353.523	367,467	5,669,405	199,726	15,095,446
1926	339,459	349,149	908,541	89,363	12,645,851
1927	423,500	396,972	1,266,111	5 <b>7.</b> 359	17,117,948

The value of the total agricultural export of the Union of South Africa is between £25,000,000 and £26,000,000. The production of maize will not increase to any great extent, that of wool will, no doubt, increase but is limited by the carrying capacity of the land as is also the beef production. Since 1927 the value of the citrus fruit exported from South Africa has greatly increased and will undoubtedly increase still more greatly in the near future for a large percentage of the trees planted, as will be seen later, have not yet come into In area, South Africa has a much greater amount bearing. of land, suited to citrus growing, than even California, which is producing twenty times the quantity of citrus fruits than South Africa is at present producing.

Hence, of Agriculture in the Union citriculture is one of the most congenial as well as most profitable branches. It is indeed more than merely a profitable business enterprise for there is a glamour, a romance connected with orange growing that is not to be found in the cultivation of other fruits. It is an enterprise that attracts people of all countries and all stations of life

and.....

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and in the words of Professor Clark Powell "it would not be an exaggeration to say that, on the average, the people engaged in citriculture are of greater capabilities, enterprise and general progressiveness than any other group of people engaged in agriculture.

It is well known what part citriculture plays in the agricultural production of California and provided that, and always provided that, South Africa produces an article of highly standardized quality, well graded, attractively packed and well marketed, there is no reason why it cannot be made to play as great if not a greater role in the agricultural production of South Africa.

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### CHAPTER II.

## THE EXPANSION OF THE CITRUS INDUSTRY IN SOUTH AFRICA.

### The History of the Industry.

Most probably the first introduction of orange trees into South Africa was during the time of van Riebeck when, owing to shortage of food, the ship "De Tulp " was sent to St. Helena for provisions and returned on the 11th June, 1654. Willem Gerrits, a gardener, was sent along with the Tulp to fetch some young apple and orange trees and returned with some fruit trees which he obtained "from those planted long before", evidently on the island, and which were at that time nearly growing wild there. This apparently notifies the first introduction of oranges into the Cape. These trees were evidently planted there and slowly distributed throughout the Cape Province as it became populated.

The French Huguenots in particular took up the matter of orange-growing with great spirit, their orchards in the Drakenstein Valley and French Hock being celebrated at an early period. In a series of letters, published in "South Africa a century ago", Lady Anne Barnard describes how she and her husband had walked in an Orange Grove planted by Mynheer Wegg about eighteen years before (i.e. about 1750) and how he had sent twenty-seven wagons, each containing about six thousand oranges to Cape Town and still had many more to send.

At......



At a later date, in the same month, she describes the Orange Grove of Mynheer Lategan's as "exceeding anything her imagination had formed as luxuriant". There is also evidence that the "Voortrekkers" took orange trees along with them.

The following extract from a letter written by W. Tuck to the Agricultural Journal of 1892 shows some interesting facts:

- \* In or about 1850 Mr. J. Brehm, of Ultenhage, imported direct from Rio a case of orange trees mainly for the purpose of getting this variety\*, (i.e. the Washington Ravel or Bahia).
- "Unfortunately the rate got to the trees and destroyed a number of the labels and also gnawed the bark off a number of the trees below the grafts."
- "Happily the Bahia Orange escaped and two others, one was the Malta Egg Orange; the other had lost the Label but the graft had escaped. For the want of the true name this last one somehow got the name of the "Cinnamon Orange" now known as the Haartjie or Tangerine".

  He (W. Tuck) further states "that the Mavel orange then introduced, was nothing more or less than the true "Bahia" which was at that time exported extensively from the Mediterranean ports".

In 1854 trees grafted by Mr. W. Tuck were distributed to various parts of the Cape Province.

Thus, although there is a difference of opinion as regards the trueness to type of the introduced Bahia, it is clear that the Navel Bahia was then imported into South

Africa......



Africa and evidently, by accident, a false form which was rectified at a later date, was obtained.

Mineral discovery in about 1870, followed by the resulting influx of people, meant a congentration of population and hence an internal market for disposing of produce and Kimberley became the means by which a big railway expansion was to take place. These results were very much magnified by the discovery of gold in Johannesburg. These discoveries resulted in internal farming being changed and improved to meet the sudden increase in demand.

In the annual reports of Tidmarsh's Botanical Unrdens, Grahamstown, reference is made to the fact that the Government was approached with the view of obtaining some assistance in the introduction of a collection of the "best procurable sorts of the orange, lemon, etc., from Bahia, Malta, and the Agores". Some thirteen varieties were selected in Surope by Mr. O. D. Rudd and these were planted and propagated from 1895 onwards and distributed among the farmers whose demand for grafted orange trees was already in excess of the supply. The report of 1897 makes a reference to the wider use of the Seville orange and the use of the Pampelmoes as stocks while that of 1901 admits that the Rough Lemon stock gives larger trees but claims that the quality of fruit was poorer. In the writer's opinion this was probably due to the young age of the trees. wide use of the B itter Seville as a stock, at this time was no doubt responsible for a great loss to farmers for it is now a well established fact that this stock is

totally.....



totally unsuited to South African conditions.

Enormous losses in farming were suffered during the Boer war but at the same time there was an inoreased flow of capital and this caused a sudden development immediately after the war. Agricultural Departments, though in existence before the war, were now brought up to date and experimental stations were started off. New crops and varieties were introduced. hand Banks were established and co-operative movements started. Production improved not only in quantity but also in quality. Maturally these sweeping changes were also to have their influence on the slowly developing Citrus Industry. In 1905 the Chief Entomologist, Mr. Lounsbury, introduced direct from Brazil a new importation of Washington Navel trees. One of the original troos of this importation is to be seen at Baddaford farm. near Fort Beaufort. Some years ago several importations were made from California, which have included trees of the most highly selected standard strains that were selected by A. D. Shamel, of the United States Department of Agriculture.

England that the first real impetus towards the establishment of the present-day Citrus Industry of South Africa may be traced. This Society held a show in London in 1906 for the exhibition of citrus fruits and it was then demonstrated that South Africa could grow oranges and all other fruits of the Citrus family to a perfection as great as could be obtained in any quarter of the globe.

The ......



The following extract from the "Tribune", London:7th June, 1906 is of interest:

\*One of the most interesting sections of the exhibition was that devoted to the Transvaal and South African products. It was the first time that South African fruit had been exhibited in England. Oranges and Citrons were the chief feature of this section, a species of seedless orange having received the special recommendation of the judges. The Transvaal had carried off seven of the Society's medals (two gold and five silver) and three had been awarded to the Cape exhibits.

As an outcome of this the country took a keen interest in the export of oranges. Commencing in 1907, the day of small things, the number of boxes exported was three thousand. The planting of orange trees, as can be seen by reference to Table 3, now steadily increased.

TABLE 3.

The number of citrus trees in the Union in the specified years.

Year	Lemon trees.	Orange Trees.	Haartjie tro	es. Total.
1911	172,856	985,601	404,189	1,562,646
1918	ટ્ <del>ય</del> ાલ, 336	1,825,662	441,904	2,515,662
1924	225,950	2,959,790	321,180	3 <b>,</b> 806 <b>,</b> 920
1925	270,540	3,559,280	341,900	4,171,720
1926	192,920	3,633,130	307,340	4,133,390.

The expansion in citrus-growing during the last six or seven years has been truly agazing.



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From 1907 the export trade in citrus fruits has steadily increased as can be seen from Table 4.

Table 4.
The Export (in boxes) of citrus from South Africa.

Year	Number of boxes exported	Year	Number of boxes exported.
1907	3,000	1918	4,064
<b>1906</b>	14,454	1919	54,677
1909	38,081	1920	135,184
1910	13,053	1921	230,175
1911	26,976	1922	293,000
912	18,414	1923	412,000
913	37,309	1924	525,894
1924	<b>68,9</b> 55	1925	<b>7</b> 69 <b>,59</b> 9
1915	53,273	1926	624,170
1926	59,964	1927	940,594
917	<b>3,58</b> 0	1926	879,861

The deflation in the export of fruit after 1914 was the result of the combination of a number of factors: the inforcement of the Fruit Export Act, the South African Rebellion and the Great War. During the war South Africa was compelled to consume most of her fruit locally.

The continuous expansion, as indicated by the above figures, was due to a combination of circumstances, wis:

1......



- 1. Low rate of freight from inland to the ports;
- 2. Low shipping rate from South African ports to England;
- 3. Efforts of the Fruit Exchange established in 1921, and
- 4. Compulsory inspection of all fruit exported, together with proper standardisation of the product both with regard to sizes of boxes and their contents.

After the first year of experimental work in exporting in 1907, when railway and shipping rates were very high, very considerable assistance was rendered to the growers by the action of Government in arranging a flat rate for the export of citrus fruits from any station to any port in the Union, and by inducing the Union Castle Steamship Company to provide cool chamber space at a particularly low rate.

In 1914 a Fruit Export Act was passed which did much to regulate citrus as well as deciduous fruit Standard sizes of boxes were introduced and export. their use made compulsory, and by the same law it was laid down that no fruit would be exported unless it had been previously inspected and passed by a competent official. The benefit to the industry of this law has It has compelled been great and will be incalculable. the grading of fruits for size all over the Union; it has standardised packs and given a certain guarantee of quality; it has made it possible by the use of standard sizes of boxes for any grower to know at once the market price of his fruit as cabled from overseas. Proviously boxes of many different sizes were used.

Regulations have been made, from time to time, in consultation with growers and experters, and on the



whole it may be said that without this act the outlook for the fruit industry in South Africa would be far less bright. Annual meetings have taken place between the growers and officials of the Agricultural Department and all matters in connection with fruit export discussed fully and freely with the result that mutual confidence has been established and a general good feeling prevails. Some little differences arose in the early stages with regard to the adoption of different sizes of baxes as standards but those have all been satisfactorily settled.

the Fruit Export Act was amended in 1917 by Act number 31 and revised regulations governing the export of fruit were published in 1922 and 1923 respectively and are now published annually.

In order to place the organisation of the industry on a sound basis and with the object of eliminating the shipment of waste and inferior fruit, likely to bring the South African product into disrepute, a South African Fruit Growers' Exchange was formed in December 1921 including fruit growers from all parts of the Union and Rhodesia. This Exchange was further stabilised by its reorganisation in 1926, and the distribution of produce on the overseas markets was brought under better control by the appointment of an overseas representative of the Exchange.

Act No. 12 of 1925 made provision for the control of the export of fruit from the Union and of the shipment of fruit at Union ports by a Fruit Export Control.....

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Control Board. This was amended in 1926 and a Perishmable Products Export Control Board took the place of the Fruit Export Control Board.

at Cape Town and later at Durban has resulted in placing the export trade on a much firmer basis.

Further acts and amendments, the most important of which were the Shipping Contract, concluded in 1926 and the introduction of the Total - solids - acid ratio in 1926, have been made from time to time and these have all helped to place the Citrus Industry on a stable basis.

What may prove itself to be one of the milestones in the history of the Citrus Industry in South Africa is the establishment of the Citrus Experimenting Station at Melapruit in 1927.

## THE PRESENT POSITION OF THE INDUSTRY. INTRODUCTION:

Africa, great variation in both soil and climate throughout the entire country is only natural and hence those
sections best suited to the propagation of species of
the citrus family, are widely scattered. This fact is
made more significant by the large areas that a number of
the farms are composed of. What Mr. H. G. Wells says:" South Africa is a country not only of immense spaces but
of immense speciousness. Everything is far apart; even
the grass blades are far apart" is particularly appropriate in the case of the citrus orchards of South Africa.

Citrus......



Citrus growing is pre-eminently a business requiring oc-operation in various operations such, for instance, as irrigation systems, fumigation, spraying, packing, marketing, dissemination of instructions and information and interchange of ideas and experiences and, if people are far apart, co-operation becomes difficult.

This factor is probably the greatest hand:oup to the citrus industry of South Africa for, as far
as soil, climate and water supply is concerned, she has
a very large area, probably over a million acres of land,
according to Professor Clark Powell, suited to the successful culture of citrus fruits.

### AREAS OF PRODUCTION FOR EXPORT.

The following are the citrus producing divisions of the Union together with the amount of fruit exported from each during the 1925 season:

Table 5.

AMOUNT OF FRUIT EXPORTED FROM THE CITRUS
PRODUCING AREAS DURING THE 1928

SEASON.

ARKA.	Fruit exported (Shipping tone)
Transvanl.	
Marioo	1,870
Koster	1,984
Rustonburg	7.794
Magallesberg	138
Horthern Transvaal (Warmbaths to Mylatroom)	217
Northern	•



	Aron		ruit exported Shipping tons
Northern T	<b>Fungv</b> aa	l (Potgietersrust, Sebediela)	3,780
		(Louis Triohardt, Messina)	93
North Kast	ern Tra	nsvaal (Tsaneen area)	1,184
d e	•	(Selati: Acorn Hock etc.	) 684
Bastorn Tr	anevaal	(Kaapmuiden Valley & Barberton	) 432
**	**	(Karino - Alkmaar)	1,950
4	đ	(Elandshoek - Airlie)	2,772
椭		(Lydenburg)	55
•		(White River, Plaston)	3,481
South East	o <b>rn</b> Tra	navoal (Piet Retief)	5#
NATAL.			
Coast			90
Main-1	lne		160
Muden a	& Colde	n Valley	4,008
CAPE.			
South West	ern Die	tricts (Paarl, Groot Drakenstein	
		Wellington & Somerset)	948
Western Di	stricts	(Clanwilliam, Piquetberg, Porter	•
		ville)	237
Southern	#	(Hontagu, Robertson, Swellendam, Hossel Bay)	281
Northern	4	(Orange River)	243
Karoo Dist	ricts (	Calitzdorp,Oudtahoorn,Ladiamith Graaff Reinet)	227
Enstern Di	etr <b>i</b> ote	(Langkloof, Humansdorp)	1,194
<b>5</b>	ŧ	(Guntoos Valley)	1,423
w)	<b>u</b>	(Uitenhage)	978
#	•	(Bundays River)	1,095
e	•	(Orahamstown, Bathurst)	453
	•	(Fort Beaufort, Kat River)	2,086
		(Somerset Eqst)	129.

Although these figures do not represent
the total production of each area, they give some
indication as to which divisions are the most important.
They must not be taken too literally, however, as they
are only for one season and the figures of production
for one season only are always apt to be misleading.
Further some areas are expanding more rapidly than others
so that what is the most important area one year, may be
surpassed by another area in the succeeding year.

What characteristic reactions the climates of the different citrus sections of South Africa will have on the fruits of the various varieties has not been determined. Certain sections may produce very superior fruits of a certain variety. It is important that growers observe and study climatic reactions in order to determine what varieties are most satisfactory for each section.

VARIETIES OF OTTRUS FRUITS GROWN IN SOUTH AFRICA:
THE SEEDLING.

In South Africa, as in all other countries, the cultivation of citrus fruits first started with seed-lings, and here, as elsewhere, many growers still advocate seedlings because of their vigour. The exact meaning of the word "seedling" being an orange grown on a tree which has itself been produced from seed and allowed to grow up and bear fruit naturally without having been grafted on budded. The seedling growes that now exist produce, in general, a fruit of fair quality and size and, if properly grown and handled, such fruits will probably for several years find a ready market at moderate prices.

Seedlings .....



Seedling groves that have reached bearing-age can probably be profitably continued as they are, but, owing to the increasing competition on the market, inferior seedlings should preferably be worked over to standard varieties that are more in demand. While top-working means a loss of the crop for several years and a shock to the tree, it can successfully be done with old trees of even thirty to forty years of age.

Fruit from the miscellaneous seedlings of varying type cannot be build up a reputation for a country or sell for a maximum price and South Africans surely will not wish to have their groves of the future constituted of such trees. The main objection to seedlings may be summed up as follows:

- 1. They do not produce true to type.
- 2. They have large numbers of seeds or a few only.
- 3. They lack uniformity in sise, shape and time of ripening, and
- 4. They grow into unwieldy, large trees which it is impossible to properly fumigate or spray for insect pests or plant disease. One never knows when planting the seed of citrus, what the resulting fruit will be like.

It must be remembered, however, that what we call "warieties" are mainly nothing more than specially good seedlings that have been chosen because of certain superior qualities they possess and groves of the future, if they are to produce fruit that will compete favourably in the world's markets, must be grown from carefully

selected.....



selected strains of known superior types. Whether any such superior strains will be selected from the South African Seedling is a difficult question to answer, but it is quite possible.

### THE VALENCIA.

Judging from observation, the Valencia is in general to be considered the most satisfactory orange wariety for most sections of South Africa especially the Transvaal. Some growers claim that they prefer the Du Roi, a variety that is becoming quite popular of late, but as the writer cannot see any distinction, worthy of commercial importance, between the two varieties, he is not discussing them separately.

In certain regions, especially in the Cape and Natal, the Valencia has not been planted as generally as the Mashington Mavel but where seen, is doing well and some growers even claim to prefer it to the Mavel. In general it appears that good type trees of this variety have been used in propagation in South Africa but through carelessness to observe the principles of bud selection, groves that were planted out before 1926, are found to be showing a fair amount of variation.

#### THE WASHINGTON NAVEL.

More has been written about the Washington
Navel than about any other variety of the citrus family.
In the past it has occupied the position of the dominant
variety in South Africa but that position is now being
taken by the Valencia. This is no doubt due to the
better adaptability of the Valencia and to the fact that

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the Washington Mavel, unless careful selection is practiced and this has not been done in the past in South Africa,
shows a great tendency to throw bud-sports the fruits of
which, though Mavels, are usually of very inferior quality
and often worthless.

A study of the South African groves reveals the distressing fact that many of them are made up of a collection of very variable as well as inferior types. In one grove that was visited by the writer no fewer than eight distinct variations were noticed. Groves of this nature are by no means exceptional and trees, often as many as sixty per cent of the orchard, showing these off-type variations should be top-worked with more profitable types.

According to Dr. Webber the Havel may be termed " the weak sister of the orange family" but we always cherish the weak sister. If one is not a student of horticulture, it would be wisest to plant some other variety as growing navels demands a specialist. Judging by the quantity and quality of the fruit it appears that the Havel is best suited to conditions prevailing in the coastal regions of the Cape Province and Hatal.

### THE LES GIM GONG.

Among the variaties of oranges recently introduced the Lew Cim Gong is apparently the most promising. It was imported from California and those growers, who have so far tried it, are all well satisfied and claim that it is well suited to conditions prevailing in the Kastern Transvaal.

OTHER.	 _	_	_	_	 _	_	 	



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### OTHER ORANGE VARIETIES.

There are many other orange varieties of good character but none has come to stand as have the Valencia and Washington Havel.

The Joppa, Jaffa, Pineapple, Paper-rand, St. Michael and Mediterranean Sweet are all well-known mid-season varieties, each possessing certain qualities of excellence and all planted to some extent in South African groves but their market appears to be a special one so that the demand for this type of orange, as also for the Blood oranges such as the Malta Blood, is a limited one.

The Selecta orange and also the Seville are planted to a limited extent in South Africa.

### MANDARIN OR MAARTJIE VARIETIES.

In general the naurtjes of the South African groves are simply maartjes or at the most "Cape Maartjes" and have been propagated as seedlings or as layers from other seedlings. This is of course due to the fact that the groves are all mainly old plantings, the new groves that have been put out in recent years being almost wholly of Havels and Valencias.

of good quality, is when judged by external appearance, still green and unrips. No market will accept a green coloured citrus fruit as satisfactory and it is doubtful if one ever will. This variety has no doubt been responsible for some of the severe criticism to which South African nearties have been subjected.

The standard varieties: the Dancy tangerine and the Satsuma, do not seem to have been as successful



in South Africa as the Cape martje. How warieties of good quality with seedless fruits of larger size and more regular shape not "necked" or "suppled" are very much needed. There will always be a good market for a limited supply of good marties.

### GRAPE-VRUIT OR POHELO VARIETIES.

Africa has only reached a commercial extent during the last few years and even now it is not known whether its tulture in all sections in which it has been planted, is going to be successful or otherwise. It must be admitted that the trees usually grow well and the quality of the fruit from some areas is undoubtedly good but this cannot be said of the majority of the plantings.

Judging from results obtained in California, Orape-fruit is more localised according to climatic conditions than any other variety of the Citrus family.

of a number of strains, differing widely from each other, and it is quite possible that some of the strains will be found to be suited to the conditions of some of the citrus areas of South Africa. At present the writer is of the opinion that the Triumph is the more generally adapted wariety to the conditions in the Eastern Transvaal while growers in certain sections of the Cape Province claim that the Marsh Seedless is best suited to conditions there.

The Grain- Fruit planted in South Africa in the past was limited almost wholly to the above two varieties. Six Percy Fitspatrick of Amansi, some fourteen years ago

introduced......



introduced such leading varieties as Walters, Ellen, McCarty, Pernambuco and Foster and these have been spread to different sections of the country, as well as a wariety, the "Cecily", bred by Sir Percy Fitspatrick, but there is no definite evidence yet as to which varieties are to be recommended in South Africa. In general in America it is considered that the selected strains of the March Seedless are superior to all other varieties of Grape-fruit.

### LEION VARIETIES.

Because lemons are exported to a minor extent, their propagation is mostly limited to production for home consumption. If a regular but limited supply of good quality fruit was forthooming however, there is no reason why a growing demand for lemons could not be encouraged in South Africa especially in her growing urban centres. It would be possible to supply lemons throughout the year for not only are there a number of varieties that mature over a long sesson, but there issues the possibility of storing lemons in cold storage for several months.

in 1925, and the position has improved little since then, Dr. Webber states: "at the present time the lemons to be seen in South African markets are a fearful and wonderful lot. Scarcely a fruit is to be found that would not go to the "cull heap" in an up-to-date packing house. Growers cannot hope to extend the use of a fruit unless they offer a product that will attract the buyer. At present half of the fruits in the markets are of the rough

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lemon....

lemon type which should not be grown except to furnish seeds for nursery purposes and the remainder, which comes from such improved varieties as the Eureka and Villa Franca, is not generally ploked until it is overgrown and thus over-rips and poor in quality. I have been told that many South Africans prefer rough lemons but I believe this is due to the fact that they have never used cured lemons of a good variety.

He also believes that South Africans are worthy of better treatment and would appreciate and pay more for a good article which would cost no more to transport and sell but little more to grow and pack.

Though there is practically no export market for South African lemons owing to the Mediterranean production, it must be remembered that the South African market is not to be despised and the man who puts up a good article will surely get the trade.

### THE DESIRABILITY OF USING A PEW VARIETIES:

The general tendency when starting a fruit industry is to plant a large number of varieties. The market demand is for a regular supply of fruit of a known standard type and quality and the grower should attempt to supply what the market demands. Then again the growing of a few varieties in large solid blocks is the most economical method of production. It facilitates the picking and handling of fruit, the planning of farm work, the keeping of crohard records, the planting of cover crops, irrigation, etc. It is easier to handle two or three crops than a large number and no grower,

unless....



unless he is operating on a very large scale, should handle oranges, grape-fruit, meartjes and lemons, neither should he grow half a dozen different types of oranges.

In South Africa at present groves are mixed in a large measure. Seedlings in this blook, Valencias in that, Mavels here and maartjes there and not infrequently the trees are mixed in the same rows. In the recent blooks, solid blooks of one variety prevail but even now most growers have too many varieties. As to which will be the most important varieties in South Africa is difficult to say but according to present statistics and conditions, it will be a big advance for the industry if growers will centre their attention on the Washington Mavel and Valencia varieties and grow only the best strains of these varieties on the best stocks for This will also simplify the each special locality. nurseryman's problem and avoid dangers of mixing and consequent disappointment.

An idea of the present extent to which the various varieties of citrus fruits are grown in the Union may be obtained by reference to Tables 6, 7 and 8 respectively.

Table 6 ......

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TABLE 6.

Number of Orange Trees Grown for Commercial Purposes in the Union of South Africa,

1927.

Age	Ca De	Matal	Transvarl	Total.
Under 3 yrs.	351,025	21,903	575,981	948,909
3 to 4 years	122,953	38,627	600,335	761,915
5 to 7 years	148,726	40,783	472,160	661,669
d yrs a over	245,092	32,809	400.134	678.035
Total	867.796	134.122	2.048.134	3.050.528.

These figures show that about 55 per cent of the trees were below five years of age and consequently not yet yielding appreciable quantities of fruit.

Only about 20 per cent had reached the full bearing age. A greatly increased production is therefore to be expected.

Information was also collected regarding the number of orange tree growers were proposing to plant during the next two or three years and it was found that the number of trees already planted would probably be increased by 20 to 25 per cent.

High prices received during the 1925 season greatly stimulated plantings but the fall in prices in 1929 will no doubt limit further plantings for a while.

Table 7......

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TABLE 7.

The Export of Citrus Fruit from the Union.

Variety	Total number	of packages.	Total weight ping tons.	in ship-
	1927	1928	1927	1928.
Seedlings	275,229	184,090	15,531	10,345
Mavels	322,983	308,500	18,193	17,359
Valencias	223,552	298,568	12,610	16,849
Du Roi	9.465	12,770	655	727
Medit. Sweet	7,005	7.759	396	435
Maltese Blood	Total for	274	Total for	16
Jaffa	these	7,960	miscellaneous	450
Ht. Michael	misoslaneous	503	varieties	31
Pineapple	varieties	514	was 376	29
Selecta	Wild t	81.		5
Sevilie	6,642	1,773		100
Lew Cim Cong		161		10
Grape-Truis	37,398	31,900	2,110	1,800
Bhaddooks	•	14	-	1
Haurtjes	57,918	23,558	970	336
Lanoma		1,436		80_
Total	940,594	879,861	50,841	48,563

The 1928 season crop suffered from droughty conditions. This no doubt was the cause of the comparatively low export. The introduction of the Total-solids-acid ratio. would also have limited the quantity of fruit exported; however, the quantity rejected for this cause was comparatively low.

Seedlings.....

Seedlings and neartjes show a greater reduction in quantity than any of the other varieties. This was no doubt due to the fact that the older orchards, consisting mostly of Seedlings and Heartjes were planted before the necessity of irrigation in South Africa was realised with the result that these groves suffered more from lack of water than the more recently planted ones. The same applies to the older Mavelo Orchards.

The increase in the quantity of fruit of the Valencia and other varieties exported, even in the face of the adverse 1928 season, shows to what great extent the orchards now coming into bearing, consist of these more recently introduced warieties.

A fair quantity of lemons was exported during the 1926 season. This was due to the fact that the Mediterranean countries had an unusually bad season and so a few of the South African lemons realised abnormally high prices.

TABLE 6.
The Distribution of the Varieties Exported in Percentages.

Variety	Trans	261	GADE	)	Ha	1 4 1	
	1927.	1928	1927	1928	1927	1928.	-
Beedlings	76.2	74.4	23.4	25.6	Q.4	0.0	
Navels	40.5	57.6	52.4	29.5	7.1	12.6	
Valencias	72.4	70.6	11.6	9.7	16.0	19.7	
Du Ros	45.0	37-7	2.5	5.3	52.5	57.0	
Medit.Swee	171.4	53.3	28.6	46.7	-	•	
Miso. Orang	res <b>56.9</b>	89.5	13.1	10.5	-	<b>(100</b>	
Grape frui		46.9	60.5	50.1	1.2	1.0	
Hearties	15.9	14.0	26.2	46.3	54.9	19.7	

#1d.....

Mid-season varieties of oranges are apparently more popular in the Transvaal than in either of the other two provinces while Matal is apparently concentrating her energy on the production of three varieties of oranges only.

The planting of seedlings for commercial purposes, as can be seen from the above three tables, has fortunately ceased.

THE CHRATION OF THE CITRUS EXPORT SEASON OF SOUTH AFRICA.

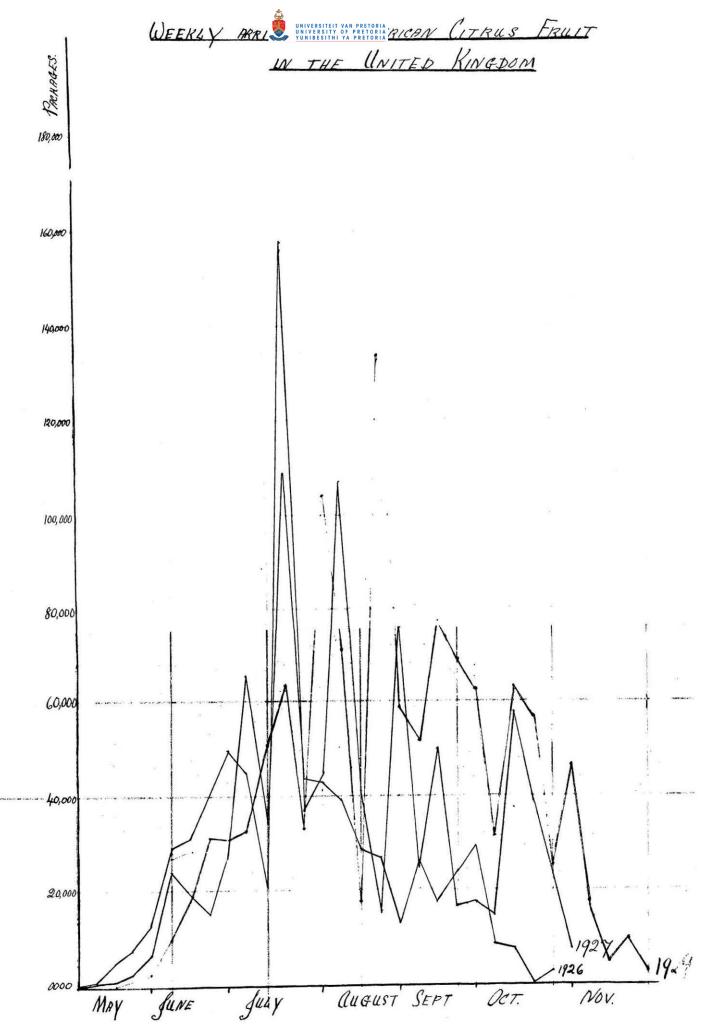
Since South Africa is situated in the Southern Hemisphere the maturation of her citrus fruits takes place during the winter months. This fact places her in the very fortunate position of being able to supply the Northern Hemisphere with citrus fruit during the summer season when the production of fruit in the latter is limited almost exclusively to that of the soft fruit varieties.

The duration of the citrus export season of South Africa, as can be seen from Table 9, is from about the middle of May to about the third week of November. The dates of the commencement and of the end of the export season are however not constant as they wary with the season and with the climatic condition.

These figures clearly indicate that the Washington Navel and Seedling varieties form the principal export fruit during the early part of the season while the Valencia matures towards the end of the season.

The Spanish export season commences towards the end of November and continues until May or June. The

Trui bassassassas
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Hence 1. Heaviest shipments leave South Africa during June, July and August.

- 2. All figures for 1926 are not available but the commencement of the 1929 season is later owing to weather contitions and introduction of the sugar-acid ratio in 1926.
- 3. Increased late shipments in 1929 due to increased valencia crop.



fruit arriving early in the season, however is usually immature and of inferior quality. It is anticipated that if South Africa supplies mature fruit of good quality during this period, she will be able to realise good returns. It is true that the first few shipments sent during the latter part of Sovember and early December have not been too promising but it is quite possible that, when the fact becomes known that South Africa can supply fruit of a high standard quality until the end of December, profitable returns will be realised and this will mean that the duration of her export season will be extended until the end of December.

In view of the fact that the Valencia crop of Eastern Transvaal, owing to climatic conditions prevailing there, only reaches maturity towards the end of September and early October, this factor of extending the export sesson or finding markets for this late fruit is of sufficient importance to warrant investigation.

From available figures it is apparent that the export season for the Mavels and Valencias of Matal is considerably chorter than that of either the Transveal or the Cape Province.

of citrus fruits from the Transvaal commences at an earlier date than those from the Cape Province, which is in turn earlier than Natal, the difference between the commencement of the export season in the different province is only a matter of a week or two and not sufficient to be of any commercial value as far as the extension of the export season is concerned, but if the writer.....



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writer is correct in assuming that the order of the maturation of the fruit in each province is the same as for the respective export seasons, there is a possibility that this factor as also the fact that the fruit of different districts in the same province matures at different times, may be of some value in extending the season of those districts that have a shorter season or a different season as far as local marks to are concerned and thereby increasing the consumption of fruit in South Africa.

Figure 2 is a graph representing the amount of citrus fruits exported from South Africa every week. This graph gives an indication as to when South Africa exports the bulk of her fruit. The bearing of this point on the prices received on the overseas markets It is also a valuable indication will be seen later. of the amount of shipping space required during the respective months and is of importance to the overseas representative of the Enchange as far as a profitable distribution is concerned. As conditions and variaties of fruit grown in South Africa change this graph will have to be changed to meet the new requirements.

#### PICKING OF THE PAULT.

The South African citrus growers, situated some six thousand miles from their markets, have suffered severe losees in the past due to the fact that their fruit arrived at the ports and on the overseas markets in an unsound condition. Hot only did they suffer individual logses but the overseas consumers became prejudiced against South African fruit which as a result naturally fulled to realise the highest prices.



# THE DURATION P THE CITAL EXPORT SEASON OF SCHOOL APRICA.

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erovince.	F 1	r s t	L a	s t	<b>Z</b> <sup>3</sup>	e a k	F 1	ret	La	o t	P	SAE	<u>i</u> r	<b>ir</b> 0	t L	a s t	;	Pe	k.
	127	128	127	*28	127	28	127	128	'27	"28	127	•28	•13	7 19	8 2	7 1	28	127	'28
Transvaal	7.5	14.5	9.10	16.10	-	24.7	7.5	1.5	16.10	9,10	<del>**</del>	26.6	19.	7.	<u>8 30.</u>	10 80	2.11	7	25.9
Matal.	24.6	21.8	9.9	11.9	•	4.9	25.5	28.5	12.8	3 2		26.6	5.1	21.	8 14.	10 2:	.10	-	25.9
Cap e	17.5	21.5	16.10	30.10		24.7	14.5	14.5	18.9	23.10	_	17.7	16.	7 24.	7 18.	io e	5.11		4.9
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7.5 in the first column means the 7th of May 1927.

9.10

4.9 13.8

6.8

Cape.

- 35 -

were carried out by the Department of Agriculture and, as in California, it was found that the principal cause of wastage was due to certain types of fungi entering the fruit. No fungue, however, can enter a sound fruit and the abrasions through which they entered, were found to be due to careless bandling, in picking, packing and transport of the fruit.

perience and through ignorance of the essentials, many mistakes were made: citrus fruits were picked; they were out from the trees with scissors and portions of the stems were left adhering to the fruit; the fruit was subject to bruising and every possible kind of abrasion; it was picked in an immature or over-ripe condition; in general, no particular attention was given to the picking of the fruit and the only object of the picker was to get it off the tree irrespective of the manner in which he accomplished this.

The severe losses which the farmer suffered, forced him to adopt better methods. Through dearly paid-for experience, he came to realise that more attention had to be paid to the careful bandling of fruit.

at present as far as picking is concerned, the state of affairs is fairly satisfactory though far from perfect. Some growers still display careleseness in this direction and do not adopt the most modern procedure. On one farm in the Western Province, visited by the writer, sciences were still in use tosever the oranges from the

tres......

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tree and on enquiry it was found that this was quite a common practice on a few of the adjoining farms.

It must be remembered that one fruit decaying in a box may be the cause of the decay of fruits coming into contact with it.

It is of interest to note that several marks of the fruit exported always arrive on the overseas marks that in a wasty condition. Does this not reveal the fact that the shippers of such fruit pay less attention to the proper picking and handling of their fruit than do those whose fruit always arrives in a sound condition?

During the 1929 season practically every shipment showed waste to an extent five and even as high as
thirty per cent. The fact to be noted is that a few
of the more carefully handled marks showed no waste at all.
Taking the value of a box of oranges as one pound sterling,
it will be realised that a five per cent loss on the
South African citrus crop this season will mean a loss
of over \$50,000. This is a serious factor and one
that must be remedied at once.

A certain percentage of the fruit will always be injured but this should never exceed two per cent and should be culled during the process of grading and packing.

In South Africa where coloured labour is used, it is imperative that some responsible person be placed in charge of the picking-gang and it should be his duty to match carefully each man at his work and to see that it is properly done.

The ...........

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The word "picking" as applied to the gathering in of a crop, is a misnomer as no orange should be
picked from the tree or removed from it by any other
means than cutting by means of a clipper designed
specially so as to eliminate all possible chance of
injury to the fruit in the operation.

In using clippers it is customary to sever the stem about an inch from the fruit, then a second cut is made removing the entire stem squarely with the exception of the extreme end by which it is attached to the orange. The removal of the stem close to the fruit is of great importance in order to prevent it from injuring the fruits with which it comes into contact.

Pickers should be made to understand that their work must be done carefully; their finger-nails should be trimmed so that there may be no danger of even the slightest scratch or puncture to the skin from that source, or better still, cotton picking gloves should be worn.

Pickers should carry specially constructed bags strung round their necks in which to place, not drop, the fruit shen picked. These bags are so designed that the fruit can be carefully released through the bottom of the bug into specially constructed "lugboxes" in which there should be no danger of the fruit being injured. No sand must come into contact with the fruit.

Under no circumstances should picking be done
when there is dew or mist on the fruit. In this con© University of Pretoria

nection....



nection it is interesting to learn from Mr. Taylor and Dr. Hall of the Maxoe Estates, Shodesia, that they dare not pick for three weeks after a rain; if they do, sour rot (Cospora citri aurantii) almost invariably takes heavy toll of the fruit. Cocasionally samples of fruit affected with this fungus have been obtained from export consignments from the Union and Dr. Doidge is authority for the statement that it occurred commonly during the 1925 season in association with the brown rot fungus (Pythiacystis citrophthora). It may possibly occur with the blue and green moulds and sometimes be masked by them.

The effects of early spring rains and of rising temperature, conditions on the keeping and carrying quality of late fruit especially require investigation. It is considered that the late rains during the 1929 season were responsible for much of the decay reported in South African exports.

Irrigation just before picking fetrimentally affects the carrying quality of the fruit but to what extent is not certain. This is a subject calling for investigation especially since waste of fruit is so frequent in South African shipments. It should be determined what climatic factors and otherwise affect the carrying quality of fruit from the Union.

In order to prevent injury to the trees and to the fruit, picking ladders designed specially for the purpose should be used for those fruits that are too high to reach comfortably.

The ......



# Export of Citrus Fruit.

No. 702.]

[12th April, 1929.

EXPORT OF CITRUS FRUIT.

His Excellency the Governor-General has been pleased to sanction the issue, in terms of section seven of the Fruit Export Act, No. 17 of 1914, of the undermentioned amended

Government Notice No. 608 of 1928 is hereby cancelled.

#### REGULATIONS.

1. No fruit intended for export shall be inspected under these regulations unless the requirements of the Perishable Products Export Control Board in respect of the registration of the name, address, distinctive brand and number of the person intending to export citrus fruit, and of the rendering of estimates of intended shipments shall have been compiled with.

Vide regulations Nos. 25 and 26 of the Perishable Products Export Control Board, which are contained in the Appendix hereto.

For each consignment of fruit examined by the inspector the exporter shall pay at the rate of one shilling and four pence per 40 cubic feet of packages of fruit.

(Attention is also directed to Government Notice No. 1452 of the 4th September, 1922, prescribing a special fee of 5s. per 40 cubic feet to be paid in respect of the inspection and grading of citrus fruit exported.)

3. The exporter shall pay the charge for the cold storage required by regulation No. 4 and make his own arrangements for the disposal of his fruit oversea.

4. (a) All citrus fruit which is to be shipped in refrigerated hold shall, in so far as reasonably practicable and in so far as suitable precooling facilities may permit, be precooled in a precooling store approved by the Perishable Products Export Control Board. Unless authorized to the contrary in writing by the Secretary for Agriculture, or his duly appointed deputy, citrus fruits shall be reduced to a temperature of 40° F. within thirty-six hours of receipt in the store and maintained at this temperature within a latitude of three degrees F. during the entire period it is in the precooling store.

(b) Fruit placed in private approved cold stores at the port of shipment will be inspected by the inspector at such stores, provided that forty-eight hours' notice be given to the inspector by the exporter or his agent. Fruit so stored shall, in so far as practicable, be conveyed to the harbour in refrigerated trucks.

5. Every box of fruit submitted for inspection must be consigned to the person or agent appointed by the exporter to arrange the shipment thereof from the various ports, and every consignment shall be accompanied by two Fruit Consignment Declaration Export Notes, in which all the specifications required are given.

6. Boards of reference, composed of persons whose names have been approved for that purpose by the Minister, have been constituted at the ports of Capetown, Port Elizabeth, East London, and Durban, and will be established at such other places as may be necessary, to which an exporter may appeal if the inspector refuses to brand or stamp any box of fruit belonging to such exporter.

7. A fee on the basis of 10s. per one ton or portion thereof, and for any quantity over one ton 5s, per ton extra, with a maximum of £2. 10s., shall be deposited with the inspector by the consignor of each consignment of fruit upon which the consignor may require the inspector to obtain the decision of the Board of Reference under the provisions of section five of

8. The consignor shall, within twenty-four hours of the time of receiving the inspector's notice remove from the place of inspection any fruit which the inspector has refused to hrand or stamp, or which, having been referred to the Board of Reference, has been decided upon by the Board in favour of the inspector. Whenever it shall appear that there is a danger of rejected fruit contaminating other perishables the Fruit Inspector may require the consignor or his agent to remove such fruit forthwith.

Note.—Attention is invited to section six of Act No. 17, 1914, empowering the Inspector of Fruit to destroy or otherwise dispose of fruit rejected by him for export which is not removed from the place of inspection within the period prescribed by the regulation and providing that any expense of storing pending removal shall be a charge against the owner of such fruit.

9. Boxes of fruit marked so as to represent a grade higher than the correct grade shall be re-marked by the inspector, and, if otherwise complying with these regulations, branded or stamped by the inspector as provided in section four of the

10. In case any variety of citrus fruit not specified in regulation No. 21 be offered for inspection, it will, if otherwise complying with the regulations, be branded or stamped by the inspector as provided in section four of the Act.

11. Not less than 5 per cent. of the boxes of fruit in each consignment shall be opened by the inspector for examination, and all boxes so opened shall be stamped by the inspector to that effect.

12. Only new and clean boxes or packages shall be used by

13. Every box of fruit submitted for inspection shall be clearly marked—

#### On one end thereof with

(a) the distinguishing number assigned to the exporter by the Perishable Products Export Control Board and the registered mark of the exporter (or his name or other means of identification);
(b) the variety, number, and grade of fruit;

and on the other end and on top of the box with

and on the other end and on top of the box with

(c) the shipping mark of the agent appointed by the exporter
to dispose of his fruit oversea.

(d) All characters forming names, registered brands, registered numbers, as well as those characters denoting
varieties, numbers, and grades of fruit shall be not less
than \( \frac{1}{2} \) in. in depth in the case of boxes and not less than
\( \frac{1}{2} \) in. in the case of trays.

NOTE.—Where paper labels are used for this purpose,
it is recommended that the particulars appearing on
such labels be also placed directly on the box above the
label for identification purposes, as labels are liable to
become torn from the box.

become torn from the box.

All characters forming shipping marks shall be not less than one inch in depth.

14. Every box of fruit submitted for inspection must be consigned to the person or agent appointed by the exporter to arrange for shipment thereof from the various ports.

15. Notwithstanding anything to the contrary contained in the regulations, the Minister may allow the shipment for experimental purposes of consignments of fruit which do not conform thereto under such restrictions and conditions as he

#### CITRUS FRUIT.

16. Citrus fruit shall be packed in boxes, the size of which

Oranges and Grape Fruit.

Outside measurement-

26 in, by 12 in. by 12 in. (with centre piece).

#### Wood required.

Ends and middle piece (three pieces), 11½ in. by 11½ in. by 11/16ths in.

Top, bottom, and sides (eight pieces) 26 in. by 5½ in. by ½ in.

Top, bottom, and show (which is the first or the first or

(b) Outside measurement 26 in. by 12 in. by not more than 6 in. deep with centre piece. For the export seasons 1923 and 1929 boxes 18 in. by 12 in. by not more than 4½ in. deep will be permitted but not thereafter.

#### Lemons.

(c) Lemons may be packed in any of the standard citrus

(a)

(c) Lemons may be packed in any of the standard citrus packages.
(d) All boxes shall have cleats on the lids. The 12 in. deep boxes shall be strapped at each end and in the middle, but the shallower boxes need not be strapped. The strapping shall be nailed over the cleats, but the middle of the lid shall not be nailed to the centre piece. Wire bound boxes shall not be allowed.

17. All oranges and grape fruit boxes shall be packed tightly aroughout, and the bulge after nailing up shall not be less an 1 in. from the centre board or more than 11 in.

18. Each citrus fruit shall be wrapped in tissue or other similar paper. If wrappers are descriptive of any particular variety of citrus, such description must agree with the fruit contained therein.

19. All fruit in one box shall be of uniform size and of one

20. All fruit shall be of good quality, in sound condition, fully developed, not too ripe or too unripe, free from disease, bruises, cuts, and shall be of the characteristic shape of its variety.

Note.—(i) The attention of exporters is directed to the extreme importance of care in handling all fruit both before and after packing.

(ii) It is recommended that all fruits should be cured before packing.

21. The following shall be the grades for the fruits menioned:—

#### " A." Oranges.

"Fancy" fruit shall be that which is free from all blemish and injury.

"Choice" fruit shall be that which is sound in all respects save for slight blemishes or other injuries which in no way affect the quality of the fruit other than its exterior appearance.

(c) Fruit which is in all other respects equal to "Choice" fruit but has been marked by hail or causes other than those specified in the following section, but not to such an extent as to be unsightly, may be shipped, but the box shall not be marked "Choice," but shall, in place thereof, bear the word "Standard."

No fruit having scale shall be exported, nor shall fruit having fungoid or mechanical injuries likely to cause waste be exported. The Chief Fruit Inspector may, however, in his discretion, pass scale marked fruit for export provided that a process of cleansing has been employed which is not likely to cause mechanical injury or the breakdown of the fruit.

(e) Maturity.-No oranges shall be exported unless-

(i) they have attained 70 per cent. yellow or orange colour;

(ii) they show on test not less than the following ratio of total soluble solids to acid:--

Seedlings: 5.0:1. Valencia and other late varieties: 5.5:1. Navels: 6.0: 1.

(f) Minimum weight.—The minimum weight of boxes of sizes 80 to 126 shall be not less than 74 lb., and all longer counts must weigh not less than 77 lb. per packed box; the net weight of the fruit shall be not less than 64 lb. and 67 lb. respectively.

(g) Size.—The size shall not determine the grade. sizes of fruit shall be as follows:—

Counts	of		per	box,	average	diameter	31	in.
,,		96	32		,	,	38	,,
27		112 126	,,		,	,	31	,,
**		150	**		,	,	31 3	"
,,		176	,,		,	,	$\frac{3}{2\frac{1}{4}}$	"
33		200	,,		,	,	24 24	"
"		216	,,		,	3	- 12 - 13 5	"
22		226	,,		,	,	001	,,
,,		252	11		,		21/16	22
"		288	7)		,	,	93	"
,,		324	"			,	91	"
,,		344	,,		,	,	91	"
"		360	,,			,	$\frac{21}{2}$	"
**		000	,,		;	,	2	"

" B." Grape Fruit.

(a) "Fancy" fruit shall be that which is free from all blemish and injury.

(b) "Choice" fruit shall be that which is sound in all respects save for slight blemishes or other injuries which in no way affect the quality of the fruit other than its

respects save for slight blemishes or other injuries which in no way affect the quality of the fruit other than its exterior appearance.

(c) Fruit which is in all other respects equal to "Choice" fruit but has been marked by hail or causes other than those specified in the following section, but not to such an extent as to be unsightly, may be shipped, but the box shall not be marked "Choice" but shall, in place thereof, bear the word "Standard."

(d) No fruit having scale shall be exported, nor shall fruit having fungoid or mechanical injuries likely to cause waste be exported. The Chief Fruit Inspector may, however, in his discretion, pass scale marked fruit for export, provided that a process of cleaning has been employed which is not likely to cause mechanical injury or the breakdown of the fruit.

(e) Maturity.—No grape fruit which have not attained 70 per cent. colour typical of its variety shall be exported.

(f) Minimum weight.—The minimum weight shall be not less than 64 b. for all counts up to 64; for counts above that number the minimum weight shall be not less than 67 lb. per packed box; the net weight of the fruit shall be not less than 54 lb. and 57 lb. respectively.

(g) Size.—The size shall not determine the grade. No counts of more than 150 per box shall be exported.

"C." Naartjies.

#### " C." Naartjies.

The following shall be the grades:-

Extra selected.—Not less than 2½ in. in diameter. Selected.—Not less than 1½ in. in diameter. Choice.—Less than 1½ in. in diameter. Puffy-skin, sour and/or green naartjies shall not be exported.

#### APPENDIX

Regulations Nos. 25 and 26 of the Perishable Products Export Control Board.

Export Control Board.

25. (a) No person shall export a perishable product as defined in the Act during any season from the Union to a place outside the Union (other than the countries referred to in section fifteen of the Act) unless he has, at least three months prior to his first intended shipment in respect of that season, applied to the Board in writing to be registered as exporter for the ensuing year, and has furnished the Board in his letter of application with his full name, address, port of shipment, the kind of product intended to be exported, and the approximate date when his first consignment will reach the port of shipment selected by him. The application shall, as nearly as possible, be in the following form:—

"I/We (here insert full name and full postal address)

s nearly as possible, be in the following form:—

"I/We (here insert full name and full postal address) hereby give notice that I/we desire to export through the port of (here insert the port of shipment) the following perishable products (here insert the class of product intended to be exported).

My/Our first consignment will reach the above port of shipment on or about the (here insert the approximate date) next. My/Our boxes will bear the following distinctive mark, namely (here insert the mark of brand).

I/We hereby apply to be registered as an exporter on the above basis."

above oasis.

(b) On receipt of such written application and information, the Board shall register such person as an exporter, and assign a distinguishing number to him, and shall advise him of the fact that he has been registered as an exporter and of the number assigned to him. The number assigned to him shall figure on all boxes or packages tendered by him for export during that season.

(c) Failure by an intending exporter to seath a figure of the season.

export during that season.

(c) Failure by an intending exporter to comply with the requirements of this regulation shall entitle the Board to withhold permission for the shipment of his product, or to refuse to grant in respect of his product any priority of shipment to which, under the regulations or by reason of priority of arrival at the port of shipment, it may otherwise be entitled.

26. (a) Every person who proposes to export a perishable product, as defined in the Act, from the Union to a place outside the Union (other than the countries referred to in section fifteen of the Act), shall furnish information to the Board in regard thereto in such form and within such time as the Board may from time to time require.

(b) Any person who exports any perishable product from the

(b) Any person who exports any perishable product from the Union without having furnished to the Board the information required to be furnished, in terms of paragraph (a) hereof, shall be guilty of an offence and liable on conviction to a fine not exceeding £50, in addition to the differentiation of treatment provided for in sub-section two (2) of section fourteen of the Act.



The object of the picker should be to deliver a perfectly sound fruit to the packer. In
California picking is mostly done by the Co-operative
Packing Houses who have special picking gangs. Some
of the packing houses in South Africa are commencing
to pick, as well as pack, the citrus fruits of their
members. This practice is to be highly recommended
both for condition and standardisation (uniformity in
maturity, etc.) as well as for economical reasons.

In California some pickers act as commercial picking gange picking fruit at a fixed remuneration.

After carefully emptying the fruits into the lugboxes, these should be placed in the shade and carefully hauled to the packing house as soon as economically possible.

#### CHADING AND PACKING.

Following on the process of picking is that of curing, grading and packing.

In their third report the Imperial Economic Committee strongly recommends the Governments of the Empire to impress on producers, organisations in their territories the necessity for striving to carry the standards of production and presentation to the highest possible level.

In the Citrus Export regulations is sued annually and appended hereto the Covernment, prescribs the regulations to which all citrus fruit intended for export must conform. Among others certain of these regulations make provision for the standardisation of grading

and....

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and picking. No regulations exist, however, as far as fruit for local markets is concerned.

ment maintains an inspection service. The Chief office of this inspectorate is at Table Bay Harbour, Gape Town and branch offices are established at the ports: Mossel Bay, Port Elizabeth, East London and Durban, and also at certain inland centres such as Marico, Helspruit, Bustenburg, etc. Advice on packing and packing demonstrations are given by the inspection staff and where necessary inspectors will make personal visits to growers for this purpose.

for export was packed in any shape and size of container in the best way the fruits would fill up the bex. Paraffin boxes, soap boxes and practically any kind of containers were made use of. Orowers paid little attention to such matters as grading and appearance but perhaps the worst offenders were to be found among the speculative buyers who often bought the fruit on the trees and packed it irrespective of size and quality with no other object in view but the profit that would be made. All these practices only strengthened the prejudice against South Africa as a producer of citrus fruits.

The increasing competition on the oversess market assisted by South African legislation, however, has compelled the South African producers to pay more attention to the standardisation of their fruit as regards grading and packing.

Modern.....

Modern machinery, the increasing number of cooperative packing-houses, better methods of production
and the increasing strictness of the Government fruit
inspectors are all assisting in raising the grading
and packing of South African citrus fruits and it is
hoped that it will be raised to a standard equal to that
of anywhere in the world.

African Trade Commissioner in London states \* that the packing and sizing of a box of South African oranges will be all that can be desired is, as with condition, accepted by the trade as a matter of course.\*

"Some 'Choice' packs do not always show up too
well against even someone else's 'Standard' but this is
a point the practical difficulties of which are realised
only too well. There was an attempt to introduce halfcases of oranges to these markets. It was not a success
and the salesmen had difficulty in disposing of them and
this in spite of the excellent demand for citrus generally at the time when they arrived. The recognised
package on these markets for oranges is the standard
box as in use at present."

This may lead some to consider that the grading and packing of South African citrus fruit needs no further improvement but it must be remembered that two hundred and fifty tons of fruit were rejected at the ports in 1928 for faulty packing and a further nine

hundred......

hundred for being underweight due, in a large percentage of cases, to too slack packing. In this connection Mr. R. Bulmer of the Repacking Depot, Cape Town, remarks as follows: "I have seen packs during the 1926 season that have evidently not been thoroughly wilted and have arrived at the docks and been rejected by the Fruit Inspectors for being 'slack pecked'. In some cases they have been so slack that I have had to repack them two counts higher i.e. 150's at 200.

In comparison with the California standard of grading and packing, it must be admitted that South Africa occupies second place so that if she mants to compete successfully with that country, it is essential for her to improve her grading and packing still further.

to a large extent to standardise grading and packing but there are too many farmers that are not members of such houses and the individual farmer cannot afford to erect expensive packing-houses fitted with the most modern machinery. This fact is making standardisetion exceedingly difficult and every farmer should make every possible effort to become a member of a co-operative packing-house.

Familiar examples of the high degree of standardination by co-operative associations are brought to mind by the mere mention of 'Sunkist' oranges, 'Enstmore' cranberries, 'Sun-Haid' raisins, 'Diamond Brand' walnuts etc. The greater the control of the central organisation over the product, the greater possibility....



possibility that a high degree of perfection may be reached along this line.

Some of the reasons for the necessity of standardisation are:

- 1. To meet competition from other countries;
- 2. To hold the confidence of buyers;
- 3. To encourage increased consumption by producing an article which practically sells itself;
- 4. To improve the carrying quality of the product by only packing good quality fruit and;
- 5. To make possible a sound and extensive advertising compaign.

Quifornia produces a highly standardised article under the brand "Sunkiet" oranges and though the best South African citrus fruits are equal to, if not superior to, the best Californian, the latter always realise the highest prices due to no other reason but that they are highly standardised and can consequently be well advertised.

with reference to the export regulations for citrus fruits there are a few details that must be remembered. It has been customary in the past to allow the fruit to wilt for five or six days before grading and packing. Lately experiments tend to prove that two or three days is sufficient time for curing, the objects of which are:

 To allow the escape of the surplus moisture from the skins by evaporation and thus to render them tougher and less liable to injury.

2 .......

- 2. To prevent too such loss of weight during transit.

  In connection with this it is interesting to note that the Chief Fruit Inspector warms shippers against not allowing their fruit to wilt long enough and thereby causing the packed boxes to arrive at the powts underweight. Growers must, however, realise that wilting or curing for too long a period causes the keeping quality of the fruit to be effected detrimentally.
- j. To emuble a firm pack that will remain as such.
- 4. To allow any bruises, injuries or insect stings to manifest their presence so that they can be called before packing.

The Fruit Exchange has extablished a Repacking Depot at the Docks in Cape Town to repack the exportable fruit contained in boxes that have been rejected by the fruit inspector who, after repacking has
been completed, visits the depot to re-inspect the fruit.
Any fruit that is rejected and not parmissable for
export, is sold on the local markets of the respective
ports.

regulations. Such grading is done before sixing preferably by white labour familiar with what is required for a "Fancy", a "Choice" and a "Standard pack" according to the actual quality, as revealed by the external appearance, of the fruits. To leave this grading for the packers to determine would be a grave mistake as it would hinder them in their work and would

result.....



result in much confusion and unsatisfactory grading. It is very necessary that the standards set for the grades should be rigidly maintained and all graders should realise that in so far as it is commercially feasible grading should be carried to the point where all of the products in a given grade make the same appeal to the buyer.

UNIVERSITEIT VAN PRETORIA UNIVERSITY OF PRETORIA VINITESITHI VA PRETORIA

Grading for size is one of the most important of all details which go to make up a perfectly packed box of fruit. Unless oranges are perfectly graded for size, they do not pack properly. It is impossible to grade oranges perfectly by hand. Recourse must therefore be had to some kind of machine which will attend to the work in a manner mechanically perfect.

Several patterns of mechanical devices for this purpose are on the market at present. Some of the most modern of these machines, such as the "Stebler Parker" sixing machine, several of which are in use in South Africa and for which the Citrus Exchange have the cole agency, have reached the highest degree of efficiency. The average individual farmer, however, cannot afford such a machine which needs a special pack-house for its erection and uses less efficient sizing devices, some of which are home-made and many of which are inefficient. Several farmers are still using the oldfashioned sizing boards which contain round openings of different sizes into which the fruits are fitted one by one. Such methods speak for themselves and provide another reason why farmers should erect co-operative packing-houses.

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In all cases for the best results a special citrus fruit packing-house is essential. In one case at least a pack-house in South Africa has reached a very high standard of efficiency and compares favourably with the average Californian pack-houses which are, however, of a very much higher packing capacity.

As the packing season of South Africa only lasts for about six months, it is doubtful whether this country will ever quite reach the same efficiently in packing as California which has an all the year round packing season and can therefore specialise to a greater extent.

For wrapping the fruit a thin tough tissuepaper should be used of convenient size for the fruit
which it is desired to wrap. As a guide to purchasers
the following table is given:

For standard box 96 pack use 12x12 inch paper

- \* \* 176 and 200 \* \* lox10 \* \*
- \* \* 216,226 & 252 \* \* 9x9 \* \*

each orange completely and neatly surrounded with paper, which should be finished off with a twist, and, at the same time, be so placed round the fruit as to display the "brand" to the best advantage. All wrappers should bear the same distinctive mark as that which appears on the outside of the box containing the fruit. A neatly prepared brand renders the appearance of the fruit more attractive and the brands on the papers should all be placed in the same direction and not carelessly at random.

Some.....



Some South African Grovers still persist in using plain wrapping paper in spite of the fact that Trade Commissioners always point out that for best results this should not be done.

In 1925 Eat River 30-operation introduced the system of branding their fruits on the skin. ing on this the Trade Commissioner in London reports as follows: \*Aumerous enquiries are received from retail fruiterers particularly as regards oranges branded with the name of their mark on the skin - only one concern so far in South Africa has adopted this now fairly common It has made it just about the best known mark of South African oranges on the market. All growers or at least packing-houses should consider the advisability of branding their fruit\*. During the ourrent season, as far as the writer can ascertain, only four packinghouses are making use of this practice and it is interesting to note that the overseas Publicity Agent of the Exchange is also stressing the desirability of the use of a brand for the fruit itself. Such branding should preferably be done by some mechanical device that does not injure the skin of the fruit in any way. Such devices are now procurable.

The point that South Africa must market a substantial quantity of fairly uniform fruit under an Exchange brand, if she wants to hold her own in overseas markets, has been raised again and again. Owing to the wide variation in the quality of oranges from different parts of the Union, however, the introduction of one brand for all sections would be impracticable for besides.....



besides this point there are many other practical difficulties in the way such as the wide area over which the industry is spread, the difficulty of keeping the standards uniform, etc.

Overbranding, on the other hand, may lead to that undesirable condition of affairs indicated by the old saw which says that one cannot see wood for the trees. There would seem to be some little indication of this occurring in connection with the many marks being adopted for very indifferent South African export fruit, but doubtless this will eventually be remedied by the salutary process of elimination.

one of the ossential requirements to be met in the disposal of any product in large volume is advertising. One of the fundamentals of advertising is that the product must be uniform in quality and identifiable to the consumer. South African fruit, according to Professor H. Clark Powell, is marketed under a large number of brands, probably about 700 of them, and thus no single brand has any opportunity of becoming well known because none of them is a very large brand.

he pointed out above the establishment of a national brand covering better quality fruit, is out of the question at present but the establishment of district or area brands covering good fruit of similar quality, and the subsequent advertising of such brands, is quite feasible and highly to be recommended.

The advertisement of a few district brands of such a nature, though still competing the one with the other, would be a big improvement on the present position where so many brands are competing with each other.

Cortain.....

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Eastern Cape desire to associate themselves together for the primary object of establishing such a brand which will in no way prejudice the standing of the present brands of the shippers concerned. Existing brands identify the fruit much more to the trade than to the actual consumer. Such brands will be retained by the respective packing-houses and an extra brand will be created that will be advertised to the consumer.

Regulations for the brand are suggested herewith by Professor H. Clark Powell and it should be remembered that they are minimum requirements. Should one packing-house ship fruit that is such above the regulations and another house ship fruit that is only slightly above, the interests of no one will be adversely affected. The fruit will still be sold to the trade on the basis of its local brand and any difference in quality will be realised by the respective shippers.

### BRAND XXXXX.

A packed box of fruit shipped under this brand shall consist of mature oranges of one variety, of good eating quality, of normal form for the variety, picked from the tree, of good colour for the variety, of good texture, free from scale insects, substantially free from blemishes of any description, free from any injuries or defects that cause fruit to decay, excluding fruit that is rough, coarse, hall-marked, more than slightly blemished, misshapen fruit, dirty fruit, fruit that cuts dry or shows the effects of frost injury.

Oranges.....

Oranges packed under this brand shall not vary more than 9% below the above specifications.

Oranges shipped under this brand shall be considered immature if the juice does not contain soluble solids equal to, or in excess of eight parts to every part of acid in the juice: In other words the minimum sugar-acid ratio shall be S: 1

All fruit packed under this brand shall be wrapped in paper wraps on which is printed the name of this brand. Local packing-house brand-names shall not appear on the wrappers used for fruit under this brand.

The name of this brand may be stamped on fruit conforming to the specifications of this brand. A uniform size of this brand-stamp should be agreed upon when the name of this brand is chosen and every shipper should use this uniform stamp, whether it be applied to the fruit by machine or by hand. Unless the brand-name be stamped on the fruit itself, much of the value of the brand will be lost.

Should the authorized representative of the Eastern Cape Citrus Association find fruit being packed under this brand which, in his opinion, is below the specifications for the brand, he shall immediately confer with the packing-house manager in question. Should they fall to agree, the matter should be referred to the Field Department of the Citrus Exchange, the decision of which shall be final. Generally speaking, the representative or inspector of the E. C. C. A. should be given wide powers in interpreting the specifications for the common brand. This brand is the property of the

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E. C. C. A. and hence no shipper should be allowed to prejudice the interest of the other shippers by sending fruit under this brand that is not up to epecifications.

An inepector or field-man is essential for the maintenance of the brand. He should be a man who is familiar with packing-house work and familiar with grading operations. He should, of course, be of sufficient ability and character to gain the confidence of the packing-house managers with whom he must deal. During the packing season his work will be to travel from one packing-house to another in order to see that fruit being packed under the brand is up to specifioutions.

This brand should also be stamped on the label end of the boxes containing fruit that is up to the necessary quality. A uniform design for this brand should be adopted and should be as striking and as attractive as possible. This will mean some adjustment of present labels but it is essential. Possibly the two halves of a out orange bearing the brand mase could be super-imposed on present labels.

Fruit not coming up to the above specifications can still be shipped, if desired, under the ordinary brand of the packing-house so that the imposition of a high ratio can work no hardship on unyone.

The above recommendations by Professor Powell have not been approved of as yet but are included to give an indication of the basis on which a district brand may be built up.

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A further point of interest with regard to the Bouth African export regulations is that only clean new boxes may be used to export fruit in. Some growers instead of using white boxes, which are slightly more expensive, have been using brownish boxes. The Trade Commissioner advises growers against this practice for the brown box is not as attractive as the white and therefore does not sell at as good a price.

is at a great advantage over South Africa at present in that she only exports those counts which are most popular on the World's markets and can export these under two highly standardised brands. In this connection the Trade Commissioner for South Africa in London reports: "Whilst on the question of sizes there can be no doubt that South Africa exporters are faced with a very serious problem in the market prospects for very large cranges counts 50, 90 and 112. It must be reslied that by the very nature of things there can only be a very limited trade for cranges of this size at a price which shippers still appear to expect.

The most popular counts on the English markets are from 176 to 200. There may be an outlet for the larger oranges, however, on the Netherlands markets which appear to prefer the shorter counts. Investigation in that direction may prove of infinite value to South Africa. Good quality oranges of the longer counts will always realise a fair price.

Some growers consider that the old 226 pack should be substituted for the 216 pack and the Government

Fruit.....



Fruit Inspector at Port Elizabeth, after a careful study of the pucks during the 1928 season came to the same conclusion. He also considers the 340 pack to be unnecessary and points out that the right diameter for the 360 pack is 2 1/8 inches and not 2 inches.

far better than men and youths. They are better adapted to the work which is clean, light and pleasant and should be well paid for in order to secure reliable and competent workers. Packers should wear gloves or way special attention should be paid to keeping the finger-nails short. With good treatment and good pay the same workers may be obtained ecason after season, the advantages of which are only too obvious.

in the standard export box is simple and easy. It is of interest to note that no other box but the standard size as laid down in the regulations, is acceptable to the overseas markets. In the standard packs shown in the accompanying diagram there is a place for every orange providing that the packing is done correctly, neatly and firmly. A well packed box of oranges on arrival at its destination, should open up with a neat and attractive appearance; this cam be assured by adopting the packs shown and seeing to getting the correct bulge in the box. To obtain the best results, wrapping and packing should be done by the same person who should stand during the operation.

The utmost care must be observed in all operations.

Several.....

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box presses are in use for assisting in nailing down the cover which must be done in accordance to rules. Hailing up the boxes must be done quickly, carefully and efficiently and needs a handy person. Boxes must not be mailed in the centre and nails must be driven squarely into the end pieces and not into the fruit.

The box must be marked in accordance with the regulations and only good marking material that will not sandge or rub off, must be used. All marks should be made with care to neatness for an attractive appearance goes a long may towards realising a high price.

Remarking on the labelling of boxes for export, Mr. Bulmer of the Repacking Depot, Cape Town, recommends packers to either have an attractive label, as most packing-houses have, or else get their brand stamped into the boxes when they are manufactured. The extra cost will be well compensated for by the nice appearance and hence readier sale of the boxes. He also recommends packers to use rubber stamps for marking the counts and warieties of the fruit on the boxes.

The country of origin should clearly be indiouted as a member of the British Empire for the Empire Marketing Board are encouraging the consumption of Empire products in the United Kingdom, which is at present South Africa's greatest fruit market.

quality.		#	*	*		#	*	*	*	#	*		æ	*
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## QUALITY.

The Imperial Economic Committee, after a thorough investigation of the United Kingdom fruit markets. report that : "It is up to the producers to do everything in their power to improve the quality of their output and to arrange for its delivery on the British market in prime condition\*.

"It is absolutely futile and hopeless to ship to the British market anything but the best. Inferior quality graded fruit is invariably slaughtered at great loss to the seller and tends, moreover, to prejudice and depreciate the general market for the good fruit by an appreciable asount. \*

On reviewing the criticisms of the oversea's salesmen and customers, it becomes evident that the quality of her citrus fruit in the past has been no credit to South Africa. Moreover, the inferior quality of the South African product, taken as & whole and compared with the Californian, has been responsible for a certain amount of prejudice under which the Bouth African article is still suffering.

As late as 1927 we find the following extract in the report of the overseas representative:-\* We regret that we are unable to express satisfaction with the quality, especially in regard to navals. have on many occasions pointed out that although much good fruit was shipped from South Africa, yet this was overshadowed by a great deal which should never have been allowed to leave the country. There were large quantities of fruit puffy and dry and what juice there was, had little or no flavour. The Late Valencias were



mostly very good but lacked sweetness, the percentage of sugar being many points below that of Californian fruit.

" Bouth African Grape fruit has also come under the ban of buyers owing to the very thick skin and pith. A further point which elicited the buyers' criticism, was the large number of seeds and absence of juice."

The Trade Commissioner in his report on the reasons for the low prices during 1927 confirms everything that is contained in the above extract and adds these factors in a poor season such as 1927 more than overshadow the undoubted excellence of much of the better class fruit.

That the position indicated above even as bad as it appears, was an improvement on former years there is no doubt. Mr. Pickstone reports that the dovernment Fruit Inspector prior to 1927 found that a considerable percentage of south African oranges were, for all intents and purposes, lemons in disguise. Again on 9th February 1926 Mr. Dana King, Orange Sales Manager of the Californian Fruit Grovers Exchange, while commenting on the South African oranges on the London Market makes the "the South African Fruit was following statement: very dry and after ordering it on two occasions we The character of the fruit seems to 'passed it up'. be that of a very dry Thompsons Naval\*.

Improvement in propagation and cultural practices have enabled the export standards, as laid down in the regulations governing fruit export, to be made higher so that each succeeding season now is marked by an improvement in the quality of South African citrus fruits reaching the overseas market. In 1925 for instance,



a total solids-acid ratio was introduced and also the minimum weight of a box of fruit for export was increased by two pounds. As a result of the improvements in quality the "Produce Markets Review" of August 25th, 1925 reports as follows:-

"It is pleasing to note that what is lacking in quantity (speaking of South African Granges) is made up for by quality, as the fruit generally so far this season has been exceptionally good for outstanding merit the well known brands have advertised themselves", and again in their issue of November 3rd, 1928, "Despite the arrival from other competitive sources South African oranges maintain their popularity as they are undoubtedly the best flavoured fruit at present on the market.

On the 1925 citrus export season the London office of the Exchange reports as follows: "We are very glad to be able to report that the quality as a whole, sompared with last season was much better this year. We saw very few of the dry, puffy oranges which were unfortunately so much in evidence last year, and we heard of very few complaints from buyers.

Appearance and colour were also good, particularly towards the end of the season. There was quite a quantity of scarred fruit and occasional comments have been made regarding the lack of sugar in the Seedlings and the Late Valencias.

"Unfortunately with the exception of two or three marks, the South African Grapefruit is still thick-skinned, puffy, lacking juice and often full of seeds, and it is only due to the fact that it comes when the market is bare that it has done as well as it has.

It......

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It realised abnormal figures this year and shippers were very lucky indeed for as soon as the better quality fruit from other countries arrived in large quantities, prices declined and remained low.

These remarks, while undoubtedly showing that the quality of the South African citrus fruit has inproved, must not be taken too literally for the 1928 season was an exceptionally good one just as the 1927 and 1929 seasons were exceptionally bad ones and when a commodity is meeting a good market, the presence of a percentage of poor fruit has but little effect on the whole. It finds its own level of values and sells accordingly. When the position is reversed as in 1927 and 1929 and there is a bad market to be faced, every slight defect is magnified and made the most of and the value of the article as a whole suffers in consequence.

#### REJECTIONS.

The reasons why fruit is rejected at the coast and at inland inspection centres are:-

- 1. Waste;
- 2. Poor quality;
- 3. Injured fruits;
- 4. Bad packing;
- 5. Culls:
- 6. Incorrect marking;
- 7. Demaged in transit;
- 5. Scale:
- 9. Faulty packing eg. missing counts etc.
- 10. Underweight;
- 11. General untidiness.

During.....



During the 1927 season the following amounts of fruit were rejected:-

at Port Elizabeth 11,196 cases;

At Durban 4,687 cases;

At Koster 1,660 cases, and

At Capetown 22,557 cases.

At Capetown 15% of the fruit rejected, was on account of inferior quality, 34% for underweight and 51% because of unsound condition.

The Chief Fruit Inspector for South Africa commenting on the 1927 season, reports that the comparatively small percentage of rejections due to inferior quality should not be taken as indicating a uniformly high standard of quality as it is difficult to devise a practical working basis for both the grower and the inspector to decide what is or what is not a fruit of export quality.

During the 1928 season the fruit rejected was as follows: (In tons)

Causes	Caje - town	Port Eliza- beth.	Durban	East London	Inland	7otul.
Unsoundness	1,511	157	153	15	96	1,909
Poor Quality	233	55	19	•	141	415
Underweight	539	249	18		116	922
Immaturity	15	-	•	**	135	150
Hisoellaneous	164	13	8		98	283
Total	2.469	141	178	12	586	3.679

The figures for Capetown show that 61% of the rejections were due to unsound condition. The comparable figure for 1927 was 51%. Growers should take note of this and take more care in the handling and grading of



their fruit. At Capetown 283 consignments were rejected during the 1928 season as compared with 204 during 1927.

Approximately 900 tons more fruit were rejected in 1928 than in 1927 and this in spite of the fact that the total amount of fruit presented for export during the former was less. This was due to the fact that the export standards, as laid down in the regulations for the 1928 season were higher; and rightly so, than they were for the previous season.

Thus just over 7 per cent of the total amount of fruit for export was rejected in 1925. Taking everything into consideration, this is a very serious state of affairs and growers should do all in their power to remedy it. If it is not remedied, it means that when South Africa exports ten million cases, seven hundred thousand cases or, taking the value at \$1 per case £700,000 worth of fruit will be rejected before it leaves the country.

# WEIGHT.

In his annual report on the citrus season for 1927, the Chief Fruit Inspector for the Union pointed out that the minimum weights as then laid down in the Government Export regulations, were too low for they allowed a considerable quantity of fruit that was of inferior quality even though it was several pounds over the stipulated weight to reach the overseas market. He considered that the test for quality by weight was reliable providing the minimum was sufficiently high as a fruit of high weight can be accepted as being good in quality as far as thinness of skin, abundance of juice and minimum of rag are concerned.



In order to prove his contentions, he recorded the weights of a large number of boxes of fruit
arriving at the port during the 1927 season and these
records can be summarised as follows: (In pounds
weight).

Variety	Shor	t Coun	ts (96-126)	Long Counts (150-32					
	No.01 Boxes	Win.	Max.∜t.	No.01 Boxes	Min. Wt.	ALX Vit.			
Navels	306	72	84	501	<b>7</b> 5	89			
Seedlings	61	72	82	702	<b>7</b> 5	89			
Valencias	66	72	83	1,214	75	<b>8</b> 9			

The average weights for the short counts of Mavals, Seedlings and Valencias were 75.6, 75.2 and 76.2 lbs. respectively. The average weights for the long counts were 79.3, 79.3 and 79.6 lbs respectively.

As a result of these investigations, the Minister of Agriculture agreed to raise the minimum weights of all oranges exported during the 1928 season by two pounds with the result that the minimum weights to which citrus fruit must now conform before it is allowed to be exported, is as stipulated in the export regulations for the seasons 1928 and 1929 respectively. Without doubt this has been a valuable step in climinating the poorer quality fruit from export but there seems to be a feeling that the minimum weight for the 150 - pack should be a pound less than what it is at present.

In exceptional instances, however, weight as seen from the following two examples is not a guarantee of quality.

Rg. 1......

Xg. 1.				
<u> Variety</u>	Count.	Weight per case.	Juice.	8kin.
Valencia	176	77 lbs	27/4	65%
Val encia	176	77 lbs	42%	49%

This is certainly an extreme case but it furnishes a good example of a heavy but worthless type of fruit.

#### Mg. 2.

The second example is that of a consignment of 49 cases of navals reported by Mr. Dreyer, Government Fruit Inspector. None of the seven cases, all varying in counts from 96 to 288 weighed, were underweight but the fruit was of exceptionally poor quality being a mass of dry coarse sacs with about the same amount of juice as one generally finds in a good apple.

fruit in transit to the coast due to loss of water by transpiration and evaporation. These two means of losing water are governed by several factors such as relative humidity, ventilation, etc., and cause a loss in weight of about 1/2 per day whilst in transit. This factor should be thoroughly investigated in order that farmers may know exactly what the loss in weight in transit will be and make due allowance for such loss and thus forestall all rejections due to underweight.

#### THE BO-CALLED MATURITY TEST FOR EXPORT ORANGES.

That the overseas market is accustomed to an orange of the highest quality and expects it to be of sufficient importance to bear repetition and what is more, it will take no other as clearly illustrated

by.....



by the fact that brands known to be of inferior quality were sold at prices which did not cover the cost of marketing in 1929, while the higher quality brands returned profitable prices to the shippers.

The only safe and reliable guide upon which to fix export standards must be quality based on some such definite test as the test of the total soluble solids - acid ratio. California learned this years ago and by adopting the eight to one total soluble solids-acid ratio have standardised in their own home and export markets cased fruit of a character behind which it is safe to spend money on propagands, and which has created its own demand.

To show the need for a maturity standard one cannot do better than quote an extract from a communication dated 7th July, 1927, from the Trade Commissioner, London:-

\* With reference to your letter A.3/4 of the 10th June. it was observed from the regulations published in the Covernment Unzette, dated 27th May, that oranges are now required to pass a 7 to 1 ratio of soluble solids to acid test before permission for export is granted. This is undoubtedly a step in the right direction and I hope that it may one day result in the elimination of the complaints that are invariably received at the commencement of a season to the effect that our oranges I do not wish to convey the impression that are sour. such complaints are general. On the contrary, partioularly this season, they have been singularly few; yet there is the fact to be faced that if there are grounds for even the slightest of complaints, a certain amount of harm must be done to the general good name of South



African oranges and this more than likely will react on the demand and consequently effect the price of subsequent shipments.\*

It may be added that comments, public, official and private, have been made from time to time in more or less caustic terms on South Africa's "sour oranges".

Why a maturity standard must be by a mechanical test and not by taste, is because the palate, quite apart from the personal factor, cannot always be depended upon for two reasons:-

- (a) When all the oranges in a district are sour ones, palate has no standards of comparison and accordingly becomes accustomed to the sour fruit;
- (b) A very sour orange may ruin one's palate for several hours.

No. 12 (c) of the Export Regulations (Government Notice 759 of 1927) states ".... and unless oranges will pass a 7: 1 ratio of soluble solids to acid test they shall not be exported ...."

When this test was put into action, it was found that a strict adherence to it, would cause many growers severe losses and possibly even prevent all export from some growers while it would delay picking in Khodesia for about a month with the result that picking would only be commenced about the middle of August and all Rhodesia's oranges must be shipped before the end of September otherwise they are over-ripe for export.

Accordingly, the South African Oo-operative Citrus Exchange Limited requested the Department of Agriculture to rescind this portion of Regulation 12(e) for the 1927 season. The request was granted and it was

further....



further agreed that the Inspector's office should collect as much information as possible on the degree of maturity as defined by this test, attained by the different varieties of oranges from different localities throughout the season.

More than 1,000 tests were made during the season. The results for the different varieties and different localities were kept separate and published in the Chief Fruit Inspector's report No.4, 1927, which gives a wealth of valuable information on these tests.

Contrary to the experience of most of the other countries it was found that the "sourness" of South African fruit in many cases was not merely due to immaturity of the fruit but rather to some inherent characteristic. In general, however, the ratio does seem to increase during the season - the increase being greatest and most regular in the case of the Washington Maval Oranges while Seedlings exhibit the least regularity.

The conclusions arrived at from the data accumulated may be summed up as follows:- that

- (1) The ratio of the total soluble solids acid has a direct relation to the flavour within certain fairly wide limits;
- (2) While the mean values of this ratio are distinct, the individual tests show considerable overlapping due to the fact that a normal soluble solids content coupled with an abnormally low acid content gives a wide ratio though the quality of the fruit may be poor.
- (3) The Washington Maval Orange is considerably sweeter than either the Seedling or the Valencia Late;



- (4) The percentage of sour oranges decreases as the season advances though inherently sour oranges remain such.
- (5) A low soluble solids content coupled with a high ratio indicates insipidness.
- (6) Although in the main the quality from the point of view of flavour and sweetness of the different variesties improved with the advance of the season, many irregularities were found to exist. This applied particularly to the Seedling oranges and is probably due to the multiplicity of strains.
- (7) In general the ratios of the best flavoured fruits was found to be between 6: 1 and 10: 1 and ordinarily fruits with a ratio of 5: 1 or less were very sour.

The South African Co-operative Citrus Exchange Limited furnished a number of cases of oranges towards the end of 1927 for the purpose of determining whether any change takes place in the ratio during storage and in transit to England.

Conclusions drawn from the results were:-

- (1) That in general a slight rise in the ratio takes place during storage.
- (2) That storage at 67° F usually gives a greater increase in the total soluble solids acid ratio than storage at 45° F.
- (3) That the rise in the ratio in all cases isso small that the period of storage to which fruit would have to be subjected to make any appreciable difference in the total soluble solids acid ratio is too long to warrant the extra expense of storage and the risk of loss due to over-ripeness.

In.....

**∞** 67 **-**

In considering the above conclusions it must be remembered that the physiological process in the different citrus varieties and strains of a variety are different; to cite an extreme case in the lesson according to some unpublished work by the Chief Fruit Inspector of the Union, there is an increase in acid, in the Washington Naval a decrease, the amount of change depending greatly on the stage of ripeness of the fruit.

Working on the same subject Mr. E. V. Fack, ohemist of Rhodesia, came to the following conclusions:-

- (1) As it is difficult to select oranges of an even degree of ripeness at the time of picking, some lack of uniformity as regards ripeness must occur in fruit packed in the same case. It follows, therefore, that accordant results in duplicate samples taken at the same time are not always to be expected. On that account any change in the ratio of soluble solids to the acidity of orange juice must be considerable if it is to be concluded with certainty that such a change naturally takes place during storage.
- (2) It would appear that no marked change occurs in the ratio of soluble solids to acidity of the juice of cranges during a period of three months storage at the ordinary temperature after picking and that any increase in the ratio which may take place during the transit of oranges from Rhodesia to England immediately after picking will not exceed about one part of soluble solids compared with the acidity of the juice expressed as unity.

The following figures, taken from an unpublished paper by the Chief Fruit Inspector of the Union, on the ripening of Washington Maval oranges from Groot



Drakenstein are of interest here as they show the change in acidity over a period of storage at \$43° F and also the difference between the total soluble solids in the juice and the actual sugar in the juice as determined by chemical analysis:

Tests	Percentage Sol. Solida	Percentage Total Suga	Percentage r Acid.	Ratio.
First Test	11.7	6.9	1.92	6.1:1
Test after 42 days	12.0	9.3	1.04	11.6:1
Test after 79 days	11.6	9.4	.81	14.3:1

From these figures it appears that there is an increase in total sugar and a decrease in the percentage of acid in the Maval orange during storage. More experiments, however, are needed to confirm this and whether the same state of affairs exists in the other varieties and strains of citrus fruits is still to be determined.

The question of humidity was not taken into account in this experiment so that it may have varied and thus may have effected the results. It would be of interest to determine whether during the process of storage humidity has an effect on the total soluble solids acid ratio and what this effect is.

The tests made during the 1927 season were the basis for fixing the maturity standards for 1926.

The ratio of Total Soluble Solids to anhydrous citric acid were fixed at 5:1,5.5:1 and 6:1 for Seed-lings, Valencias (and other late varieties) and Mavals respectively. These set ratios are low and consequently it was realised at the time that the expert of only sweet fruit would not be realised thereby. The test has,



however, prevented the export of unpalatably sour fruit and also it has brought the question of the internal quality of the fruit as opposed to external appearance into better perspective. Most packhouses and many individual growers have testing-outfits and where they have not, they have usually taken the precaution of sending samples for test to the nearest Fruit Inspector's office before packing for export.

Further tests were made and recorded during the 1926 season. In general the results derived from these confirmed those derived from the tests of 1927. and it appears that the fruit from some sections has a larger percentage of sour fruit than that from others. but in the opinion of the writer this is not due to soil or climatic conditions, which, if responsible, would result in practically all the fruit being sour while a large percentage of it registers a test of over 7: 1. In all probability the high percentage of sour fruit is due to the propagation of the trees from inherently "sour" parent-trees or it may be due to the effect of the stock on the scion. In this latter connection it must be remembered that the stocks are propagated from seeds and thus very variable - the effect of different strains of stocks on the scion is being investigated at the sub-Tropical Horticultural Research Station at Another factor that contradicts those that Malsoruit. consider "sourness" to be due to soil and climate, is that a "sour" and a "sweet" tree may be found standing next to each other.

The tests for 1928 show that 18.7%, 89.4% and 70.3% of South African Navals, Seedlings and Valencias respectively.....



respectively have a ratio of less than 7:1.

When taken into consideration that all Californian oranges test at least 5: 1, these percentages make evident one of the reasons why California always realises higher prices for her citrus fruits than South Africa.

As South Africa must depend on her export market to dispose of her fruit, it is imperative that she should take drastic steps to improve the present state of affairs if she intends to compete successfully on the overseas markets. To improve the position still further a ratio should be introduced that will be applicable to Grape-fruit.

The ratio for oranges as it stands at present, is far too low and in order to protect the interests of those farmers with comparatively sour fruit, the Government shows no inclination to higher the standards.

under these circumstances the best possible solution for those farmers in localities, such as the Eastern Province, that produce a high quality of fruit is to co-operate to export their fruit under a general brand of which the minimum standards for export must be as high as those of California. Such a brand must be adequately advertised and in this way the producers of a high quality fruit will be adequately rewarded for their superior quality.

The main object of the test is to prevent the export of oranges that are sour. This it can do but what is almost, if not quite, as important, is the elimination from export of insipid oranges. The test furnishes sufficient information to make it possible to eliminate a good deal of insipid fruit.

With....



With a few exceptions growers had little difficulty in complying with the 1926 maturity standards. In fact growers from some areas such as Sunday's River Valley would welcome an increase in the minimum ratios.

Transval in the case of the "Australian" type naval oranges. This orange is of really good quality in texture, juice-content and thickness of skin although in its shape it is frequently flattish. The juice of this fruit was higher in acid than the Washington Navals, from the same areas, specially during the first few months of the season. The total soluble solids content, however, was very similar in both types. By the time the fruit had reached the required ratio it was almost too late to ship. Tests illustrating this difference were made at White River and are shown in table 10.

Table 10.
Comparison between Washington and Australian Kavals.

Month		Wa	shington	Mavale.		"Austr	lian"Na	vals.
	No. of Tests		Solids.	Ratio.	No.of Tests	Acid.	Solids.	.Ratio.
April	5	1.35	10.5	<b>ಕ.1</b>	-	Bour	Sour	•
May	28	1.32	10.0	7.8	••	Sour	Sour	•
June	71	1.31	10.0	8.1	15	1.62	9.7	6.1
July	52	1.44	10.3	7.3	14	1.53	10.4	6.9
August	11	1.58	10.6	6.7	15	1.45	10.7	7.3

Some difficulty was experienced, particularly in one Packhouse, with Valencia Late oranges. Here the trouble was an economic one arising out of the desire to



curtail the packing season as much as possible.

There seems to be a general tendency of farmers to pick the Valencia Late oranges too soon; if some variety which would satisfactorily bridge over the gap between the Maval and the Valencia Late season, there would be less likelihood of this.

Table 11 gives a comparison between the ratios of Navals, Seedlings and Valencias respectively. Generally the largest fruits in a consignment are of poorer flavour than the smallest fruits; for this reason the 176 count was chosen for most of the tests as this size is a good average for these varieties.

Table 11.

Tests of 176 count oranges at Capetown
1928 Season.

		vean	per	cent	SOI	IDS.	A O	ID
Variety.	No.of		. Acid	. Ratio.	H1ghest	. Lowest	. Highes	t.Lowest
Navals	21	11.5	1.3	9.1:1	13.7	7.7	2.2	0.6
Seedlings	68	12.2	1.9	6.9:1	15.1	7.7	2.3	1.0
Valencias	59	10.9	1.5	7.3:1	12.4	8.3	1.9	1.1

From these figures it is evident that while the seedling orange has a higher solids content than either the Washington Naval or the Valencia Late, it also has a still higher acid-content which places it as the sharpest flavoured of the three varieties. The Washington Naval is the sweetest.

Table 12 shows the ratios of different counts from one consignment and from the figures it is apparent that the short counts are of poorer quality than the longer counts.



Table 12.

Tests of Different Counts from One Consignment.

Count.	golids.	Acid.	Ratio.	Flavour.
64	9.1	0.6	14.2:1	Insipid
ಕ೦	10.8	0.7	15.2 : 1	Insipid
96	12.4	0.8	15.1 i 1	Fairly Good
112	u.5	0.9	13.5 : 1	Pairly Good
126	12.2	0.9	13.1:1	Fairly Good
150	11.3	0.9	12.3:1	Fairly Good
176	12.8	0.9	15.0 : 1	Fairly Good
500	13.1	0.9	14.7 : 1	Fairly good
216	13.0	1.0	12.8 ; 1	Good
252	12. 1	1.0	11.6:1	Good
288	14.0	1.0	14.0:1	Good.

This table brings out the fact that the smaller fruits are actually of better value than the larger fruits.

In order to get a better idea of palatability and of insipidness, a test was made with sugar-acid solutions in place of orange juices. Both the total soluble solids content and the ratios of total soluble solids to acid were varied in the different series that were tested. It was found possible to arrange by taste the series in consecutive order. In general those mixtures were best to the taste which had a ratio of total soluble solids to acid of about 7: 1 to 10: 1 inclusive and this was not greatly effected by changes in total soluble solids content. Small changes in sugar concentrations were more noticeable than small changes in sugar concentrations and insipidness was associated with low acid content coupled

generally.....



generally with a fairly low total solids content.

This applies equally well to orange juices but in practice one's opinion of quality of fruit depends a great deal on the circumstances of the test. For example a juice such as this - solids 9.2%, acid .56%, ratio 16.4:1 is poor in flavour and one would say so unhesitatingly if one had a juice such as this:- Solids 12.3, acid 1.16 ratio 10.6:1 to compare it with but without this comparison the flavour way be adjugded good. It is therefore difficult to lay down a scientifically sound standard designed to prevent the export of insipid oranges which would be certain not to penalise any grower unnecessarily.

In orange juice there may be anything from two to four per cent of substances in solution other than sugars and acid. This fact possibly accounts to some extent for the somewhat inconsistent flavour records obtained during the tests though the circumstances under which the test is made are as important. The introduction of an actual chemical analysis would hardly be practicable as it would make the test too involved. As an example of the inconsistency accruing in the tests the following three tests on different consignments of Washington Navals will be of interest:

Total soluble So	lids. Acid.	Ratio.	Flavour.
9.2	0.72	12.8	Sweet, fairly good.
9.2	<b>0.</b> 56	16.4	Very sweet.
9-3	0.73	12.7	Very insipid.

As already pointed out weight is not a sufficient criterion of quality. Wherever a maturity test was made during the 1923 season at Capetown a record was kept at

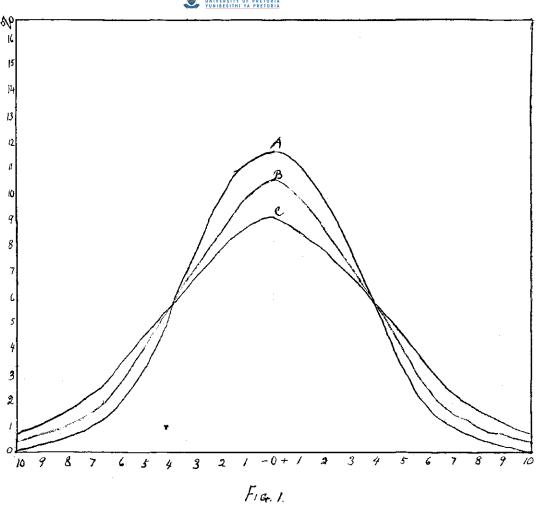


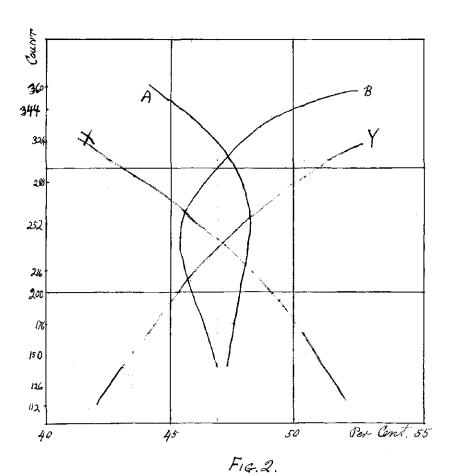
the same time of the percentage juice and skin in the sample. The juice was extracted as thoroughly as possible by means of an ordinary conical fluted squeezer.

The results obtained are given in Table 13 further data is being collected but in the meantime the
accompanying graphs are given, as, although they are based
on meagre data they do seem to bear out one's conclusions
on the three chief varieties exported from South Africa.

		1.	ALVA G AUG	4.									
	Kean Values, 176 Count.	Valu	8	17	0	Jour	150						
Variety. No. of Weight. Wt. of Vol. of Becgific Gravity Fer cent samp- of frt. skin. Juice Bruit. Skin. Juice. Juice. Skin. les.	No.of	of t	12	kin	- 8	July Vol	66	Beat Fruit	Cic Ora	vity Julee.	Jul ce	c cent	* 3 co. H
Val enclas	12	180	· san	82	A P	83	CCS	160 gras. 62 gras 63 cos 0.92 0.85	0,85	1.04	48.0	45.7	6.3
Mavels	123	182	*	89	*	73		0.89	0.85	1.04	41.2	48.9	9.9
seedlings	69	175	*	82	*	73	2	0.89 0.84	0.84	1,05	44.0	46.6	9.4
and the second s	ABOTO MARKATANA	-				· Section and in con-		-		SAMPLE STATES OF STATES	-		







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In Fig. 1 curves are given showing the variation in juice content of South African oranges: (A) represents Valencias (B) Seedlings and (C) Mavals. The average juice content, represented by point 0 in the figure, of Valencias is 45%, of Seedlings 44% and of Mavals 41%. The curves show that about 11.6%, 10.5% and 9.2% of the Valencias, Seedlings and Mavals respectively have the average juice content of the variety, furthermore, there is greater variation in juice content in Mavals than in either of the other two varieties, Valencias being the least variable. The elimination from export of fruit which has a juice content of say 3% or more, less than the normal, would be a great benefit to South Africa's reputation on the overseas market.

of the fruit and the amount of juice and skin. The curves A and B representing juice and skin respectively are based on actual measurements made from samples of various counts. If the skin were uniform both in thickness and texture and similarly the pulp in quality and juiciness, one would expect the curves for juice and skin to take the form shown respectively by X and Y in the figure. The fact that there is agreement only in the longer counts (from about the 252 count upwards) points to uniformity in quality there, but to some falling off in the quality in the larger fruits.

### OONCLUBIONS:

(1) Mavals have a higher percentage of skin but they vary less in this respect than either Valencias or Seed-lings which are very similar.



- (2) Mavals have less juice than either Valencias or Seedlings and vary more in this respect. Valencias vary least.
- (3) Over a range of counts the percentage skin is greater in the larger fruits than one would expect it to be on theoretical grounds; vice versa the percentage of juice is less.
- (4) It is only in the long counts that these relations approximate to the theoretical.
- (5) The popular counts are therefore actually better value from quality point of view than either the larger or smaller fruits.
- (6) The juice content of the fruit furnishes an easy and accurate measure of its quality, if taken in conjunction with the chemical maturity test.

While most of the above evidence has been extracted from the reports of the Government Fruit Inspector,
the Division of Horticulture has also been active in experimental and observation work on the problem of the
sour orange.

Bulletine Nos. 37 and 50 both deal with this subject as also an article, written by Dr. Bruno Hahne, Senior Horticulturist, Department of Agriculture, in the July issue of "The Citrus Grower".

Dr. Habne says that "the growers position may be:

- (a) that he is in the habit of picking his crop too early and that he can improve its sugar content by leaving it longer on the trees;
- (b) that his trees are a mixed lot, some of which ripen later than others in which case he can leave the latermaturing trees to be packed later; or

(c) that some or all his trees are of an inherently sour strain which will not improve by hanging on the trees longer.

export should be either topworked to some known standard variety of known high quality or be replaced by a high quality tree. The sour fruit is, however, often very rich in total soluble solids and fails to pass the ratio only because of an extremely high acid content. It is valuable for the making of orange squash and fresh orange drinks and may, therefore, be disposed of locally without difficulty to firms which specialise in such beverages in yearly increasing quantities.

The claim that fruit sweetens up during wilting has been shown to be true but uneconomical for if the fruit is allowed to remain on the tree for the same period of time as it is wilted for, it sweetens up to the same extent as the wilted fruit which looses up to 25 per cent in weight during wilting.

ship their fruit as soon as it reaches the required ratio, which is very low, and before it is mature. Dr. Hahne is of opinion that to prevent this "it may become necessary to set minimum standards for total soluble solids and for acid content of the juice below which it will be illegal to export oranges". Such a regulation would be of practical application and would not only prevent the export of immature fruit of potentially high quality but would also eliminate the most insipid fruit from the export trade.

while there are many difficulties connected with imposing a higher total soluble solids-acid ratio, farmers

should impose such a ratio upon themselves and make it compulsory to gradually widen the ratio of their fruit, where economically possible, until it reaches the 5: 1 standard for it is with fruit of this ratio that bouth African oranges have to compete on the overseas markets.

In order to increase local consumption of fruit some such form of guarantee of standard quality as the "sugar" acid ratio should be introduced for all fruit marketed locally.

# TRANSPORT.

A glance at any geographical map of the Union at once reveals the unfortunate fact that South Africa has no large inland water ways which can serve as a cheap means of transport. This fact, besides being of importance from the point of view of the present day transport, has had a great retarding influence on the development of the Union especially from the agricultural view point.

Since South Africa then has no inland water ways, she has to depend on animals, motors and railways - all of which are comparatively expensive means of transport - to do all her transport to and from the coast.

Animal transport was undoubtedly the first means of transport used by suropeans in South Africa. The earlier type of wagon, however, was not suited to the transport of citrus fruits as we understand it to-day. We read of the transport of oranges loose in the bottom of ordinary "buck-wagons" for distances of fifty miles and more to local markets. To-day we find the more conservative and non-progressive type of "bywoner" farmer still using the same



type of transport that was used by his forefathers centuries ago. The orange, and for that matter any type of fruit is a highly delicate commodity and needs the most careful and only the most careful transport. No person to-day should buy fruit that has been handled in a way that potato farmers would be ashamed of handling potatoes.

Fortunately the progressive farmers (and these are the exporters) have realised that the manner of transport largely determines the condition of the fruit on its arrival at its destination. To-day spring-trolleys are in general use for the conveyance of the "lug boxes" of fruit from orchard to the receiving depot, packing house or station while larger specially constructed wagons are used to transport the fruit from the receiving depots to the packhouse and again from the packhouse to the station if this is necessary. For facility in handling and transporting where possible the pack-house should always be constructed at the railway station.

In former years oxen were used for all transport but fortunately the mule has replaced the ox in horticultural practices for the latter is more liable to damage trees in the orchard and is far too slow and too difficult to handle for intensive farming.

### Motor Transport:

an increasing use of motor-transport is taking place at present. The motors may be the property of either individual farmers, co-operative packhouses or the Railway Administration.

where individual farmers or packhouses use motortransport, it merely displaces the trolley and wagon trans-



port especially the latter for difficulty is sometimes encountered in getting into the orchard and so spring trolleys are used to cart the fruit to the receiving depot outside the orchard from whence the motor transport is available.

from railway stations, the Railway Administration will on contract undertake to do all the farmer's transport from the packhouse or receiving depot to the station. Railway motor-power is thus transporting to the extent of 100,000 cases of fruit per animm from studen to Greytown a distance of 14½ miles at a charge of 9d per case.

At Rustenburg the farmers have a contract with the Railway Administration to transport all their fruit from the respective farms to the control packhouse while at Bontagu packhouse and thence to Ashton Railway station all by dailway motors.

motor and Magon transport naturally raise the question of roads. While the main roads are fairly good, they can still be greatly improved. The ordinary farm roads, however, are in general a disgrace and should be improved greatly for reasons of economy of time and vehicles as well as to insure the easy transport of the fruit. It is over these roads that the fruit must be transported before it is packed and it therefore behaves every farmer where practicable to see that his farm roads are in good condition - he must not wait for the Government to do everything.

Railway.....



# Railway Transport.

Railway transport in general and of fruit in particular has not reached nearly the same high standard of efficiency that it has in California for instance.

Owing to lack of refrigerating chambers and the insufficiency of refrigerated railway cars, the inland transport of all citrus fruits is by ventilated cars and it is doubtful whether refrigerated transport for citrus will be used - not for at least ten to fifteen years at However, it is important enough to warrant any rate. thorough investigation especially in view of the excessive waste experienced during the 1929 season and for those who wish to try it, the railway will supply refrigerated cars at an extra cost of 9d per 100 pounds weight of fruit for a distance of 1.000 miles.

In some cases railways are used for the transport of \*lug boxes\* of citrus fruits from the producers\* neurest stations to central packhouses returning the empty lug-boxes but the more general use of railways is for the transport of the packed fruit from the inland producing centres to the ports.

Though the transport is performed fairly efficiently, there are still several complaints most of which are in connection with the transport of fruit for local A fairly common complaint in connection with fruit transport is that with a few exceptions packhouses are only allowed one day in which to load often causing the departure of half care of fruit with the result that transhipment often takes place and the fruit receives more handling than advisable, whereas if an extra day for loading was allowed where necessary this extra handling would be prevented, fewer trucks needed and less damage to the fruit necessitated.



A further complaint in connection with export of fruit is that an extra tariff charge is made on export fruit that is rejected at the coast even when that fruit is of no use and lost to the grower.

In connection with the fruit for local markets although transhipment is unavoidable, it is felt that it can be improved upon for pockets of fruit which weigh less and are therefore easier to handle generally show less damage than fruit packed in cases for local markets.

This may be due to the heavier weight of the case or to

(a) loading bulge up or bulge down:

- (b) loose loading causing displacement in transit, or
- (c) the standing on cases by graders.

It is generally admitted that for the transport of fruit in pockets, cars fitted with trays are best suited but for fruit packed in standard citrus boxes the car without trays is to be recommended.

All railway officials and their staff should be educated to the fact that fruit is a very delicate product and they should be trained to handle it with the essential care.

Exchange has undoubtedly done much to improve transport methods both over land and by sea, the Government have by legislation made possible the export market for citrus fruits - if it were not for the reduced railway rates and other facilities offered by the South African Railways and Harbours, the export of citrus fruits from South Africa would be well-nigh impossible.

The specially constructed ventilated cars in use at present are of several sizes and many designs, but for efficiency the larger "bogeys" of modern construction are



to be preferred. During the shipping season a ready supply of such cars is usually kept at the shipping centres and can be obtained on a few hours notice, but during periods of a shortage in cars several days' notice: must be given if a car is needed. In practically all cases there are sufficient cars available for the transport of export fruit but fruit-cars are not always to be obtained for fruit for local markets and in such cases the Railway Administration, where possible, supply thoroughly This though not of frequent occurclean cattle trucks. Luckily, however, the Adminisrence, must be condemned. tration is authority for the statement that there will be a sufficiency of fruit cars to meet the demands of the increasing fruit traffic.

During the export season the Railway Administration co-ordinates its services in such a way that as far
as practically possible, there is a "through" service
from all the main producing centres to the coast on certain days of the week with the result that as little time
as possible is lost in conveying the fruit to the coast.
The time saved by this co-ordination between White River
and Cape Town may be as long as twenty-four hours.

There is no standardized method of packing fruitcases in the cars - some prefer to pack it flat while
others claim that packing on end is to be preferred reliable information on the different merits of the different systems used would perhaps be of value and assist
in standardization.

Interesting experiments are being carried out with regard to the respective merits of the different positions of fruit in the railway-cars for efficient



transport. These results will undoubtedly be of great assistance in designing new cars for fruit traffic.

This year (1929) an attempt is being made to further eliminate unnecessary handling of the fruit by packing it directly on the skids at the loading centres. This means that the first time the individual boxes of fruit will be handled after loading is when they are stowed away in the cold chambers of the ship on to which they are loaded. Naturally on arrival at Cape Town a few cases of fruit will be removed from the skids for inspection purposes.

### Facilities for Fruit Export at the Docks.

All handling of citrus fruits exported from the Inland Producing Centres from the time it is loaded on the railway-car to the time it is loaded into the ship is done by the South African Hailways & Harbours.

### Shipping through Cape Town.

Precooling storage of a capacity of 3,828 shipping tons, considered to be the most modern in the world is available at the East Pier berth, No. 8 Quay, and precooled commodities can be shipped direct from cool chambers, of which there are seventy of equal size, to the ship.

The cold chambers were constructed to minimise the continual loss due to the decay of perishable products in transit to Europe and on  $J_{\rm R}$  muary 12, 1926, the first fruit was precooled in them.

The cooling efficiency of the chambers can be judged from the fact that their temperature can be reduced to.....



to 340 F within twenty-four hours. Their working capacity can be computed at three full loads a week or roughly 200,000 cases of citrus fruits.

on arrival at Cape Town the railways fruit-cars are run into the refrigerated inspection chamber which is behind the baggage store and not interfering with cargo-working or passenger traffic in any way. After inspection the fruit is stacked into specially constructed skids which run on their own wheels: these skids are run along on large electric skids into the lifts which carry them to the first or second floor refrigerating chambers as required. The lifts discharge the skids into the traverser alley; the skids are pushed out from the lift on to an electric trolley which rund them along the alley to the chamber that is being filled. Sach chamber has an iron track along which the six skids that fill the one side of the chamber are pushed. Then the twelve skids are in position, the chamber is full and it is closed.

that the traverser alley at the quay-side is used. Thus loading into the ship is carried on without interference with the filling of other chambers from the inspection floor. The whole is a merit of clear planning for down-right efficient service for an end is made of the wasteful labour of carrying every box by hand. Once the boxes are in the skids, they are not handled again until the skid has been lowered into the ship's hold. Each "lift" of the quayside crane carries five tons of fruit from the unloading platforms, of which there are eight all on the first floor, direct into the ship.

In times of stress it might happen that fruit arrives late and has to be shipped the following day. In this case the customary method of handling is impossible and another method has to be used. Their "airlocks" (receiving depot) which is very ingeniously constructed saves the situation. The whole reception depot is closed and made airtight, the temperature decreased and the fruit is precooled for twenty-four hours before being shipped to the cool chambers of the waiting ship.

The Perishable Products Export Control Board has complete control of arrangements in connection with cold storage, shipping space, etc. At Cape Town then there are shipping facilities for fruit equal to any in the world.

#### At Airban.

Owing to the fact that precooling facilities at Durban have been very limited and that they have been all privately owned firms, most of the citrus fruits shipped thus far have passed through Cape Town.

Realising the fact that Durban was by far the most convenient of the Union Harbours through which to ship the Eastern Transvaal fruit and the natural harbour of Natal, a precooling station with cooling chambers of a capacity of 3,000 shipping tons similar to the one at Caps Town is being constructed. A section of the cooling chamber is completed and fruit was cooled therein for the first time on the 3rd June 1929.

The completion of these facilities will be a great improvement to Durban harbour and no doubt place that harbour as the dispatching port for all fruit from Rastern and Northern Transvaal as well as from Matal.



# Port Elizabeth.

Port Elizabeth is the natural harbour for the export of fruit from the Mastern Province. Unfortunately there are no cold storage facilities such as those at Cape Town. The shed and storage capacity, however, is over two million cubic feet and four refrigerating lighters of a capacity of 400 tons have been specially constructed for the export fruit traffic.

A breakwater (7,800 feet long) is being constructed and owing to the fact that the fruit industry in Mastern Province is rapidly developing, a precooling station will most likely be constructed when the breakwater is completed.

# Mossel Bay and Buffalo Marbour.

Owing to the very small quantity of citrus fruit that is being shipped through these two harbours, it is very doubtful whether precooling stations will ever be constructed at either.

To obtain an idea of the amount of citrus fruit shipped through each of the main South African ports reference can be made to the following table: (amounts given in cases).

	1927.		1928.	
Cape Town	582,815	<b>31868</b>	621,790	
Mossel Bay	4,263	¥	4,058	
Port Elizabeth	152,091	**	91,398	
East London	18,613	ut.	27,200	
Durban	180,231	А	135,415	

Lourenco......



### Lourenco Marques.

Although this is the natural port for the Bastern Transvaal, it is at present in possession of the Portuguese and although at one time it could have become the property of the Union of South Africa for a comparatively small sum, the Portuguese are absolutely unwilling to part with it at present. It is not, however, the writer's intention to enter into a discussion of the politics concerning the question, but merely to discuss the merits of the harbour from the point of view of the Citrus Industry Precooling facilities claimed to be similar to those at Cape Town are being constructed. Port improvements are being made and provided the quantity of fruit shipped through Lourenco Marques warrunts it a regular mail boat service, will most likely come into operation. There seems to be every reason to expect that, provided a suitable agreement from the political point of view can be arrived at and provided the transport and shipping charges are not too high, this will eventually be the port of export for all the citrus fruits from Northern and Eastern Transvanl.

### Shipping.

It became necessary, as exports increased, to secure the most favourable terms from the shipping companies with regard to ocean freight rates and the Cape Covernment utilised the mail contract as a lever by which better terms could and would be secured. It may be mentioned that a fairly heavy subsidy was paid to the Union Castle Company every year for carrying the mails.

Th	e.							



The terms previous to 1912 were not too favourable to fruit exporters but the Union Castle Steamship Company were persuaded to grant a concession in the shape of lowered rates on all fruit which had passed the Government Fruit Inspector.

During the war fabulous prices were realised. The war, however, had played havor with South African shipping facilities and the Union Castle Steamship Company's fleet was considerably reduced and quite unable to cope with the constantly increasing quantities offered for shipment. In 1921 notwithstanding all their efforts and the hiring of freights from outside sources, the accumulation of fruit at Cape Youn became a matter of the utmost concern. Many thousands of boxes of oranges arrived daily and the weekly mail steamers were only able to reduce the numbers by very small shipments.

Under these circumstances very considerable losses were incurred. Thousands of boxes awaited shipment for from two to three months with little or no opportunity of cold storage and on their arrival at their destination were neither a credit to South Africa or a source of profit to the sender.

It was at this time that the need of some organised body was felt most acutely. Offers of ships had been made to the Union Castle Company by other lines but there was no-body of any kind to represent the Fruit Industry by or with whom arrangements could be made and as a consequence the opportunities were lost.

On the 15th September, 1921, a meeting was held to establish an Exchange and in 1922 the Fruitgrowers' Co-operative Exchange of South Africa was registered.



One of the first activities of the Exchange was to deal with the Export of fruit and to undertake the securing of adequate shipping space at the right time so that the fruit for export could be removed from South African Ports and transported to the markets overseas in as perfect condition and as expeditiously as possible.

In 1923 on the initiative of the Exchange a Shipping Committee composed of three members of the Directorate was appointed to make arrangements for the shipping of deciduous fruit and at the special request of the Citrus Sub-Board the same personnel acted for citrus fruits during that season.

Early in the season of 1924 in so far as the citrus fruit was concerned the arrangements were for the shipping space to be allocated to the several ports by the Union Castle Steamship Company after consultation with the Exchange but subsequently arrangements were made by which the whole export space of the Union Castle Steamships at the several ports excluding Durban was placed at the disposal of the Shipping Committee. In the early part of the season all reservations of cold-storage space in the Australian Lines proceeding to Europe Via South Africa were made through the Union Castle Company and all space so reserved had to be guaranteed as to payment. on direct negotiations with the Australian Lines resulted in those Lines agreeing to reserve space on the same basis as was done by the Union Castle Steamship Company, i.e. on condition that the fullest data available was to be provided and space reserved accordingly but without any definite guarantee or responsibility beyond bona fide

action ....



action.

The shipping Committee also arranged with the Australian Line that instead of the agencies at Cape Town and Durban as previously acting independently of each other, the Cape Town Office was to be the controlling centre for this freight.

This control of the whole of the cool chamber and fan-room freight space commenced on August 1, 1924, and broke down on August 14, 1924.

space, the Exchange decided that fruit should be shipped at the various ports strictly in order of priority of arrival firstly in the cold storage in the Union Castle ships, secondly in cold storage on the Australian ships and thirdly when no more cold storage was available in fan ventilated holds in either Union Castle or Australian ships.

Owing to the impossibility to obtain sufficient shipping space hold-ups of five to twenty days took place during the month of July, 1924.

On the 14th August the Durban agent for the "Muripides" contrary to the arrangements of the Cape Town agent booked space for about 1,500 cases of citrus which resulted in the whole system of shipment on priority of arrival being jeopardised at Durban and caused a reversion to the unsatisfactory conditions where anyone could make arrangements directly with the ship's agent.

Fortunately this did not interfere to any great extent with shipping at other ports but although the shipping arrangements for 1924 were a great improvement on former years, complaints from various quarters led to a committee being appointed by the Government to investigate



the conditions prevailing during 1924.

As a result of their investigations, the Committee recommended that a representative control board be appointed to deal with all shipping matters.

By Act No.12, 1925 a Fruit Export Control Board was constituted by the Government to provide for the control of the export of fruit from the Union and of the shipment of fruit at Union ports.

Although the fact that the Board was appointed by the Governor-General and not elected, caused much opposition from the farmers. The benefits derived from its work were of such a promising nature that by Act 53 of 1926 the Government constituted the Perishable Products Export Control Board (hereinafter referred to as the Control Board) to provide for the control of perishable products intended to be exported from the Union and of the shipment and export control Act of 1925.

The Control Board is composed of three members appointed by the Governor-General who nominates one of these as chairman and three members recommended by the Fruit Exchange and appointed by the Governor-General.

The Citrus Industry has one representative, the Deciduous Fruit Industry one and the egg and poultry Industry one. In all cases where the voting on both sides of a question is equal, the chairman has the casting vote. This gives the three non-representative members an assured majority in all cases.

This fact together with the fact that the Control Board did make a few serious errors in the beginning,

caused.....



caused much discontent among growers and even the Fruit Exchange was strongly opposed to the Act.

The present attitude of the Fruit Growers' Exchange is embodied in the following resolution:-\* That we, the Directors of the Board of the South African Fruitgrowers' Exchange Limited, feel it our duty to commend to all fruit exporters of the Union and Rhodesia whether members of the respective Citrus and Deciduous Exchanges or not, our conviction that it is a duty encumbent upon them, one and all, to whole-heartedly co-operate with the control Board in every way possible and render to them any assistance in their power because we feel that all the services, we hope and expect they may be able to render to exporters, depend upon the goodwill of us all. and we issue this strong plea to our members and other growers for their whole-hearted help in every way possible. This Board whilst not in agreement on all points unreservedly declare themselves out to secure its smooth working in the general interest of all exporters of perishable products over which the Board exercises control\*.

It may be stated at this point that the principle of a Government constituted control ( they themselves reserving the right to nominate the permanent members of the Control Board with their assured majority whether producers have confidence in their nominations or not) was unique in the annals of legislation. No country had ever propounded such a proposition. However, the Control Board gained wisdom by experience and is doing excellent work at present. Its methods of operation, as far as the citrus export fruit is concerned, are to send out estima-

tion....

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tion forms to the growers in February or March each season. The grower estimates what his crop for the season will be and fills in the form returning it to the Control Board. Later further estimation forms are sent out and the growers fill in the amounts of fruit that they expect to ship each week. The Control Board then with these estimates together with their experience gained in former years book the amount of shipping space required at the various periods. This booking is done a long time in advance but may be changed on six weeks' notice before the date of loading. All growers are expected to be very careful in their estimates so as to facilitate the working of the Control Board as far as possible. any grower finds that he has made an error in his estimation and gives due notification thereof, the Control Board assists as far as possible to get the space booked filled up with fruit from other sources or with other products.

All citrus fruits are shipped on the system of To the writer it appears that the priority of arrival. introduction of the act may have been responsible for a diminishing of confidence in the Fruit Exchange and therefore it may have had a retarding effect on co-operative development in the Fruit Industry. To enjoy the full confidence of all growers and to foster the co-operative development, the members of the Control Board should be appointed by the South African Fruitgrowers \* Exchange Limited.

On the repeated recommendations of the Fruit Exchange, the Control Board and various other shipping

interests.....



interests in South Africa, the Union Government entered into a contract for a period of ten years to take effect from January 1, 1929, with the Union Castle Steamship The result of this is that sufficient re-Company. frigerating space of a satisfactory quality will be available to meet the demands for years to come. In the event of the increasing space available in the Union Castle Steamships not being sufficient, the Union Castle Company is responsible for making arrangements with other lines to remove the bulk of the remaining products that cannot be removed by the regular steamers.

The agreement makes provision for the increase in quantity of refrigerating space, the quality of refrigerated space, ports of delivery, speed of delivery etc., but on the other hand space that is contracted for and not filled, will have to be paid for and what is more serious, any fruit arriving late will be shut out from It will thus be apparent that in future the shipment. need for giving estimates and giving correct estimates, will be greater than ever for space in mail boats must be booked on the Saturday before each mail ship is due to arrive at Cape Town from Europe, in Intermediate and other regular ships four weeks before the ship is due to sail from Cape Town and in other ships two months notice is The estimates must reach the Control Board required. at least four weeks bef ore shipping.

In 1929 a Shipping Board was enacted to give advice on matters of freight charges, allocation of space etc.

The Union Castle Steamships carry most of their cargoes to Southampton and make provision for the con-



veyance of fruit to Nine Elms Station, London, free of extra charges.

For shipments direct to the European Continent, the East, or the New World, other Lines which are rapidly improving in efficiency are available but transhipment has in some cases to be resorted to.

In general it may be stated that the shipping facilities at present at the disposal of the Citrus Fruit Industry in South Africa are very favourable and are rapidly improving.

# The Future Development of the Industry.

The expectations of high returns in a few years to come and of the rapid development of the Citrus Industry have in general not been realised, though fairly rapid development has taken place. The reasons for this disappointment were:— generally unsound cultural methods, the presence in the groves of large percentages of worthless trees due to faulty propagation, the absence of sound organisation and the erratic market returns.

Unfortunately little has been done in the past in the way of experimental work and though an Experimental tal Station has been started at Melapruit, it will be at least ten years before it will produce any reliable results. This means that growers must evolve their own methods of production but unfortunately the majority do not have the necessary training, the time or the money to carry out their own field experiments.

During the past two or three years the great majority of growers and marserymen have realised the importance of such problems as bud selection, fertilisation,



fumigation etc., with the result that a better class of tree has been planted in the majority of the more recent orchards.

As already pointed out over a million-and-a-half trees have not yet reached their full bearing capacity, while close on a million of these have only just started bearing. Taking these figures into consideration one is led to believe that the export trade from South Africa will be close on five million cases of citrus fruits by 1935 even after allowing for a certain amount of working over of trees that are of off-type strains.

South Africa has a very large area of land (probably over a million acres) suited to the culture of citrus fruits but future plantings will be limited by the very important question of profitable marketing.

As will be seen later citrus planting is going on rapidly in certain other parts of the world but taking the potential markets into consideration, it is very doubtful whether the much feared over-production point will be reached at any time in the near future, providing high quality fruit is produced.

Africa produces a high standard quality of fruit, she has nothing to fear as far as finding a profitable market for the fruit is concerned. She can produce a high quality fruit providing well selected trees of popular varieties are planted in well adapted areas where the fruits mature at the right time and provided that these fruits be sarketed through a very efficient organisation.

It may be found necessary to market locally the fruit from areas such as the Eastern Transvaal, where the



Valencia Late variety of fruit matures too late to be profitably marketed on the overseas markets. be necessary to hold this fruit over to market it during the Xmas season and plantings in such areas should be restricted so as to co-ordinate supply and demand.

The foundation of a merketing organisation the South African Co-operative Citrus Exchange - has already been established but to provide the best services it must handle at least 50% of the fruit produced and to make and maintain citrus growing a profitable Industry in South Africa, it is essential for citrus farmers to give their whole-hearted support to their Exchange.

It is only by the sale of a highly standardized product through an efficiently functioning organisation that South African citrus growers can hope to place their Industry on a sound basis - a basis which will ascure their future prosperity.



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### CHAPTER III.

### THE COST OF PRODUCTION.

The rapid increase in production of all types of fruit will no doubt be accompanied by a gradual decrease in price realisations for citrus fruits on the overseas markets.

while organisation on both producer's and consumers' sides is tending to eliminate unnecessary intermediaries in the marketing machinery, it is doubtful whether such organisation will accomplish any great saving in the actual cost of marketing as it stands to-day. Where it can effect economy, however, is by wholesale purchase of the farmers' requisites and by giving the farmer beneficial advice on all the problems connected with the Industry. Moreover, organisation tends to minimise the risks entailed in marketing, as far as the individual is concerned, by pooling of the product.

seeing then that very little saving can be effected in the cost of marketing and that the price return to the farmer per unit of fruit will tend to decrease rather than increase, producers will be forced to cut down their production costs to a minimum and to realise the highest possible price per unit of fruit.

To effect savings in the cost of production, one of the first necessities is that all the trees in the orchard should produce abundant fruit of a superior quality for cost of planting, pruning, fumigation, cultivation, irrigation and interest on capital invested are the same



whether the tree is high producing or low producing and whether it produces high quality fruit or fruit of a low quality. To ascertain which trees are uneconomical, it is essential to keep individual tree-performance records and trees that are unprofitable should be worked over to or replaced by ones that are known to be profitable. In this way the maximum returns will be assured from the more or less constant costs and thereby the cost of production per unit of product will be at a minimum. It may be noted here that high yielding capacity is usually correlated with high quality of fruit.

Economy in production can further be effected by the co-operation of producers in processes such as pruning, funigation, transport etc. The limits of such co-operation will naturally be determined by local factors.

Costs of production naturally wary from place to place, from season to season, from orchard to orchard and from tree to tree depending on a number of factors such as distance from railway, the certainty or otherwise of obtaining a crop for insurance against risk increases the cost of production; the presence or absence of an effective citrus organisation, irrigation charges, amount of cultivation, cost of labour, etc.

As can be deducted from the above, the cost of production per box of fruit varies inwersely with the production of fruit per acre i.e. a high yield per acre is usually accompanied by a low production cost per box of fruit.

The .....

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The factors that are taken as production factors are:-

#### A. Manual and Animal Labour

- 1. Ploughing, harrowing and cultivation:
- 2. Irrigating;
- 3. Manuring:
- 4. Spraying:
- 5. Pumigating:
- 6. Pruning.
- B. Cash expenses.
- C. Depreciation and Maintenance costs.
- D. Interest on improved orchard plus interest on machinery and working capital.

All other factors from picking onwards will be considered as costs of marketing.

The results of a survey on the Josta of Production of Citrus Fruit showed that these varied greatly in the different areas as can be seen from the following

figures:						
Operation,		Cost per agre.				
Ploughing, harrowing and cultivating	From	16/-	to	43.17		
Irrigating	*	4/4	#	1.13. 2		
Manuring	•	5/1	#	1.16. 8		
spraying	#	124	*	1. 1		
Pumigating	*	0		1. 5.11		
Pruning	*	2½d	đ	12. 72		
Cush Expenses	122	.10. 8	*	11.10. 5		
Depreciation & Maintenance costs		19	*	4.18. 6		
Interest	#	7.15	*	20. 8.10		
Total cost of production	ron al	4.17	to	£39.14		

From.

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From these figures which were counted by the Division of Roomomics and Markets, an idea of the great variation existing in costs of production for trees. six to seven years of age, can be obtained.

It is interesting to note that where the cost per acre was the highest, the yield was the highest and the corresponding profit per acre the highest. however, is not always the case but it was found to be a general rule that where the trees all carried commercial crops and where consequently the yield per acre was high. the cost of production per box of fruit was the lowest and hence the profit the highest.

The yield per acre was found to be anything from 42 packed cases to 311 cases. In one orchard where the yield was 52 cases per acre, it was found that the producar was operating under a loss of 19 per acre, whereas the farmer obtaining 311 cases per acre showed a profit of £83/10/- per acre.

In general them it will be in the farmers best interests to replace any low yielding and off-type fruit trees by high yielding ones of known superior quality so as to obtain a high yield per acre and thereby be assured of a reasonable profit after deducting all operating costs.

According to these figures, the cost of production per box of fruit varies from 2/3d to about 8/7d while in California the corresponding cost of production 1s about 252/10/- per acre or 5/- to 6/6d per box of fruit.

Owing.....



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Owing to the relative cheapness of South African labour and other advantages, the cost of production for citrus fruits in South Africa should be lower than in California.

Unfortunately the agricultural producer is always subject to the law of diminishing returns and it is
found that any additional outlay after a certain limit,
produces a decreased return. The point at which the
most economical return will be obtained naturally varies
with local conditions but each farmer should determine
that point for himself so as to be sure that he is
operating on the most sound economical basis.



## CHAPTER IV.

## THE MARKETING OF SOUTH AFRICAN CITALS FRUITS.

on the overseas markets are utilised by producers in South Africa. In the first system the individual producer consigns his fruit to an overseas salesman either directly or by means of that saleman's agent in this country; in the second, the fruit is consigned by a body of farmers to the salesman either directly or by means of the agent, and in the third case several bodies of farmers consign their fruit through their own South African Go-Operative Citrus Growers' Exchange to the overseas representative of the Exchange who distributes and supervises the sale of the fruit.

For convenience the first two systems will be dealt with together under the heading "unorganised marketing" and the third system under the heading "organised marketing".

## Unorganised Barketing.

As already pointed out the fruit marketed under this system is consigned by the producer either individually or jointly with other individuals to a fruit broker (or commission salesman) at one or other of the main overseas receiving points. The primary sale takes place at these points where the brokers usually have their head-quarters and receive the fruit as it is disembarked on the quay-side. The sale may be by auction or "private treaty" and is usually on a commission basis on account of the shipper overseas.



#### Augtion Sales.

Auotions are held at practically all of the larger receiving points and are generally owned and controlled by a few of the larger fruit brokers resident at the respective market centres.

obarged at the docks, it is classified, sorted and catalogued in readiness for the buyers before inspection and samples are drawn and forwarded to the sale rooms. Some auctioneers only show the fruit samples as lots are sold whereas others have sample rooms for the display of the fruit. Ugually the fruit is sold ex-docks and the buyers are often permitted to examine the bulk there.

Auotions are held on fixed days of the week and the brokers, prior to the arrival of the fruit, notify all buyers by circular as to the quantity and class of the fruit to be sold so as to obtain as large an attendance of buyers as possible thereby ensuring the highest bids and selling the bulk of the fruit as rapidly as possible. The brokers are in the unfortunate position of having to protect values but at the same time disposing of consignments quickly in order that they may not be swamped by the large number and bulk of incoming shipments of which the South Africas are only a very minor portion. The method followed, of course, ensures quick and apparent correct returns to the shipper for the prices are open to There exists, however, the possibility inspection. of brokers keeping two sets of books and in some instances false returns have actually been made but the old established firms are paually to be considered reliable.

In

In the event of the bulk of the consignment not being up to the standard of the displayed sample, a buyer on the United Kingdom market can reject any shipment within 24 hours after the auction and this privilege can be used as a lever to bring about a price adjustment. On the other hand if the sample is inferior to the bulk and the sale is made with the sample as representing the quality of the whole, the buyer naturally says nothing and the shipper has received a lower price than he would have received if the sample had been truly representative.

Host auction sales are open, i.e. anybody, at the discretion of the auctioneer, is allowed to go in and buy but certain auctions such as those at Liverpool and Hanchester are closed and only members of the Buyers. Association are allowed to buy. Where the number of buyers is small, closed auctions are very undesirable for there exists the danger of a "ring" of buyers being formed but where the membership of the Buyers. Association is large, it is said that there is little danger of this occurring. The closed auctions of course facilitate oredit.

At practically all auctions both buyers and brokers usually form associations in order to deal with matters which may arise between the two in a co-operative manner and also to ensure correct selling and facilitate such.

tablished, owning well-built modern sale and sample rooms with up-to-date facilities and the buyers coming from wide-spread areas act as distributing agents.

Auction sales are excellent on a rising or standing market but are not so good on a falling market, for in the latter wholesalers tend to hold off until no further depression occurs.

The essential feature at auction sales is the concentrated competition between buyers but at private-treaty sales the competition between the sellers is the principal factor.

## Private Treaty Sales:-

these take place mainly at the larger ports but there are private treaty salesmen at other porte also. Nost of these private treaty firms receive their fruit direct from the producer or through their own agents. As in the case of the brokers they all sell on shippers' account at an agreed rate of commission and subject to the deduction of handling charges.

In connection with the commission charges, it may be stated that some salesmen have been found to charge a commission on the sale of the fruit when prices have been high but when prices have been low,, they have charged a flat rate per box of fruit sold. This is naturally to safeguard their own interests but is nevertheless undesirable from the grower's point of view.

\*Private Treaty\* salesmen dispose of fruit by the method of personal bargaining with their customers and the factities they possess for marchonsing which naturally increase their overhead charges, give them more latitude in holding for higher values than is possessed by the auction broker. In some conditions of market this is a definite advantage. On the other hand when fresh



shipments are coming in every week which is the normal situation during a great part of the season, their plower methods of distribution tend from time to time to result in the accumulation of stocks which must eventually be disposed of by auction at depreciated values. often the private treaty salesman has to take his prices as determined by the auction if the two coincide in time The publicity check on returns is lacking. and place. In the case of transaction based on personal negotiation. the retention of the good-will of the purchaser must necessarily loom largely in the saleman's eye and buyers may obtain fruit at a lower price than it is actually selling for on the auctions by playing one salesman off against the other. In the absence of any check on the part of the shipper, discrimination may from time to time arise under such a system in the matter of price between lot and lot. It is also known that the grivate treaty salesman may sell one type of fruit, eg. oranges, at a discount on condition that the buyer also purchases another lot of fruit eg. apples. In such a case the owner of the Where fruit is of doubtful quality oranges looses. speculators, street-hawkers and others take their opportunities and it is here where South Africa suffers on account of the uncertain standard of many of her marks.

Greater satisfaction is obtained from the auction system in cases where large quantities of fruit on regular consignment have to be dealt with especially when such fruit has gone off condition slightly during transit; whereas for really fancy fruit, the private treaty salesman

has ......



has better opportunities for demanding a higher price. The latter often has wide-spread branches of his business in other markets thus bringing the product to the door of the buyers and retailers of nearly every large city and town of importance. For the orange trade of Bouth Africa, both systems are serving their purpose. Several auction brokers have connections in both English and Continental markets. On the account of the irregularity of supply in large enough quantities to the various auctions, price comparisons on returns from firms for both auction and private treaty sale, would show no data of importance and would certainly not warrant the adoption of one of the two on that basis only although suctions do appear to be the most popular.

"Linlithgow Departmental Committee Report on Distribution and Prices of Agricultural Produce in Great Britain", reference is made to the illegal practice of "averaging returns" and to the method of rendering sales accounts in such a way that the detailed costs are not shown.

Of course both these practices are detrimental to the interests of the producers. It is argued that the report referred only to produce produced in Great Britain - this is true but seeing that growers close to the markets were subject to such disorders, is it not more than probable that growers situated more than six thousand miles away would receive even worse treatment?

The report further refers to the practice of commission salesmen buying and selling on their own account at the same time as they were operating on a commission

basis ......

basis.

sees brokers to obtain fruit for their sales. As a consequence many of the brokers have in their efforts to inorease their business ceased to be commission salesmen
pure and simple. To secure more and more fruit they have
grades lly elaborated methods of attaching the producers
to them by assisting them to finance the picking and
packing of the fruit. In this way there has grown up
a system of brokers advances to growers in the absence of
any other method of covering their immediate expenses.

producing countries. The agents visit the producers while the crops are still growing and endeavour to secure control of the fruit on behalf of their principals. Competition thus arises between these brokers' agents who in the same district bid against one another for the better qualities of fruit by offering greater and greater immediate finoncial advantages.

ocean freight, this system has grown so that advances are now sufficient to meet the cost of packing and shipment and in some cases even a portion of the expenses of harvesting. It has even gone further to a point where the broker has on occasion bought a half interest in the fruit which is then shipped not on a commission basis but on the joint account of shipper and broker. It may also happen that the broker has special salaried men to buy the fruit for him at his own sale in which case he collects a commission for selling the fruit to himself and he then becomes a speculator buying the fruit on a low market and

after gathering the commission for selling it to himsolf, selling it in his own interests on a higher market.

It may also happen that he reports the shipment in a poor
condition and so returns a low price to the grower than
was actually realised for the fruit. So it happens that
on the same day a broker may have on sale at the United
Kingdom markets fruit in which he is interested in three
capacities: as salesman without advances made or as saleman with advances or as part or whole owner. Maturally
fruit in which the broker is interested, may be given preference by him. On the other hand he may sell fruit on
which he has made advances at any price as long as he is
assured of his advances and his commission.

That this diversity of interest in the case of the salesman is an undesirable state of affairs is unquestionable. In certain Continental countries brokers are compelled by law to confine their activities to their proper function and it would be in the best interests of all shippers if all salesmen had to conform to similar regulations.

The present methods of auction and \*private treaty\* sales have grown with the growth of the trade. In essence the system is based on the assumption that the broker receives fruit from the grower and sells it to a wholesale merchant for re-sale through the retail trade to the consumer.

As pointed out above the brokers may not merely as selling agents on behalf of distant growers or as wholesale merchants who purchase outright on their own account. Both usually not in the market and sell either

to......



to other wholesals dealers or through buying agents to wholesals merchants or retailers in other markets or towns. About 90 per cent of the fruit passing through wholesals markets is handled on commission.

Wholesale merchants may purchase fruit direct and sell direct or through market to other wholesalers or retailers.

The commission buyer acts as buying agent for a provincial wholesaler or retailer purchasing supplies on behalf of his principal from the commission salesman, wholesaler, or occasionally direct from growers and usually making a flat rate charge for his services, he also arranges for the transport of goods to their destination.

In extreme cases the grower may sell his fruit to a local dealer. The dealer sells it through a commission salesman to a commission buyer acting for a wholesale buyer who may sell the fruit to a second wholesaler before it reaches the retailer and finally the consumer.

It will be clear from the preceding description of the existing marketing process that occasionally the services and costs of as many as six intermediaries may be interposed between the grower and the consumer. At each stage the produce is bandled two or three times by porters or railway employees making in some cases as many as sixteen to twenty different bandlings, while between each stage long hauls by rail or road may increase the tally of distributive charges.

## THE INTERNADIARIES:

The Rigglers: These are dealers or secondary wholesalers who buy produce for resale as opportunity offers. Frequently they have a considerable business with

larger consumers such as resturants, hotels etc., for whom they not as buying agents or contractors thus rendering a service which their customers could not perform so efficiently or economically themselves.

The Commission Buyer: may buy on his own account or on his principal's account. In the first case he usually charges a consission of 2½ to 7½ per cent on the cost price which may include porterage. If he is buying for a principal, he usually charges a flat rate of 1d-3d per package. He is a skilled buyer and in view of the constant fluctuations in supply and value, the skilled agent having the shole of the market supplies on which to operate, has a distinct advantage over the wholesaler who is limited to his own stocks. It is this condition which permits and justifies the continued existence of the commission buyer and keen competition tends to keep his charges low.

The Wholesaleri The principal for whom the commission buyer is acting may be either a distint wholesaler or a large retailer. The business of the wholesaler is epeculative in character and adds from five to ten per cent on the cost price of the fruit to the price paid by the consumer. He usually has heavy overhead charges and often suffers severe losses through deterioration. In general it may be stated that he does not obtain more than a fair livelihood from his business although in some cases a clear profit of more than 30 per cent has gone to the wholesaler. The primary wholesaler may sell to another wholesaler before the fruit reaches the retailer. These secondary wholesalers only duplicate the cost of the primary wholesaler and seem to

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be unnecessary for in such cases the combined costs of wholesaling absorb an abnormal proportion of the total costs of the service of distribution.

The Retailer: The business of retailing consists of sale to consumers of a wide variety of products which are assembled at the retailers premises for that purpose sufficient in variety and quantity to neet the requirements of a large number of individual householders. This naturally means that the retailer is not going to take particular trouble in the sale of any one particular article such as citrus fruits for instance.

The diversity of retail services demanded by the community and the wide range of costs entailed have resulted in the development of certain types of retail The large departmental stores for instance business. deliver to quetomore souttered over a wide urban and sub-Their trade is usually of a high class urban area. character which necessitates in more than ordinary care in market dealing and generally only the highest priced Extensive services in the direction goods are bought. of calling for orders and delivery of goods is also rendered by individual traders with a more or less select trade in the better class residential districts whose customers are concentrated within a convenient and comparatively short range of each self-contained retail establishment. Other businesses sell almost exclusively to customers who call personally for their goods. result of the elimination of service costs, such retailers are able to sell at lower prices giving "rook bottom"

value....



value. Finally there is the street trader or coster whose expenses are practically confined to the hire of a barrow or the upkeep of a horse and ourt. These types are not rigidly definable and the larger business frequently merge the services, charges and characteristics of them all.

Generally retailing is confined to relatively small business units muinly on account of the keen competition that exists in the trade. Condideration of the position, however, appears to show that there must be a point beyond which any further increase will not necessarily react favourably on retail prices.

In general the retailer may be considered the "weak link" in the marketing system. Owing to the relative case with which retail business can be started and to the insignificant trading capital required to commence operations practically anyone can start a retailing business. Due to lack of experience and knowledge of the trade many of them fail.

Owing to the general inefficiency and "weakness of their organisation, to the sudden deterioration of fruit in some cases and to the relatively small quantity of fruit handled by each leading to high overhead charges retailers in general appear to estimate that under normal circumstances the goods they handle must be sold at nearl 50 per cent above their purchase price if the costs of distribution are to be met and a reasonable remuneration provided. In other words one-third of the price paid by the consumer is normally required by the retailer to cover his expenses and profits. The chief complaint th

prefers to operate upon a small turnover and a relatively large margin of gross profit rather than by reducing prices to secure an equal or pessibly greater financial return from a larger turnover. Retailers in general do not appear to adjust retail prices to conform with the reduced prices at which supplies are in some years procurable. The result is restricted demand at a time when increased consumption is the only means of saving the situation from the growers standpoint.

The establishments which undertake delivery and Other services necessarily work on a relatively high margin of gross profit and representatives of consumers themselves have admitted that a large part of the cost of distribution in such cases must be laid at the door of the consumers who grow daily more exacting in their de-His casual and erratic purchases, frequently mands. of small quantities, and his general lack of method are further contributory factors. If consumers would place a regular order, some reduction in distributive costs would be possible while retailers would be able to adjust supply to requirements with greater precision. The retailer who charges the larger margin of profit, exists to a large extent by reason of a specific demand on the part of the public for services which, however, agreeable and convenient, are costly and not always necessary.

In general the competition from street traders and other retailers is sufficiently important to ensure that retailers generally do not take too heavy a toll upon the goods they handle but in order to reduce their costs, better organisation leading to more business and greater business efficiency is necessary.

## Street Traders.

Street vendors, sometimes known as hawkers. costers, or hucksters are retailers who by reason of the almost complete elimination of overhead charges or by performing the minimum of service are enabled to work on a smaller margin of gross profit than the regular shop-Some deal in fruit and vegetables, others in keeper. fruit alone. Many are purely casual and only operate during the summer season. Their practice is buying fruit at the wholesale markets from merchants when prices have fallen sufficiently low to make the proposition attractive. By working on the principal of \*small profits. quick returns\* they bring produce within the reach of all. Their chance of successful business depends on the extent to which they can thus undersell the retail shops. hawker is a most useful factor in the existing distributive system and forms a valuable protection to the consumer.

One of the main services that the hawker renders to the industry is that of clearing the market of surplus produce which would otherwise deteriorate and be wasted.

unorganised system of distribution and marketing much more handling of fruit than necessary takes place and as each handling means an additional charge, the percentage of the ultimate price paid by the consumer and absorbed in the process of marketing is greater than warranted for the services rendered. Further when fruit is consigned to a market irrespective of the relation of the supply to demand on the market at the time, there can be no certainty

that.....



that remunerative prices will be received for if there is a "glut" of fruit on the market, prices realised will be abnormally low and if there is an insufficiency of fruit, the prices will be high - an unsatisfactory condition if extended over any length of time for the higher prices will be repulsive to the poorer classes and hence the demand will be lessened.

A quotation from the \*Review of the British Apple Market by the Agricultural Committee for the United States Department of Agriculture is of interest: " There are gilt edge firms that have been in the business for years whose word is as good as their bond and who are really anxious to secure the largest possible returns for the producer ...... Unfortunately there are, however, firms whose carelessness in picking samples, in putting the fruit up for sale when conditions of the market do not warrant it, in throwing the produce on any market so they can pocket their commission and even making private sales at their own convenience is often the cause of heavy loss. There is under the present system no way of checking these dishonest firms since they can easily say the fruit arrived out of condition and that the prices obtained were due to that cause. Again fruit is thrown on one market in a period of depression when it really should have been consigned to another. Thus the Glasgow market will be up and the London down. London dealer, however, will throw the produce on the London market at a low price and get his commission rather than tranship and get a good price for the shipper in

Glasgow.....

Glasgow and get no commission. The answer to complaints is that the goods were shipped to London and should be sold there.

of speculation which takes place because of the fluctuations in price caused by poor distribution and the middle-man or speculator profits at the expense of the producer as the ultimate price paid by the consumer remains more or less constant. Speculative buying can be beneficial as in the case where speculators make heavy purchases on a low market and thereby cause an upward tendency to come about. Low markets, however, would not exist under a well organised marketing system.

tion of fruit to the most suitable market is only now commencing to receive due attention from producers.

It is no reflection on the integrity and efficiency of auction brokers or commission salesmen to say that the interest of shippers can never be identical with theirs. Shippers are concerned to secure the best price for their fruit, brokers must depend for their earning on their securing supplies from every available source.

It is obvious that brokers who are established at one port, cannot recommend shipments to ports other than their own even though conditions may be such as to render such a course advisable in the interest of the shipper. The port authorities and the railway companies have an obvious interest in favouring a particular port.

Bome port authorities and railway companies have gone so far as to send a mission or maintain a repre-

sentative.....

ing trade in their direction. Thus the interest of the port and railway authorities must be regarded as reinforcing that of the brokers in favour of soncentration at their own port.

of the overseas marketing facilities, they must themselves undertake the delicate and responsible function of controlling and supervising distribution as between the different consuming areas in the overseas countries.

This as will be realised, can best be done through an organisation of producers.

## Organised Marketing.

In a rapidly expanding industry such as the Citrus Industry of South Africa, the farmers are often confronted with several problems, the immediate solution of which is essential to place the industry on a stable basis and where these problems effect all producers alike. it is beyond the power of any individual to bring about any far reaching remedy. But where any single individual is helpless, the combined efforts of a group of individuals can bring about the desired results. It is through organisation alone that the farmer can hope to meet his present problems and by doing so take his rightful place in the economic life of the world. Until farmers can realise that their helpless position is due to independent action, agriculture will continue to be the least effective portion of the economic life of the world. Co-operative organisation is the only possible means whereby



the interests and desires of farmers as a whole can be given full expression. A great deal of interest has centred around co-operation in agriculture in recent years and especially true has this been in South Africa and in order to prevent any misconception as to the possibilities of co-operative marketing, a brief outline of its possibilities and limitations will be given.

Just what they are, will depend upon a number of factors such us the nature of the commodity, the degree to which private business has already perfected distribution of it, upon the degree to which people are trained in co-operation and upon whether the co-operation considered is of a local or of a larger nature.

It will be long before all the possibilities sentioned are fully realised. As a matter of fact many of them are beyond the range of probability for the immediate future though well within the range of possibility if sought by men of ability and clear vision. Moreover, all of them depend on good management.

Some of the outstanding possibilities of cooperative marketing may be summarised as follows:

- Standardization and improvement of production so that better quality may result.
- Standardisation and improvement of grade and pack for both local and distant markets.
- 3. Stabilizing the production.
- 4. Controlling flow to markets so that all have a sufficient supply and yet none are over-supplied.
- 5. Improving distribution between markets.

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- 6. Co-ordination of physical transport both on land and sea.
- 7. Advertising and the development of new markets to in-
- 5. Collective bargaining thereby more or less stabilizing prices on the market and reducing costs.
- 9. Financing of marketing operations.
- 10. Making marketing more efficient and eliminating speculation on the part of the trade.
- 11. Maintaining favourable public relations by presenting evidence against proposed harmful legislation or by presenting facts in favour of desirable legislation or by presenting justification for any contemplated actions on the part of the producers as a whole.
- 12. Erection and control of storage houses at shipping and receiving points.
- 13. General improvement of all trade and production prac-

Three limitations are set out particularly because they are so often listed as possibilities of co-operation. They are:

- Co-operative associations cannot arbitrarily "fix"
   prices although they can and do exercise a favourable
   influence on prices.
- 2. Co-operative organisations cannot \*eliminate the middle-man\* except in the sense of combining the function performed by a number of dealers at any given stage in the marketing process. What they really do is:
  - a. to substitute a co-operative agency for a private, and
  - b. to combine a series of steps in the marketing pro-

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3. Co-operative marketing cannot cut costs greatly.
That is, a co-operative organisation cannot operate a given business unit any more cheaply than a private concern could operate the same unit. They may, however, out their costs if they can increase the volume of business over that of the larger private dealers or if they can operate as efficiently as the more efficient of these.

There are also some inherent difficulties which capable management may and often does overcome. Nost important among these are:-

- 1. It is difficult to maintain harmony between management and members.
- 2. Hombers become oursless as co-operative citizens failing to vote or making poor selections of officerd.
- 3. There is often a tendency towards extravagance.
- 4. Outsiders sometimes get higher prices than members even when an organisation is functioning efficiently.
- 5. Hembers of a new organisation often expect impossibilities.

The management of a co-operative association must not only be an efficient manager but must keep his membership with him. He must have such a vision of what a strong organisation can do that his enthusiasm becomes contagious without leading to extravagant expectations.

Many oc-operative organisations have been formed in various parts of the world in recent years, large numbers of which have been failures or at best only partially successful. A few have been outstandingly successful



and if a careful survey of these is made, it will be seen that they are based on certain fundamental principles. On the other hand it is clear that the organizations that have not been outstandingly beneficial to their members have failed chiefly through violation or disregard of these underlying principles.

## Principles underlying Co-Operative Organisation.

of the Galifornian Fruit Growers' Exchange states "Co-operation emong farmers may be defined as an enterprise in which the members form an agency through which they conduct their business for their greatest mutual advantage". Of the soundness of this doctrine there can be no doubt.

The general principles upon which all the successful co-operations are based may be summarised as follows:

- 1. It must arise from economic necessity.
- 2. Definite, well-marked economic benefits must result soon after organisation in order to strengthen the position of the organisation.
- 3. Membership must be confined solely to producers engaged in the production of the particular commodity handled by the organisation in order to maintain the interest and confidence of members.
- 4. A co-operative organisation must be based chiefly on the loyalty and full confidence of the members in one another and one of the best means of expressing this mutual trust is in the adoption of equality of voting.

  If equality of voting is not adopted a definite limit should be placed on the number of votes accruing to one man.

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- 5 To safeguard an organisation and the interests of 100 per cent delivery of produce to the organisation loyal members your or alternate yours. from the contract at a certain specified time every is necessary. P strict long-time Members should be allowed contract onling for to withdraw
- 0 The organisation must succeed in its primary objects.
- 7. dapital contributions, being merely for the purpose of providing facilities for the conduct of the business and not un end in themselves should be made in financing is the building up of adequate cash reputronage basis. and retention by the association of 1d per box. can be built up by box accessment e.g. the deduction be soundly flushoed and one of the most important steps ciples underlying organisation that an organisation In the case It is of oftrus fruit one of the fundamental such a reastve Trial
- 200 one of the soundest principles received from Danish Agriculture is organisation on a commodity basis and therefore specialised management.
- 9. ideal. re Int tion. is made, will be the strength of the whole organismcorned. there and as strong as the foundation or local unit BDZ instead of beginning at the 8 a decentralized democratic organisation Here the nambers build from the bottom occessodities such as oftrus fruits are top and stopping 900 F 18
- To. Upon the strength of its munaconent 170 uble of keeping the membership with him and of picking extent the progress and wel-fare of the organization. Hanager must be highly efficient in his work, oup-... rests to a large

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- able associates and generous financial provision in this respect is one of the prime factors in success.
- 11. The operations of an organisation should be conducted at cost plus, if necessary, current interest on the capital stock.
- 12. Pooling is essential for the building up of a uniform brand and it enables the management to distribute one product uniformly. It reduces operating expenses and protects the individual against unavoidable price fluctuations, loss, etc. Pooling should be parely local in nature and the type of pool must be determined by local conditions.
- 13. The members must feel that they are a vital part of the organisation and that it exists not only for them but of them.
- 14. The manager must be fair in all his dealings and the organisation should actively encourage and stimulate members' interest in their organisation by keeping them fully informed as to its policies and work.
- 15. To be successful the organisation must have complete control of at least 50 per cent of the crop handled and it must find and open up markets for this produce.
- 16. The organisation must be a free and voluntary association in order to maintain the loyalty, mutual confidence and trust of its members, and no compulsion must be brought to bear on members to compel them to become co-operators. A small percentage of the produce should be outside the organisation in order to keep up competition. Co-operation in agriculture

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can best develop if it is carried on by producers and producers alone. The function of the Covernment should be to assure legal power to co-operative organisations, help in standardization and see that fair play is accorded to all interests.

Co-operation in agriculture is not a theory - it is a sound business doctrine which has been subjected to the most severe tests and where the fundamental principles have been followed and fully understood, it has been a complete success.

A few further points that are worthy of note in the formation of a successful co-operation are:-

- 17. Important differences in mationality, religion and language may prove to be obstacles to success and the population should be stable.
- 16. The character of the enterprise must not be too ambitious or complex. He promises incapable of fulfilment should be made otherwise dissatisfaction arises.
- 19. The organisation must not interest itself in politics.

Having thus briefly emmerated the fundamental principles underlying successful co-operation for commodities such as citrus fruits, the writer will now pass on to a discussion of the South African Fruitgrowers' Exchange from the viewpoint of the citriculturist.

# The Fruitgrowers' Exchange of South Africa Limited. Historical Development.

As early as 1918 the Rustenburg growers made an attempt at some form of organisation of growers throughout Bouth Africa. Fortunately or unfortunately, however,

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and the Bustenburg growers had to be satisfied with local trus Society in 1921. orgunt aution. there appeared no necessity for organization at the Oftrus Union which was registered in 1920 was folents da registration of the Marioo Oc-operative Ci-The example of the Sustanburg Oc-Opera-110

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question of shipping and to undertake the task of organiits members, made use of the Transvaul Agricultural Union Conference which was in progress at Rustenburg to raise which was the first co-operation to export the fruit of betatodus question of shipping and of the organisation of losses arose in 1921, however, Industry. to interview the Minister of Agriculture on the When the crists due The result was that a committee was to delayed shipping and the Rustenburg Union

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Agricultural Library, Union Buildings, Pretoria agreement was arrived at and a well attended mosting of With the help of Mr. Pickstone and Mr. Rusk a workable Elst July and delegates from the Cape Province attended. this meeting was published and can be obtained from the Browners The 1921. 100 Committee held a meeting at Pretoria on the called in Johannesburg on A special report of the proceedings of the 15th

-templica es pertame assepted by the General Meeting of growers may be sun-The principles proposed by the Committee B

The pucking muterial required. 100 marketing of the organisation must be a co-operative lines. truit and with providing the It must 8 concerned one run purally objectly with

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2. It must be built up from the bottom i.e. the growers must form locals and the locals must form a Vederated Central Body and the whole must be run on the lines of the Californian Exchange.

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3. An executive consittee must be appointed to act tenpofurily until such time as the federated exchange is formed by the district associations.

The duties of this committee should be:

- a. To assist in the organisation of citrus growers into associations.
- b. To enter into negotiations with the Covernment and the Union Castle Steemship Company to ensure shipping space for the next season.
- c. To begin the necessary marketing arrangements for the next season.
- d. To obtain quotations for the requisite supply of packing materials.
- e. To engage a temporary manager and secretary pending appointment of permanent offices by the Exchange.
- f. To perform all other work appertaining to the Erchungs.

It was also proposed to finance the Exchange by a self-imposed levy of 5/- per ton on all fruit exported. Legislation to this effect was introduced and the levy money was handed over to the Exchange to dispose of in the best interests of the industry.

Among those taking part in the movement for organisation were those who envisioned a scheme of cooperation that would embrace the fruit growing fraternity generally and proposed that the enlarged organisation

should.....



should be designated accordingly - that is in place of the Citrus Exchange it should be called the Fruitgrowers'  $E_{X^{-}}$  change.

Asong the members of the Committee appointed at the September Conference and supplemented by members from the Western Province, a very charp division of opinion took place on this point. Sine of the members were in favour of a Fruitgrowers' Exchange while three members held that they could not over-rule the declared policy of the September Conference and that a Citrus Exchange had to be registered.

Those opposed to the larger idea set out their reasons in a Minority Report that was circulated to all the growers. They could not see how a general union of fruit growers could solve problems peculiar to the citrue industry, claimed that the movement was against true cooperative principles and experience and fore-spelled difficulty over the allocation of revenue and expenses to the respective industries.

However, in April 1922, a conference was held in Johannesburg and a scheme was agreed to by a majority of 62 votes against 15, by which each division - citrue, decidents and pineapples - should be managed by a subboard forming together the board of the Exchange having charge of the interests common to all. The proportionate importance of the respective divisions was acknowledged in the principles adopted for the election of the sub-boards namely eight for citrue, five for decideous and two for pineapples.

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The motion proposed squinst the above was for separate exchanges which would co-operate in questions of common interest.

Provision was made in the articles for the election of the central board members on a tennage basis after December 1923. Fortunately the Minister of Agriculture recognised that this was ultra - co-operative and would not confirm it with the result that the members were chosen on a provincial basis.

A temporary board of thisteen members who were preponderatingly citrus carried on the work of the Exchange until March 1923.

while the general interest and purpose of any combination or co-operative movement may be understood by the constituent members at its inception, radical differences of opinion are upt to arise later concerning the exact interpretation of the word co-operation and the manner in which the common object will best be schieved.

Such a difference of opinion arose in connection with the activities of the Fruitgrovers Co-Operative Exchange which was brought into being in April, 1923, and this difference threatened if not to wreak the whole movement, to curb its usefulness and influence and to do insettimable harm to an industry which had reached a stage where co-ordinated co-operative control and direction was essential if the industry was to progress and its pursuit made worth while.

Behind all the manifestation of dissatisfaction and discontent was a spirit of distrust and suspicion regarding the bons-fides and disinterestedness of individuals



who were administrating the affairs of the Exchange and in a leaser degree there was also apparent the distrust and jealousy born of that attitude with which one section of an industry regards another and with which different Provinces are inclined to regard each other.

In addition to all this, powerful forces were working behind the scenes to frustrate the co-operative movement. Those most opposed to the co-operative movement were the local agents of the overseas salesmen and a few of the large-setate proprietors with a minor portion of the individual growers who were under the influence of the anti-co-operators.

on the integrity, judgment and capability of the management to accusations that the Exchange was doing nothing for the grower and wasting his money. This lead to a government enquiry into the expenditure of the levy money and justification of this expenditure was thereby shown. The manager was accused of being connected with the interests of a London Fruit Firm, the structure of the Exchange was attacked, it was claimed that the Western Province was "pulling the strings" that the Exchange favoured Cape Town and attacks were even made on the fairness of the fruit inspectors at the docks.

These and pumerous other causes, genuine and otherwise, constitute the chief grounds on which objections to the Exchange and its policy or alleged want of policy were based.

A cureful study of the objections and existing conditions has led the writer to the conclusion that the

chief.....



obief cause of the objections can be traced back to the difference of opinion as to the form the Exchange should take at its inception and to the fact that the growers were in too great a hurry to derive direct benefits from the Exchange. Together with these causes it appears that the Exchange management was tactless and neither had nor could inspire the growers with full confidence in itself.

In the face of all the objections, however, the Exchange accomplished important work and this in spite of the fact that the conditions were such that the Exchange bud to be built from the top downwards instead of from the bottom upwirds owing to the insufficiency of the local co-operatives in existence and to the fact that important work such as shipping awaited immediate attention. appointed a field advisor to act in an advisory capacity to all growers on all questions in connection with the industry and was instrumental in getting two inspectors stationed inland. The Exchange approached the Covernment on the questions of transport and of cold storage at the docks, prevented all confusion and saw to the orderly shipping of the fruit, secured better terms from the Labo Bank, caused a reduction in the duty on box wood from 20 per cent to 3 per cent, secured a reduction in railway rates and many other improvements oun be ascribed to the efforts of the Exchange.

At a Conference convened at Pretoria on August 8, 1923 to discuss the grievances of all the growers a committee of six, three Exchange members and three of the com-

The conditions positive g WENT OF 112111

- F organisation must 8 federal exoubly.
- N Ë Dedtdwows Q true Control Provincial Conpuny. and no extraposation local associations or STORES P in theirs, 8 8 grouped in their so be formed in each Province. COM, ALBERT BEEF Chatral Frowingial Company. bused on the CH SERIES OF STATE company and product

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- -Ž Provincial Companies in proportion decueting its expenses, vincials for local propagants TO LAPT shipped. B fruit be paid to the Exchange which after Such balances passes the remainder MOTIF. 8 8 pe mead \*\*\* \*terount by the Freon to the

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- Y appointed to transactions. countities of proserve the 8 of trus and strictest economy two decidences in all DOM DATE 8
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- ş The: officials E STEEL 8 bilingual and highly efficient.
- 10. Bound ż new olection **\* 300** as possible. of directors TOP TOP the sub-board must の大学

The.



The above proposal was agreed to and came into operation in 1924.

The Provincial System worked satisfactorily but dissatisfaction still existed. This became more acute with the shipping trouble in September with the result that the Citrus Sub-board interviewed the Transvahl Citrus Growers' Association and after four meetings the revised articles of association were agreed to in December 1924.

In Jammry 1925 the first overseas representative of the Exchange was appointed in London and a further reduction in railway rates was obtained.

As a result of the enquiry into shipping matters in 1924 the Export Control Board was appointed in 1925. This relieved the Exchange of its most important functions wis: that of shipping its members fruit. The functions of the Exchange during the 1925 season were reduced to a minimum with the result that by the end of the season it had practically collapsed.

The discatisfaction with the shipping arrangements at Durban and the difficulty of sending Transvall fruit overseas are some of the reasons for the establishment of the Mational Fruit Growers' Association of South Africa by five or six of the big-estate proprietors in 1925. This Association was anti-co-operative in essence and was established to rival the co-operative Exchange.

During 1925, however, prices realised for citrus fruits were low and over a hundred thousand cases of fruit were rejected at the ports. The Exchange was financially crippled owing to the Minister of Agriculture deducting £3,000 for the Control Board and a further £2,500 for any

purpose he may think fit from the lewy money. The result was that the industry was on anything but a stable basis.

a general meeting in Protoria on December 1st, 1925 to discuss the position. A committee of fifteen, five Exchange, five Estional Fruit Growers and five independent members, was appointed to come to some acceptable agreement and it was decided by eight votes to six that a separate Citrus Exchange should be established. The general meeting were unanimous with the exception of five or six in their adoption of this resolution.

After a great deal of controversy during the curly part of 1926 the South African Co-operative Citrus Exchange was registered on 1st September.

The most significant features of the new constitution were the independent existence of the Citrus and Deciduous Exchanges respectively co-operating only where interests common to both were concerned and the abolition of the Provincial Companies. This latter step met with sewere criticism from all quarters.

An idea of the growth of the co-operative movement among citrus growers oun be obtained from the following figures:

Yer.	No. of local	Organisations. Total membership.
1920	1	21
1921	2	138
1922	5	243
1923	13	373
1924	16	484
1925	18	656
1926	24	<b>8</b> 90
1927	25	879
1926	30	1,010
1929	31	1,018

During .....

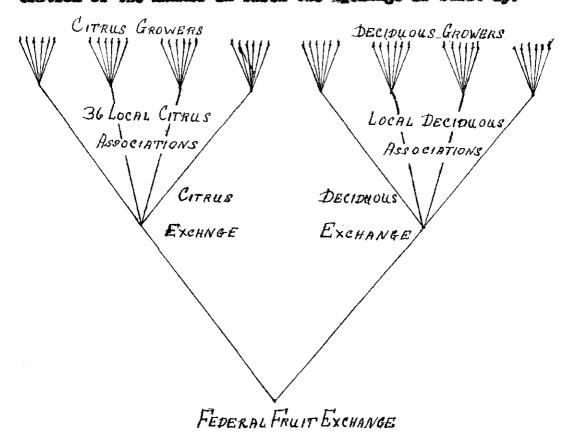


During the year 1929 an additional six cooperative societies were registered. Of the 31 societies and companies in existence in March 1929 fifteen of
the companies with limited liability and two societies
with unlimited liability were in the Transvaal, twelve
limited companies in the Cape Province, two in Natal and
one in Rhodesia.

During the 1927 Citrus season the South African Citrus Exchange handled 25 per cent of the citrus fruit shipped from South Africa. By 1926 this had risen to 49% of the total while the estimates for 1929 was over 75 per cent. Thus the progress so far has been very satisfactory.

# The Construction and Working of the South African Citrus Exchange Maited.

The accompanying diagram will serve as an illustration of the manner in which the Exchange is built up:





The individual growers unite to form local organisations and these local organisations co-operate to form the Central Exchanges which federate to form the Federal Fruit Exchange.

#### The Local Organisations.

greatly according to the work entrusted to it by the growers. The number of growers belonging to the local also varies but may not be less than seven according to the 60-Operative Act under which all the locals must be registered - Act No. 28 of 1922 is to provide for the formation, registration and management of Co-operative Agricultural Societies with unlimited liability, Co-operative Agricultural Companies with limited liability and Co-operative Trading Societies with limited liabilities.

Schedules A, B and O give model regulations and statutes for these Co-operative associations respectively.

As stated in the Act generally and applied in such regulations, the objects of such Associations of Citrus Fruit Growers are amongst others:-

- (a) to dispose of the fruit of its members in the most profitable manner;
- (b) to manufacture or treat the fruit of its members and to dispose of the products so manufactured or partly manufactured in the most profitable manuer;
- (c) to commence, acquire and carry on supply stores under co-operative system for disposing of and supplying fruit;



- (d) to purchase, hire or otherwise acquire and to work on behalf of its members, agricultural implements or machinery;
- (e) to acquire and distribute information as to the best menner of carrying on fruit farming operations profitably;
- (f) to acquire and distribute information on the markets of the world and on co-operation in general:
- (g) to raise money on loan for any of the lawful objects of the Association and for that purpose mortgage the movable and immovable property of the Association.
- (h) to engage competent persons to carry out any of its objects and to give instruction and advice to its members concerning fruit farming operations.

whatever the legal form the association takes on, whether a co-operative Company with limited liability or a co-operative Society with unlimited liability, the purpose it must serve is common, and members must, in forming, decide on this as they themselves are best prepared to bind themselves. As laid down in the regulations the members will bind themselves by contract and the one purpose in these regulations must be to promote the cause of co-operation. To do this the principles underlying co-operation must be observed.

Into the details of the various operations in the local packhouse, it is not necessary to go. One of the essentials, however, as stated before is efficient management. The growers choose a board of directors who must be efficient men. They in turn engage a manager

who.....

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who must be highly efficient. Much of the trouble experienced during the 1929 season due to the decay and insefficient packing and grading of fruit can be traced back to careless management.

It is the secret of co-operation, in Citrus at least, that a pool of the members fruit be formed to meet the fluctuation in price; to check it, and to put out a large quantity of fruit of standard quality and uniform grade thereby bringing it to the notice of the consuming public.

The pool in South Africa is generally made for one grade, one wariety over the whole season. In some cases a pool is formed for each individual count. This is due to preference on the part of buyers for certain

sizes. In other counts are grouped:-

eg. 96 and 112 - one pool

126, 156, 176 - one pool

200 and 216 - one pool

226, 252 etc. - one pool.

Owing to the great amount of clerical work involved in single count pooling, group-pooling is to be preferred. If any apparent seasonal fluctuation in price takes place regularly, it will be necessary to form seasonal pools as is done in California. This is not apparent as yet. However, all packhouses should keep careful data of the prices so as to be able, after several years, to draw up a definite pooling system.

all expenses in connection with packing etc., are met by percentage or box accessment. The latter is

apparently.....



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apparently the fairest, though the act stipulates a percentage accessment not exceeding five per cent.

A few of the advantages derived through cooperative pack-houses may be summed up as follows:

- (1) One efficient packing plant is erected centrally instead of each individual having a cheaper plant which
  is, in many cases inefficient. Honce efficient
  packing, handling etc., is ensured (Providing the
  Manager is efficient). The efficient machinery required is expensive and cannot be afforded by the average farmer.
- (2) Pooling: by this risk is reduced, more fruit is put out under one brand and the result is facilities for wider distribution and better advertisement.
- (3) Efficient storage space and shelter for the fruit is provided.
- (4) The estimates made for the Control Board are made by the Manager and he has more chance of keeping to these estimates than have individual growers.
- (5) The co-operative purchase of requisites reduces costs owing to bulk purchasing.
- (6) Hore efficient handling owing to specialisation in operations such as picking, grading etc. The labour becomes specialised in the particular work.
- (7) The cost of packing over a number of years is reduced.
- (8) Specialised management, supervision and advice oun be obtained.
- (9) The Grower has more time to devote to his cultural practices, etc., and the necessity of cash expenditure in paying for packing obviated.

Thase	 	_	_	_		_	

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These as well as many other advantages mentioned previously are derived.

Co-operative picking: this is practiced with success in several cases. It is a local problem to be decided on by the management. However, owing to specialised handling and picking gangs, the fruit is more efficiently handled and it is picked at the convenience of the pack-house.

Co-operative funigation: Because of the large capital cutlay to install funigation and spraying services, the individual farmer finds difficulty in buying the necessary machinery, tents, etc. Local associations often undertake such work and can thus procure experienced workmen to do it. In a few isolated cases the association also co-operatively buys the more expensive implements needed for cultivation. By employing the staff of the pack-house to do the funigation work and other work during the time when there is no packing, overhead-charges are reduced considerably and hence also packing costs.

The Co-operative Society often supplies its members with implements and requisites other than actual packing material and citrus requirements with the result that the merchants' profit is eliminated. The first object of the local must be citrus and where other functions are undertaken these must not be to the detriment of the citrus industry and must develop gradually.

Some locals only undertake to dispose of the fruit of its members after it has been packed by the

growers.....



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growers themselves. It is found to be more economical for them to extend their work than to specialise in only one line.

Some of the societies are meanly dormant, their sole object being representation on the Citrus Exchange. This should be discouraged for it should be the aim of the locals to lower the cost of production, picking, packing etc. Some give advice to farmers on cultural methods, type of trees to plant etc. This is highly satisfactory where the adviser is capable. Some provide all the transport required for the members fruit.

#### The Financing of the Co-Operative Association.

As can be realised from the foregoing discussion, the association needs a considerable amount of capital to ensure success, for sufficient capital is one of the underlying principles of success.

The funds required by the association are of a two-fold nature:

- a long time loam to be raised for the purchasing of ground, erecting, equipment of packing-house, etc;
- a cash credit account, for the period of one year for running cost, packing material, export loans.

Communication with both the Standard Bank of South Africa Limited and the Sational (Barclays') Bank shows that it is not possible for these banks to cater for the first item since money is not invested for such long periods by them.

For the second there is no reason why they should not, but each case is treated on its merits.

There.....

There is of course the possibility of raising the money from such banks for one year provided it is known that the money can be obtained elsewhere after that period.

Provision for such loans is made in the Land
Bank Act No. 18 of 1912 in which various other Acts are
incorporated. Article 28 of the Act sets out to lay
down the legal points which have to be considered in the
financing of co-operative societies and companies.

The Legal Hecessities are given full attention in the Act and are discussed lengthly; they are available from the Government Printer and it is not necessary to dwell on the subject in this paper.

The model constitution drawn up by the Cooperative Citrus Exchange meets all the requirements of
the Act pertaining to Co-operative Societies; this again
is so construed as to meet the requirements of the Land
Bank Act.

Further the Exchange has available a circular:
\* How to form a Co-operative Association\*.

A few points, touching more on the practical application and the value of the facilities offered by the said Land and Agricultural Hank of South Africa are, however, worthy of mention.

At present this Bank has advanced money for such matters as the purchase of land, erecting of a house, equipment of same, packing materials required, running costs. funigation equipment, binding department etc.

Upon an application for a loan in the first instance fixed to provide for the packing house, being filed

with.....

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with the Bank, it is essential that:

- 1. the Company be registered under the Co-operative Society Act;
- the fruit be shipped through an agent recognised by the Bank e.g. Overseas Federated Farmers.

The Security offered may be adequate in accordance with the Law, but certain general points are considered also. The Sank will e.g. obtain a report from some person acquainted by them. Attention is amongst other things given to:

- 1. waterfurrows and permanency of water;
- 2. packing sheds in existence;
- the economy of establishing a Co-operative packing-house;
   how much will be saved;
- 4. aspirations and future of sattlers;
- 5. total production and the number of growers;
- 6. personal impression of proposition;
- 7. quality of fruit, diseases and pests;
- 8. types of settlers;
- 9. permanency of settlement, climate and health;
- 10. prospect of a railroad and development of area, and
- 11. obligations towards other companies, agents etc., from which the Land Bank is keen to liberate.

These are incidently all points which have been given high consideration by the growers before associating themselves to form a company.

The security of the bank in advancing is based on legitimacy of object, demonstrated success of growers and whether or not the unpaid amount of shares would be easily recoverable; thus a consideration is given to the

financial.....



financial position of the individual members of the society.

Further the Bank stipulates that insurance is essential. There is provision made for insurance under export loans as advanced by the Bank.

First hand information and advice can always be obtained on the point of Co-operation from the Manager of the Exchange.

houses etc., is raised from the growers on a patronage basis based on the amount of fruit to be handled. The farmer is required to pay up ten per cent of the capital that he has to contribute towards the expenses and signs a promissory note for the balance. This note is then used as security to raise money from the Land Bank and the grower's debt is gradually paid off by box accessment.

The Regulations of the South African Co-operative Citrus Exchange Limited lay down the regulations regarding the membership of the Local Societies or Companies.

On such a Society or Company making application for membership to the Exchange and being accepted, it is bound by contract but may withdraw at the end of the financial year by giving three months notice.

For further information as to the organisation of Locals and as to the functions of same, reference can be made to the Manager of the Exchange.

#### The SOUTH AFRICAN Co-Operative Citrus Exchange Limited.

Each Local Association or Company elects one director to the Central Board of the Exchange. This



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Board of Directors consists of 36 in number at present and appoints a General Manager and staff to execute the work of the Exchange. This staff at present consists of an assistant manager, a field-advisor who is vacating office shortly, a general clerk, three office girls, and an office boy.

An annual general meeting is held at the beginning of the year, the minutes of the last annual meeting confirmed and the adoption of the following reports moved:

- I. Balance Sheet;
- II. Income and Expenditure Account;
- III. Auditors Report, and
- IV. General report by the Directors.

Any criticisms forthcoming from the growers will be given due consideration.

Exchange the Chairman of the meeting now calls upon each proxy-holder to nominate the representative of his local society on the board of directors and the formal election of directors to hold office for the coming year takes place. Then second representatives or alternates to substitute their respective directors in their absence are nominated by the proxy holder and such nominations are subject to the approval of the meeting.

After this auditors are appointed for the next season and their remmeration fixed.

The meeting then elects five representatives on the Board of the Fruit Exchange and these name their alternates.

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Any special subject meeding the approval or opinion of the General Meeting may now be brought up for discussion or a Special General Meeting may be called for the purpose.

After the Annual General Meeting it is oustowary that the New Board of Directors proceed with
their first meeting of the year. A Chairman and vicechairman are appointed and the following committees elected:

- (a) Executive committee;
- (b) Finance committee;
- (e) Orading committee;
- (d) Shipping and Overseas Marketing committee;
- (e) Packing unterial committee.

General matters of importance are discussed after the agenda arranged by the retiring Board of Directors has been adequately dealt with.

The Regulations of the South African Co-operative Citrus Exchange, Limited give detailed information regarding the objects etc., of the Exchange and may be obtained from the Exchange Manager.

In addition to the above committees the Exchange also employs the services of a Technical Advisor to give advice on all matters in connection with citrus growing.

#### The Executive Committee:

This Committee consists of eight members including the Chairman and Vice-Chairman of the Full Board.

It is elected for the year and is constituted of repre-

centative.....

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- F.S Zenerally POMB? 5000 ちる社 such things as the Full Board

delegated to them appointed moeting. 2 Tunetions 5 function until the following annual Ey. 2 the put Board COMMITTEES SALT. LIB a re COMMITTED doug

# The Finance Committee:

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Shipping....

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#### Shipping and Overseas Marketing Committee:

This Committee consists of five members who are to deal with all matters relating to the shipment of citrus fruits.

#### Packing Material Committee:

This is a committee of four members whose duty is to deal with all matters relating to the purchase by the Exchange, on behalf of its members, of packing material.

It is of interest to note here that the most important items purchased through the Exchange during the 1926 sesson were:

Orange and other Box boards 904,900 Strapping 962 cases

All from the United Kingdom.

No.11s 45 tons

All from South Africa for the first time. Wrappers 83 millions

All matters affecting the Exchange are published in the "Citrus Grower" which is a paper issued quarterly.

To obtain an idea of the expenditure and income of the Exchange the Income and Expenditure Account for the year ended 31st December 1928 may be reviewed and is as follows:

Income.....



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### INCOME AND EXPANDITURE ACCOUNT FOR THE YEAR ENDED 31st December 1928.

To	Advertising	7.10				
	Budwood, Travelling expenses	48.17. 6				
	Citrus Grower - Publicity	192.10				
	Directors Expenses £398.13. 7 Directors Travelling* £33.17.10	752.11. 5				
	Sundry expenses	184.15. 2				
	Gifts to ships officers	75. 3. 9				
	Orading Committee expenses	22 6				
	Organising expenses and travelling 481.					
	Postage, Telephones, Telegrams and					
	Ombles	528.13.11				
	Rent	155.10				
	Selaries	,310. 1. 2				
	Stationery and printing	243.12. 8				
	Travelling Expenses	<b>85 9</b>				
	Balance, Excess of Income over					
	Expenditure, transferred to Reserve					
		.032. 4. 2 (.119.13. 3				
By	Balance transferred from Levy Accor	int 7,099.16.11				
	Interest on Fixed deposit	11.14.11				
	Commission on local sales of					
	citrus fruit	8. 1. 5				

The item "Budwood" is the expenses incurred in the selection of bud-wood undertaken by the Exchange.

£7.119.13. 3

As far as the Directors' expenses are concerned, it may be stated that to hold a Full board meeting it costs close on £500. This is a large sum of money and is the cause of so few Full board meetings being held. It is a matter calling for careful consideration as frequent meetings are escential for efficient working and organisation and for stimulating the Directors' interest in their work.

It may be mentioned that for their services as the distributors of the Exchange, the Overseas Farmers Co-operative Federations charged #2,461/1/8 during the 1925 season. Their remineration is based on two pence a case for "free" fruit and one-half penny a case for "nominated" fruit. This is paid out of the Levy As all the activities of the Exchange are fin-Fund. anced out of this fund which is proving inadequate to meet the requirements of the Exchange and thereby curtailing its activities, the opinion of the writer is that all charges for distribution should be made against the grower and met by a box assossment by the Local Associa-This would mean more each at the disposal of tions. the Exchange for such activities as advertising etc.

Dwing to the difficulty of financing the shipping agency service during the 1928 season, the Exchange
was given the right by the Special Conexal Meeting in
the beginning of 1929 to raise from the Land and Agricultural Bank of South Africa an amount not exceeding
£10,000 to finance this service whose costs include
railage, port charges, and all other expenditure reasonably incurred in placing and selling the produce on a
market overseas.

Aa......

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As already pointed out the Exchange is financed by a levy of 5/- a ton on all citrus exported. Out of this, however, the citrus proportion of the cost of the Control Board has to be paid. The proportion of these expenses paid by the Citrus Exchange during the 1927 and 1926 seasons was 10/20 while the Deciduous paid 7/20 and Eggs 3/20. The total paid by the Citrus section for 1928 was £2,222/5/5.

Having briefly considered the manner of the working, the financing and the expenditure of the Exchange, an attempt will now be made to briefly analyse the activities of the Exchange overseas:-

#### Representation Oversens:

keting there are many evils in that type of dis-organisation such as non-co-ordination of supply and demand false returns ato. The only way of checking these is by organisation and this requires representation in the markets. A move was made in this direction in 1925 but owing to the expense of keeping a special office in London, the representation was transferred by the Fruit Exchange to the Overseas Farmers' Co-operation Federations of London early in 1927. This Organisation consists of representatives of South Africa, New Zealand and Australia.

While the Federal Fruit Exchange is responsible for the appointment, the Citrus Exchange is responsible for payment of the services of the representative arising out of the distribution of citrus fruits. Indeed in

practice....



practice the Citrus Exchange and the Overseas Federations work direct in all matters relating to citrus without reference to the Federal body.

As a result of the apparently satisfactory work of the representative during 1927, a contract was entered into with the Overseas Farmers Federations as distributors of citrus fruits on the overseas markets for a period of three years reckoned from the 1929 season.

The functions of this representative are mainly to receive the fruit sent by the Citrus Exchange and
(a) if consigned to the Overseas Representative, to

- distribute it to reliable agents in the best markets
- (b) if consigned to a particular selesman, to receive it and to despatch it to that salesman.

available the latest information regarding all the markets in the United Kingdom as well as on the Continent and must have a reliable salesman in each market. The representative then distributes the fruit according to his own discretion keeping in mind the supply to that market from other sources, the demand in the market and the continuity of supply to the market. Naturally the Bouth African supply is not sufficient at present to supply all markets but all the markets must gradually be opened up and preference given to the most promising. These are, however, all matters for the representative to settle for himself.

Then there is the question of choosing reliable salesmon and obtaining favourable terms from them; this

10 .......

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is also a matter for the representative to decide.

It may be mentioned here that the Exchange has the right to enforce rule 67 and compel members to consign all fruit to the Overseas representative for distribution at his own discretion. This rule has not been enforced as yet but the time for its enforcement is not very far distant.

It must be remembered that the representative is a distributor of the fruit pure and simple.

must have complete control of over70 per cent of the fruit exported. When such control is obtained, it may be possible for the South African Representative to work in conjunction with the California Representative and so distribute the fruit as to prevent any oversupplying of the markets. For the Overseas Representatives of the different countries to work in conjunction with each other there are many practical difficulties to be removed, but it is the writer's firm conviction that such an action would be in the best interests of all the countries' marketing citrus fruits at the same time in the same markets.

As can be seen the functions of the representative are such that he must be of the highest capability procurable.

Judging from all available statistics, London is the most suitable place to have the distribution done from for it is in very easy reach of all the leading markets.

Propaganda.....

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#### Propugation and Advertising Overseas.

The desirability of this cannot be questioned and it is the writer's firm belief that while it is essential overseas, it should also be undertaken in South Africa where there is plenty of room for increased consumption.

The Exchange has undertaken this overseas and their first step was the appointment at the beginning of 1929 of a Publicity Agent in London. His work is to study general conditions and organise methods of popularising and increasing the demand for South African His salary and other expenses amount to Oltrus. about £2,000 a year. His appointment was a step in the right direction and growers should try and follow his ad-He stresses the great variability of vice carefully. the South African Citrus fruits and the importance of having only a few brands of standard quality, pack, etc., in large quantities and encourages the formation of District Associations as pointed out in the former Chapter of this paper.

Anything on advertising and propaganda would be incomplete from South Africa's point of view unless some reference is made to the work of the Imperial Economic Committee and the Empire Marketing Board.

The ultimate object of both is to foster increased consumption of Empire produce from home and overseas in Great Britain and to assist measures-especially those in the field of co-ordinated research - directed towards that end. But in constitution, methods of work and duties the two bodies are entirely distinct.

The .....

The Imperial Economic Cosmittee is representative of all parts of the Empire and can only investigate subjects remitted to it with the consent of all the Governments of the Empire and it derives its authority from the Imperial conferences. Its object is to improve the preparation and marketing of Empire products.

The Empire Marketing Board is entrusted with funds and executive powers by His Majesty's Government in Great Britain to further the marketing of Empire produce from Home and Overseas in the United Kingdom. It is thus responsible to H. M. Government.

These two bodies have done much to increase the consumption of South African products overseas, but they also stress the importance of a few large and well standardized brands.

propaganda to increase consumption, reference can be made to the Californian Citrus Exchange, Sun Haid Raisins, Eat More Fruit Campaign, etc. Think of what standardisation supported by adequate advertisement has done for California - "Sunkist" oranges are known throughout the world. This incidently also serves as an example of a big brand well popularised. It stands to reason that a number of small brands compete with each other and the fruit under any one single small brand is in too small a quantity to command respect. The choosing of a short crisp and attractive name for such a brand is of the utmost importance.

Before any marked results can be obtained from advertising, the brand advertised must consist of a large volume......

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volume of thoroughly standardized fruit well distributed on the overseas market and continually kept before the consumers.

There is sometimes a disposition to regard propaganda and publicity in terms of news-paper advertising. Nevs-paper advertising is a most excellent thing but good results can be expected only if it is tackled in a big way and that means spending large sums of money. Other methods of advertising need careful study. one thinks of the introduction of the Juice Extraction" by the Californian Exchange to increase consumption and the excellent results achieved thereby, you cannot but realise the importance of investigation in similar directions to increase consumption. Another step that may be considered is the choosing of a number of the larger retailers to "push" the sale of South African oranges by window displays and advertisements. Then another line that has been exploited by South Africa is displays at shows and other big public gatherings. The methods of advertising are numerous and need careful study to ascertain which are the most effective, Trade Commissioners have also done much advertising work.

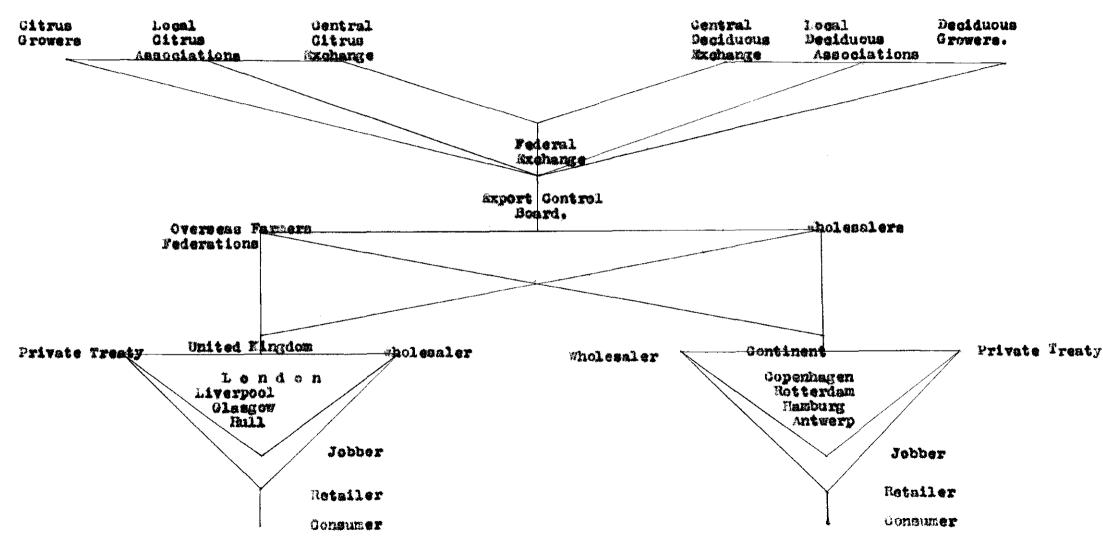
#### The Vederal Exchange.

As already stated the Deciduous and Citrus Exchanges federate to form the Fruitgrowers: Co-operative Exchange whose function is to deal with all matters affecting the common interests of all fruit growers.

In practice the expenses of the Federal body are paid by the Citrus Exchange and the Deciduous Exchange

in.......

### the export and distribution chart south aprican citrus pruits.



in the same proportion as the proceeds of the respective levies bear to each other.

The proportions for the year 1925 were:-

Deciduous 35.8 % or £330.18. 9

Further particulars regarding the Federal Exchange can be obtained from the General Manager of the Citrus Exchange.

See accompanying diagram on the Export and Distribution Channels of South African Fruit.

#### The California Fruit Growers Exchange.

The accompanying diagram illustrates the organisation of the California Exchange and will serve as a comparison of that organisation with the organisation of the South African Citrus Exchange.

The essential differences between the two Exchanges may be summaried as follows:

- (1) In California the Industry is concentrated in a comparatively small area and thus co-operation is easier than in South Africa.
- (2) The California Exchange handles over 70 per cent of the total citrus production of that State and can thus have more effective distribution of its grop.
- (3) The total crop handled by the California Exchange is about fifteen times as large as the amount handled by the South African Exchange with the result that through large scale handling and large scale bargaining over-head charges are reduced and a larger total amount of money is available for expenses;

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this makes efficient and extensive organisation possible and enables the Exchange to undertake a wide scope of activities as can be seen by the number of departments, each one with its own special function, indicated in the diagram;

- (4) The financing of the Exchange in California is done by box assessment. In South Africa it is by a levy imposed on the growers by the Government.
- (5) In California all shipping matters are in the hands of the Exchange. In South Africa an independent Control Board instituted by the Government sees to the booking of space and shipping of all fruit.
- (6) The California Exchange deals with a standardised article and maintains its own impectors to keep up the standards.

  It sells its fruit under one or two brands. In South Africa the quality of the fruit is very variable and over 700 brands exist.
- (7) District Exchanges form a link between the locals and the Central California Exchange and enables weekly meetings of the directors of the Central Board. In South Africa the locals affiliate directly with the Central with the result that Full Board meetings only take place two or three times a year owing to the large expense involved.
- (8) The contracts holding together the whole organisation in California are for a certain specified number of years. In South Africa they are indefinite and are binding until such times as either party withdraws on notice.



- (9) The California Exchange has a large local market for its fruit with the result that it only exports those counts popular in the overseas markets. The South African Exchange only concerns itself with export fruit and must export all counts.
- (10) Inspection in South Africa is by Government Fruit
  Inspectors.
- (11) The District Exchange has the final say in the price to be accepted for its fruit. In the case of the South African Exchange no price stipulations are made. The Californian Exchange lays down the areas of consumption for its fruit and thereby eliminates unnecessary transport and speculation.
- (12) The California Exchange is over thirty years older than the South African Organisation and is therefore much wider in its organisation and the men have been educated to their particular posts.

The organisation may be briefly outlined as follows:

As in South Africa the growers form locals and elect a board of directors for business purposes. The functions of the locals are the same as those of some of the more progressive locals of South Africa. Some large producers, individuals and co-operations, who pack the fruit from their orchards through privately owned packing houses, are also classed as locals. In addition commercial packing companies grade and pack fruit of individual growers at a fixed charge per box. A number of these, as well as producers owning large orchards......

chards and operating their own packing houses are members of the exchange and have the same status as the associations.

Associations are of both stock and non stock types. In the first shares are issued in proportion to the number of trees, acreage, or amount of fruit harvested while in the second the capital required is raised by entrance fees.

The members of the district exchange are the local associations, individual shippers and packing companies affiliated. Buch local unit chooses a representative and these representatives form the board of directors of the district exchange. The district exchange acts as the sales agent of its members. The manager keeps in constant touch with the sales and traffic departments of the control, and, acting on available information, pats a price upon the various grades he is dispatching. central sales agent and the distant market agent cannot accept a lower price without referring back to the district manager, who usually consults the local manager. The district charges a fixed amount per box to cover the cost of the district, the maintenance of the control including all branch offices, advertisement costs and payments by instalments for stock in the Fruit Grovers Supply Other deductions may be made if the local Company. supports the orange or lemon by-products companies.

tance to affiliated groups in matters of membership and organisation. Some make efforts at improving field and packing house handling and to improve the quality and grade

of their output of their respectiveareas.

The representatives of the 20 districts become directors of the control exchange which is a non-stock corporation financed by assessments per box retained by the districts. The work of the departments are as follows:

- (1) The orange sales division handles the sale of oranges grape fruit, and tangerines, keeping in touch with the districts and with the salesmen and brokers who represent the exchange in its different markets; the lemon sales department works in the same way. There are 52 males offices in the U. S. A. and Canada, comprising six divisional managers and 46 district agents; the exchange deals directly with & brokers in large markets and has brokerage representatives in 25 smaller centres. The policy aimed at is an equable distribution, avoiding gluts and scarcities; each season the sales agents, general manager, and divisional salesmen confer, and afterwards an estimate is made of supply and demand each week; locals may be urged to ship more or less each week according to the situation, and factors such as weather maturity of fruit, our supply, and available labour affect the position.
- (2) The traffic department advises locals regarding rates, routes, cars, embargoes, claims for loss or damage to shipments.
- (3) The advertisement department centres in trade brands such as Sunkist. All the chief media such as magazines, news-papers, posters, street-our advertising

and.....

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and display are used to advertise:

- a. the advantages of eating more oranges and lomons;
- b. the gains in consuming Sunkist brands.

Personal contact is made with the retailer through dealers service men, who call on grocers and stores, distribute advertisements and arrange displays of fruit.

- The field department is organised to deal with those problems that arise in the production, harvesting and packing of fruit. It is concerned with handling practices, preservation of the standard of brands such as Sunkist; in the busy seasons inspectors from the central will visit packing plants practically every day. Other work is research into post control and citrus by-products. A growers' service bureau is maintained to organise new associations and to consolidate the position of old ones; it also deals with the complaints and dissatisfaction of members.
- (5) A law department deals with legislation, court decisions, preparation of contracts, bye-laws, and in part with finance.
- (6) An accounting and statistical department examines
  the factors influencing marketing margins and makes
  efforts to introduce more effective merchandising
  methods.
- (7) The Fruit Growers Supply Co. is owned and operated by the locals. Its purpose is to supply for its members the essential supplies, packing house and crohard. Failure to obtain box material, for example, would be disasterous to growers. It is,



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however, an entirely separate undertaking from the Sales and Marketing Organisation.

- (5) The Exchange Grange Products Co. is a corporation also owned by the locals, and designed to deal with the poor quality or "cull" oranges. It makes marmalade, orange oil, orange vinegar, orange peel and outtle feed.
- (9) The Exchange Lemon Products Co. was created to provide an outlet for culled lemons, and manufactures citric acid and lemon oil.

This brief outline of the California Fruit
Growers Exchange serves to show that the South African
organisation is, at its best, but a poor imitation.
This, however, must not be taken as meaning that it
will not grow for with the growth of the industry and the
increase in the percentage of the total crop handled the
Exchange is bound to grow also, just as the California
Exchange has grown, but such growth will be slow and it
is doubtful whether it will ever reach the same high
standard as the California Exchange owing to the comparative smallness of the South African crop.



## THE MARKETS and THEIR POTENTIALITIES for SCUTH AFRICAR CITRUS FRUIT.

#### The Local Markets.

The complaint is often made that it is impossible to obtain first class oranges in South Africa, as all the best fruit it exported. It is true that such fruit is not readily available but with a little trouble, first class fruit can be obtained from both private growers and co-operative associations at prices equal approximately to export prices less export charges. One of the compunies, in order to popularise its good fruit, has a \*penny campaign' whereby first class oranges are sold at 1d each plus transport charges. The campaign is meeting with a fuir amount of success and during the 1927 season approximately 4,000 cases were disposed of in this way in South During the 1926 season, owing to the good prices Africa. overseas, there was not much of an increase in the amount sold here. Generally the prices obtained for such fruit compare very favourably with the net price obtained overdeus.

ing of fruit of export quality, but the marketing at satisfactory prices of fruit unfit for export. This class of fruit is increasing annually at an enormous rate. The existing organisation is totally inadequate to handle such fruit, and a tremendous amount of wastage and loss occurs each year. Markets are frequently glutted with fruit unfit for consumption. This brings down the price of good fruit as well. Oranges are often sent from one

fruit.....



fruit area to another, thus occasioning unnecessary rail—way expenses. Prices realised as a result are often so low, that packing and transport charges are not covered. It seems that the time has arrived whenan attempt should be made to organise the South African market for fruit so as to avoid this highly unsatisfactory state of affairs. Reliable and readily available market—news, showing prices prevailing and quantities handled should be of immense value to growers in their choice of when and where to sell.

To the writer it is inconceivable how fruit can profitably be marketed locally without some form of organisation. It is true that the potentialities of the local markets are not great when the European population is taken into account. The total European population is not more than 1,750,000, but there is no reason why consumption cannot greatly be stimulated by careful advertisement, grading and packing, standardisation of fruit marketed locally and better distribution etc. In this way all the better wlass culled fruit could be marketed profitably in South Africa. The only way in which this can be done is by co-operative organisation of producers with a centralised control to assemble the produce if necessary, provide market intelligence and advice as to the best means of distribution. The machinery for such a system is at hand in the organisation of the Exchange. which, with a few extra officials and a little extra expense, could in all probability deal with the situation in a profitable manner. The extra expense could be met

by.....



by a box assessment on the fruit so marketed and then good class fruit could also be marketed with less risk and a profitable return.

Such a sub-section of the Exchange could investigate and put into practice methods of increasing consumption such as prevailing upon the Railway Administration and other organisations to instal Sunkist Juice Extractors, persuading those in charge of the various gold mines etc to purchase citrus fruits for their servants. They could also be instrumental in reducing the costs of marketing, transport and making the marketing efficient by a system of advising retailers and wholesalers as to how to obtain a bigger turnover with smaller margins through more efficient organisation.

What the actual consumption per capita of citrus is the Union is not known but the general opinion is that it is not more than five or six pounds in the fresh form. This shows the room for increasing boal consumption for the United States of America consumes about twenty-three pounds per capita per annum.

Then there is the possibility of encouraging the native to purchase and consume oranges. At present the average wage of the native will not allow him to buy fruit. However, it is certain that as his standard of living assumes a higher scale oranges and even grape-fruit must form part of his diet. This is very speculative but nevertheless does seem to form an outlet for the distant future.

Another valuable outlet is the sale of oranges to by-product manufacturing companies such as the African

Canning.....



Canning Company and H. L. Hall and Son. While by-products will find ready sale in South Africa providing supply does not exceed demand, it is doubtful whether an overseas market at remunerative prices, could be found for them owing to competition from Italy, Sicily, Spain, France, California, etc. There seems, however, a possibility of selling concentrated orange juice in England and on the Continent. By-product manufacture is a very expensive undertaking requiring large sums of money to be spent on research. Its greatest difficulty as far as citrus fruits are concerned is the problem of providing markets.

ture sound fruit must be used otherwise by-products of a uniform high class quality cannot be manufactured. The methods of manufacture will have to be evolved and it has cost California £150,000 to perfect her methods. The problem for the grower then is to produce a high standard product with a small percentage of culls rather than to try and manufacture by-products from his low grade fruit.

In general it may be stated that the potentialities of the local market are not great but consumption can be greatly stimulated by the systematic organisation of the local markets and the efficient and economic distribution of the fruit. To accomplish this standardisation of packing, grading and quality is essential. This will enable profitable advertisement of the product marketed.

It is of interest to note that two cities in the Union have a population of over 100,000 and two more of 42,000 and 53,000 respectively, while there are two others 20,000 and 29,000 respectively. Seven have populations

of.....



of between 10,000 and 20,000 respectively while quite a number have populations of over five thousand.

#### The Oversons Harkets.

Seeing then that the local market for South
African citrus fruits is at its best but a small one it
is evident that the overseas markets become South Africa's
primary markets.

The United States are closed to South African
fruit because of the danger of importing the Mediterranean
fruit fly. Even should this quarantine be removed, there
would be little sale for oranges from here as they would
come in direct competition with the Florida crop and the
California crop, the latter being about twenty-four
million cases a year. Shipments go to the markets every
day in the year so that no opening exists for South African
fruits in the United States.

Onnada is at present well supplied with California organisania oranges and to compete with the California organisation in this territory would require better organisation,
market news and distribution than could be secured at present or for a long time to come. It may be mentioned
that a trial shipment of citrus fruit to Canada in 1928
realised fairly good prices but the fact that the 1928
season was an exceptionally good season must not be lost
sight of.

The logical market for South African citrus is the United Kingdom, the European countries on the Continent and to a lesser extent the Eastern markets especially India.

The ......



# The United Kingdom as a Market.

ter of citrus fruit in the world, and yet many parts of that country, if not all, have not been taxed to their full capacity as far as consumption of fruit is concerned. This of course is most certainly the case with citrus fruits from the Southern Hemisphere arriving on those markets when there is practically no citrus fruits from elsewhere.

The total quantity of oranges retained for home consumption in the United Kingdom decreased slightly in the years before the war. Since the war, however there has been a very substantial increase. The consumption in 1927 was 18.3 lbs or about 75 oranges per head per year. This includes the amount manufactured into marmalade so that the quantity eaten fresh is much smaller.

As can be seen from the following tables over 50% of the total supply is eaten during the winter months. If the winter rate were continued throughout the year the average individual would eat at least 120 oranges. This indicates the scope which exists for the expansion of the trade.

Imports of oranges into the United
Kingdom each month 1925-27

(000 cwt).								
Month	6pa <b>in</b>	Pales- tine.	South Africa.	U.S.A.	Italy	South Ameri- ca.	British Wost Indies.	doun-
January. 1925	1,176	153	**	7	24	-	*	20
1926	972	176	+#Ib	1	16	**	**	49
1927	641	559	**	16	13	-	**	2.7

February ........



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Month	Spain.	Fales-	Sout Afri	h U.S.A OB	Italy.	South Ameri- oa.	British West Indies.	Other coun- tries.
February 1925	7• 887	205	ent.	2	12	**	-	11
1926	644	164	7	3	16	•	**	29
1927	<b>2</b> )111	407		10	35	•	***	៩
March 1925	1,016	277	-	3	9	1	<del>****</del>	85
1926	1,150	234	***	11	5	8	•	21
1927	937	545	44	10	25	**	•	18
April 1925	749	224	anta	2	2	•	***	19
1926	633	234	46	8	4	•	•••	5
1927	539	250	•	17	4	***	••	Ħ
1925	660	12	**	3	1	**	***	6
1926	567	2	1	10	3	**	•	13
1927	491	50	1	27	3	**	••	3
une 1925	276	14	2	2	¥.	**	948	2
1926	646	1	18	15	5	**	N/D	13
1927	337	<b>Q</b>	30	48	5	2	•	6
1925	61	••	70	2	2	***	•	<b></b>
1926	215	6	129	<i>2</i> 6	1	1	•	13
1927	95	**	137	58	2	5	•	7
ugust 1925	3	with	124	3	****	1	1	1.
1926	15	**	120	19	5	4	**	14
1927	\$	•	54	71	***	8	•	3
optember 1925	1	**	84	1		1	•••	12
1926	**	**	66	<b>5</b> 3	1	1	***	1
1927	1	***	88	73	110	8	**	8

Gotober .....

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Month s	Spain	Pales- tine.	South Africa	U.S.A.	Italy.	South Ameri- co.	British West Indies	Other Coun- tries
otober 1925	••	•	61	2	**	<b>100</b>	28	11
1926	2	••	<b>3</b> 4	<b>33</b>	•••	***	31	8
1927	1	1	128	83	***	4	7	4
November 1925	143	5	49	1	1	•	27	14
1926	153	4	2	16	**	-	37	10
1927	313	45	65	54	3	1	34	18
Jecember 1925	1,032	85	16	**	3	***	14	37
1926	1,099	183	**	3	1	en <b>b</b>	18	18
1927	1,234	136	21	ı	2	3	20	19

From these figures 95% of the South African fruit arrives on the British market during the six summer months June to November inclusive. During these months 1.482.000 owts of granges arrive in England while during the whole year 5,283,000 owts arrive. This gives an idea of the wide scope for increasing consumption of citrus fruits during the summer months, especially during the months of July, August, September and October respectively. During these four months, taking the average for the three years 1925, 1926# 1927 respectively, only 686,000 owts of Exports to the United Kingdom durfruit were consumed. ing these months are gradually increasing as the exports from the United States of America, South America and South Africa increase, but in general it will be several years before the demand for citrus fruits in the United Kingdom is saturated.

The .....



The main sources of supply of oranges to the United Kingdom and the amounts they supply can be seen from the following figures:

Imports of oxanges into the United
Kingdom in thousands of owt.

Country whence	1925.	1926.	1927.
consigned.			
<b>Opein</b>	6,010	6,096	5,291
Palestine	975	1,004	1,359
Syria	23	55	3
British South Africa	426	377	524
United States	26	156	431
Egypt	<b>8</b> 2	53	53
Italy	58	54	92
British West Indies	70	86	61
Portugal	5	3	3
Onnary Islands	8	11	3
Argentine	3	14	15
Australia	21	1	8
Cormany	4	23	16
France	5	8	1
Other Countries	13.	32	45
Total	7,729	7,973	7,898

This fruit did not necessarily originate in the country whence consigned, eg. the bulk of the fruit from Egypt is Palestine fruit that was seconsigned. These figures bring out the significant fact that South African exports only 6 to 7 per cent of the total imports of oranges into the United Kingdom.

South....

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Bouth Africa is fortunate in being one of the Empire for by being such, besides all the other advantages. she enjoys the privilege of preferential sentiment that is being encouraged to such a great extent by the Empire Marketing Board. To draw full benefit from this it is necessary for her to market highly standardised graded fruit under a few well advertised trade marks and to distribute this fruit in an efficient manner. For efficient distribution it is essential that at least 55 per cent of the exported fruit from South Africa be handled by the Erchange and the Exchange representative should have a free hand in the distribution of this fruit. tative must have agents in all the important markets. both in the United Kingdom and on the Continent, and must ration these markets according to their requirements. To do this he must have a thorough knowledge of the daily markets as regards weather conditions, supply of competing fruit both in the market and on the way to market, and the demand for fruit in the market. This information can be supplied by the agents if reliable men are chosen. The greatest difficulty in distribution is that the bulk of South African fruit is consigned to London, and the shipping contract only makes provision for it being landed at Nine Elms Station, so that it cannot be diverted to other ports unless it is on chartered or continental steamers. The Railway charges and handling charges from London to the Morth on the other hand are very high eg.

London to Glasgow or Edinburgh over 2/- per box,

London to Liverpool or Hull nearly 1/3 per box,

in spite of the fact that Glasgow is 600 miles further

than Liverpool. It is doubtful whether these charges will

be lowered in the immediate future and the only way of effecting economy will be by regularity of supply and gradual development.

It is not necessary to go into a full discussion of the merits of each market for they are amply set out in Mr. M. van den Hoek's article on marketing fruit in the United Kingdom.

The South African crop handled by the Exchange Representatives in 1926 totalled 335,719 cases of which 45,455 cases were nominated for special agents.

This total represents 36% of the total shipments from South Africa. The remaining 62% was distributed at random and consequently often lead to the flooding of markets. The fruit distributed by the Exchange representative was as follows:

Zoyn.	Quantity.	Percentage.
London	207,062	71.33
Liverpool	21,229	7.31
Hull	8,769	3.02
Glasgow	6,536	2.25
Birmingham	5,827	2.01
Bristol	4,593	1.58
Worthing	4,203	1.44
Gardiff	2,930	1.01
Southampton	2,435	. 84
kanches ter	2,386	.82
Edinburgh	1,619	.58
Newcastle	1.449	.50
Leeds	592	. 20
Davebury	136	.05



These figures then show that over 70% of the fruit was sold in London. In contrast to this only about 18% of the Californian fruit was marketed there.

To obtain a better idea of the weakness of the above distribution reference must be made to the populations in the different centres:

Area	Ho. of County	ios. Ra	dive.		Population.
London	21	5 -	100	miles	15,000,000
Liverpool & Mai	<b>-</b> 15	10	80	<b>II</b>	13,933,000
chester.					
Ojnegoa	33	10 -	150	*	4,861,000
Hull	4	10 -	60	*	5,100,000
Belfast	33	10	150	á	4,500,000
Bristol	7	10 -	100	#	3,200,000
New Costle	3	10 -	50	•	2,500,000
Cardiff	8	10 -	80		2,200,000

The distribution then was not in proportion to the population i.e. the demand. This is no doubt the reason for the great amount of speculation that goes on with the South African fruit, and the reason for the fact that the difference between the wholesale and retail price is so great (often as much as 13/- a box according to kr. Rusk). If this is true for the fruit handled by the Exchange how much more true is it not for the fruit sent at random. This all proves the necessity of control of the bulk of the South African fruit by the Exchange and its systematic distribution by the Exchange Representative.

The six principal ports of entry for the primary sale of fruit by auction or private treaty are the follow-

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ing:- London, Southampton, Liverpool, Manchester, Hull and Clasgow. Of these London and Liverpool are the most important as far as direct consignments are concerned, the former including. through Mill of Lading traffic via Southampton. These two ports are favoured by America, Australia and also Spain.

Judging from the populations in the vicinity of the ports it will undoubtedly be a great advantage and saving if direct shipment can take place to the several ports, or at least the more important of them.

The most important market is naturally Covent Garden, but according to data it appears to be inadequately equipped for the rapidly expanding fruit trade.

This will necessitate its expansion or the opening up of a new market in London.

Liverpool is the natural port to a large industrial centre, and in conjunction with Manchester, a population of nearly the same as that of the London area is in its vicinity. The facilities at the docks as well as the suction rooms are to be highly recommended.

As a port for the primary sale of South African fruit it should be certainly one of the first to be exploited. No market can show profitable returns however when the commodity is suddenly put up for suction in fairly large quantities at irregular intervals. What is needed is to supply the markets regularly with high class fruit and to develop the provincial markets in the United Kingdom by a carefully planned system of advertisement.

London and Liverpool to a certain extent are the only two ports of any importance to the South African

orange trade at present. But several of the other ports may in the future become of great value to the South African export trade eg. Hull may be of importance for the re-export trade with the Continent as she has regular services to the various countries there. Southampton seems to be growing in importance especially because its railroad connections with points in its natural area, are such that attendance of buyers to the sale rooms and delivery are most satisfactory and speedy. Both Ireland and Scotland effer good markets for South African fruit. There is no doubt great possibilities in the development of the provincial markets but they can only be developed by beginning with small regular supplies and then gradually increasing these supplies.

Both Auction and Private Treaty sales are carried out in England and the distribution is as pointed out in an earlier section of this paper.

in the United Kingdom who deal with South African Fruit and about 3,000 retailers. By these salesmen lowering their prices to the consumer and organising their businesses efficiently they would increase their sales and have a more rapid turnover and consequently bigger net profit. This would be of benefit to the consumer and salesman as well as to the producer. During this season (1929) the California Citrus Exchange appointed three dealerservice men in England to instruct, and show how to improve the efficiency of the Salesmen. This is something for the South African Exchange to do when they have adequate finances.

What.....

what is essential is a large volume of standardised graded fruit of high quality marketed under a few
(three or four in the case of South Africa) well advertised trade marks and distributed over a wide area according
to the demands of the respective markets. This will
minimise speculation, increase demand and assure the grower
of a fair return.

# The Continental Markets.

potentialities as regards future consumption of citrus fruits, for not only are continental countries provided with large populations, but the populations are mostly concentrated in small areas making distribution easy.

Owing to the great competition in transport between England and the Continent transport is efficient and the charges therefor comparatively low eg. it takes a night to reach Antwerp and Rotterdam and two to three days to reach Bremen, Hambury or any of the Scandanavian ports.

In general it seems that the best method of supplying these markets at present is by trans-shipment from England, for ships on route to England cannot be diverted to the Continent, and Continental Steamers between South Africa and the Continent do not carry a regular cargo of citrus fruit.

As pointed out before the most convenient centre from which to distribute South Africa's fruit to both the English and Continental merkets is London. The Exchange representative should keep in touch with a salesman in each of the markets so as to be able to estimate the re-

quirements.....

quirements of each market. A start should be made to regularly distribute small quantities of high class fruit to some of the most important of these markets so as to get South African fruit known there. As production then increases these markets will serve as outlets for the increased exports.

At present it appears that preference in Continental markets is given to Brazilian and California fruit. The main reason for this is that their fruit is better known and in the case of California it is of a uniformly high standard. In this connection it may be mentioned that some South African fruit had to be reshipped again from the Continent back to England during this season (1929) The main reason being that it was not known and dumped in a market without consideration to the requirements of that To create a demand for her fruit on the Conmarket. tinental merkets South Africa must send forward regular quantities of uniformly high quality fruit starting with small quantities in the beginning even if they are sold at a comparatively low price and increasing these quantities as demand and supply increases.

### Paris as a Fruit Market.

Franc after the war the fresh fruit market in Paris suffered greatly, but there is no doubt that when France regains her former stability she will take a fair supply of oranges and grape-fruit during July, August, September and October. From November to July she is supplied with citrus fruits from Spain, Algeria and Italy, and homegrown soft fruits, so that during these months there is

little.. .....

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little.. .....

little prospect of a merket for South African citrus.

The import duty on citrus fruits is about 1/-10 per case and the principle method of sale is the "private treaty" system.

Paris is centrally situated in France, and is the main centre for distribution though the market is not so conveniently situated with regard to the railway as some of the markets in Germany for instance. This necessitates extra transport and handling charges.

On account of the high price of citrus fruit in France during the months of August, September and October it is a luxury, but nevertheless Paris should be able to take at least 400 - 500 cases weekly during these months.

The per capita consumption of citrus fruit in France is about 7 lbs. This shows the great increase in consumption that can still take place when compared with the per capita consumption of 23 lbs in California.

The following table giving the population and per capita consumption of the various countries is of interest:

Consusption of Oranges.							
Country	1bs.per head.	Population					
U. S. A.	23	105,710,620	(1920)				
Australia	20	6,262,720	(1928)				
United Kingdom	19	42,919,710	(1921)				
Canada	19	8,788,483	(1921)				
New Zealand	12	1,344,469	(1926)				
Morway	10 x	2,649,775	(1920)				
Belguim	10 x	7,465,782	(1920)				
Switzerland	9	3,987,000	(1927)				

Germany.....



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Country	Lbs per bead	Population
Germany	7	62,410,619 (1925)
France	7 x	40,743,897 (1926)
Irish Free State	6	2,971,992 (1920)
onmark	5	3,434,555 (1925)
ustria	5	6,534,481 (1923)
lweden	4	6,087,923 (1927)
Jsechoslovakia	3	14,356,600 (1926)
imerry	2	7,980,143 (1920)
oland .	<b>}</b>	30,213,000 (1928)

#### z Including Lemons.

This table shows what a great amount of room there is for increasing the consumption of citrus fruits in the European countries and so widening the market. However it is doubtful whether the prospective increase in the exportable surplus from producing countries can be fully absorbed by these countries unless consumers are enabled to purchase the fruit at lower prices than those One of the chief obstacles to increased now ourrant. consumption of citrus fruits in many European countries is to be found in the duties imposed upon imports, and the removal of these teriffs would undoubtedly stimulate consumption and help to solve the problem of disposing of the world's citrus production.

#### Holland as a Market for Fruit.

There is perhaps little difference as regards the importance of the two ports Rotterdam and Amsterdam except that Rotterdam is the main transit port or gateway to the Rhineland and Westphalia, and is situated more favourably for this purpose. A very large percentage



of the fruit imported into Holland is exported into Both the above mentioned ports have excellent Germany. facilities for the handling and re-expedition of fruit.

Oranges, mandarine and lemons are imported into Eblland free of charge but it is difficult to ascertain what it costs to market oranges in France.

The bulk of fruit imported into Holland has to pass the auction which is of a closed type first\_little. if any, private selling isdone by the auction brokers. Auctioneers may only sell to members of the "Bond van Mederlandse Oroseiers in Verse Zuidwruchten en Aanverwante Artickelen' of which there are about 300 Dutch members. The auctioneers are not allowed to do any wholesaling in connection with the most important perishable. smaller markets the electrical dial system of sale is in operation - it has not been applied to the sale of citrus fruits in large quantities however.

There is apparently a shortage of citrus fruits in Holland during the months July to October inclusive. South African citrus should find a good market there during this period and the shipping charge from London to Rotterdam works out at about 10d per box.

Transport in Holland is fairly efficient and Besides supplying Germany Rotterdam also supplies cheap. Switzerland with fruit.

The population of Rotterdam is about 500,000 and that of Amsterdam about 650,000. Eighteen towns have populations of between 30,000 and 285,000, the total population for Holland being about 7,000,000.

The....

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### The Fruit Trade in Belgium.

Antwerp is the port for importation of fruit into Belgium and its importance as a transit port for the Ruhr and Westphelia is practically equal to that of Rotter-dam. Belgium is, to a great extent, dependent on western Germany as an outlet for the large quantities of fruit handled, especially by the importers in Antwerp. Good railway facilities exist between this port and the Rhur district.

Antwerp is the principal distributing centre and most of the fruit-brokers are situated there. Sales are of the open suction type and buyers from Belgium, laxemburg, Holland and the Rhur more or less regularly attend.

Most European countries passed through a severe depression after the war and are only gradually regaining their former stability. Railway rates are fairly low in Belgium chiefly on account of the low rate of exchange.

Antwerp and the freight is about 1/-6 per box. The import duty is about 3d per box. In general Belgium, with Antwerp as a distributing centre, has good potentialities as far as South African citrus fruit is concerned during the months July to October inclusive. The marketing charges, duties, etc., as for all Suropean countries, however, need to be considerably reduced in order to reduce South African citrus fruits from the present luxury class of goods to the every day diet class, and still.....

still return a fair return to the grower.

Antwerp has a population of 300,000 while Belgium alone has 18 towns of population of over 30,000 each. The portion of Germany served by Antwerp has a population of 11,000,000 while the total population of Belgium is 7,600,000.

#### Commune as a Fruit Market.

Owing to the war the fruit trade collapsed in Germany and, although her present economic condition is far from satisfactory on account of the low purchasing power and unemployment, the fruit trade has again developed considerably during the past few years and is increasing rapidly in extent.

Owing to the country's decentralised position, the distribution is very extensive, because, naturally, the big towns form the main consuming centres. There are 45 towns with a population of over 100,000 most of which are highly industrial. Every town has its central market and on the whole all have a flourishing retail trade.

It is about time that South Africa commenced opening up these markets with a regular supply in order to become established in them, for of all the Continental countries Germany is the largest importer of fruit and she owns the most potential markets, receiving her fruit through Holland and Belgium as well as her own ports.

Hamburg, Bremen and Berlin are auction centres.

The auctions, being closed, only sell to members of the buyer's.....



Bremen, is admirably equipped for the handling of fruit and other perishables. The ship off-loads at the one side of the auction rooms and at the other the commodities can be immediately loaded into the railway trucks.

A considerable amount of fruit is consigned directly to a number of firms in the interior but the auction in these two ports distribute large quantities weekly, mainly throughout Germany. For small quantities of fruit the dial system of sale is often used in Bremen.

Many of the auction, as well as the wholesale buyer firms have branches of their business spread out through the European countries and in this way much of the fruit is distributed.

Although perhaps cramped for space, the Berlin masket has sefine facilities as Hamburg, the only inconvenience being the lack of river connections.

As in the case with other European countries the German markets are open to South African fruit from July to October inclusive.

South Africa enjoys a reduced duty on citrus fruits in accordance with the Trade Treaty with Germany.

In general apart from other citrus fruits South African citrus fruits will come into competition in Germany, as in all European countries, with home grown and imported soft fruits. This means that European nations must be gradually educated to appreciate and value the South African fruit. The only way of doing this is by regular supplies and systematic advertisement. Providing these markets are gradually developed they hold great future potentialities.

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### The Fruit Trade in Denmark.

Owing to the war Germany was shut off as far as the fruit trade was concerned and this encouraged sales in Northern countries with the result that Copenhagen has developed quite an important trade, using the greater portion of her imports for her own consumption. The surrounding countries, Norway and Sweden, Finland and Poland obtain certain supplies via Copenhagen which has apparently developed a high class trade in fruit.

Most of the fruit sold in Copenhagen is obtained directly from the foreign countries, although a small amount is sent via Hamburg by firms situated there.

South African Fruit is transhipped from Hull and Copenhagen should be able to dispose of about 600 tons weekly, but the market must be built up slowly and systematically.

Copenhagen appears to be the most favourably situated distributing centre for Scandanavia, Finland, the Baltic Provinces and also for Poland and Danzig.

Oranges are sold by auction, very similar to the method of sale in Hamburg, and the transport facilities are good. The total population of Denmark is about 3,300,000.

#### Horsey us a Market.

onlo with a population of 250,000 is the most important city for fruit consumption in Norway. Through this port imported fruits are distributed to the southern parts of the country. The city has direct transportation with New York and good shipping connections with Hamburg and Copenhagen, as well as with England through Bergen



and Cothenburg. Host of the fruit is obtained at European auctions. Auctions in Oslo have proved a failure. The total population is about 2,650,000 and transport is cheap.

Sweden. Gothenburg is the most important shpping city here. As regards the American trade the shipper is represented by a local broker who has the quotation of his shipper and obtains the orders from the Gothenburg trade. Transport is cheap and the population about 6,000,000 of which 660,000 occupy two towns. Supplies are also obtained through several European auctions.

<u>Finland</u>, has a population of about 3,500,000 with five towns of over 30,000 inhabitants. Local transport is efficient and cheap.

About 69,000 owts of oranges were imported into Finland in 1927 and the annual imports show an increase. There are no oranges on the market during the months August, September, October and Hovember respectively.

There will apparently be an excellent market in Norway, Denmark and Sweden during the tourest season which coincides with the South African export season.

From this brief survey of the most important European fruit markets it is apparent that there is room for expansion in citrus consumption in these countries. The survey indicates that citrus consumption in the summer months is practically negligible, and suggest that eventually a market for the increasing production of South America, Australia, the U.S.A. and South Africa, may be found in these markets.

It is largely, however, a

matter....



able and willing to pay. This means a reduction in handling and marketing charges and a diminishing of import
duties. Handling and marketing charges will be reduced
by regular shipments of high class fruit and by the direct
shipment of this fruit from South Africa to the European
port from whence it is to be distributed. The latter
step will not be possible to any great extent for a long
time to come.

It is interesting to note that Mr. Moonew estimates a potential summer market in the United Kingdom and on the Continent of at least 5,000,000 cases a year.

In most European countries there are more or less plantiful supplies of home-produced fruit available, and consumers have a choice of fruits at fairly low prices. The improvement in the economic condition of Europe should, however, facilitate the sale of imported luxury fruits, among which summer oranges may be classed, although, in view of the prospective increase in supplies in the near future, it would be basardous to prophesy that the whole of the summer surplus a few years hence will be disposable at the price levels of recent years.

In the above analysis of the markets no attention has been given to comparative costs of marketing and production, nor to alimatic influences on per capita consumption in the different countries. While they all play their part they are matters for more local and intensive study than can be contemplated in this paper.

Trade......



# Trade with India.

Up to the present little trade between South Africa and India has taken place and transport facilities as far as citrus fruits are concerned are very poor. Political relations between the two countries, however, are improving and this naturally improves trade possibili-Should there be sufficient demand for South Afritcan fruit in India ocean and railway facilities will be forthcoming. India's possibilities as a market must not be lost sight of and Bombay and Calcutta may prove important distribution centres in the future. An attempt to open up these markets is at present being made by Rhoderia. Further East, however, South Africa will have to compete with Australia and Eastern produced fruit which does not seem a very profitable proposition.

### Factors Effecting Demand and Supply.

# Competition from the Morthern Hemisphere.

In general the principal producers of oranges are the United States with about 27,357,000 cwts per year, Spain with about 22,000,000 cwts, Italy with over 5,000,000 cwts and Japan with about 5,500,000 cwts. (Report of the Empire Marketing Board). Many other countries produce large supplies but the above four countries supply fully three-quarters of the world's output.

Most of the United States production is consumed within the country and Spain is easily the world's greatest exporter, its exports being roughly twice as great as those of all other exporting countries combined. Italy takes

second.....

second place with a quantity about one-fifth that of Spain, and the United States is third while Palestine is of growing importance, being now not far behind the United States. Smaller quantities are exported by the other producers, the chief contributors to world supplies being the Union of South Africa, Australia, Algeria, Japan, Syria, Cuba, Porto Rico, China and the countries of South America.

seen from above, are in Europe. The United Kingdom takes fully one-third of the oranges entering the world trade, Germany is second, importing in 1927 about one-half the quantity of the United Kingdom, while other important markets in Europe are France, Belguim, Holland, Poland, Osephoslovahia, Switzerland, Norway, Sweden, Hungary, Denmark, Irish Free State and Rumania.

### Competition from the United States.

Omlifornia and Florida together produce 27,071,000 owts of the total production of the States and of this amount California produces about 19,619,000 owts.

while only moderate expansion in the productive capacity of California orange groves is to be looked for during the next few years, in Florida developments are likely to be much more pronounced. It was estimated that Florida by 1932 would show an increase of 50 per cent on the bearing acreage for 1927 the year for which most of the above figures are given.

The bulk of the exports from the United States goes to Canada but the export to the United Kingdom and



the European countries is rapidly increasing, especially during the summer months. During this year (1929) it is estimated that from June to November California shipped over 500,000 cases of citrus fruit to the United Kingdom. The Florida season extends from October to June. Only 24 per cent of the total United States crop is marketed during the five months, June - October inclusive.

The ability of European markets to absorb large quantities of United States oranges between November and April is limited on account of the large supplies of comparatively cheap Mediterranean fruit during that season, but it is precisely during those months that United States production is likely to show the greatest increase.

At present California Sunkist oranges are South Africa's greatest competitor on the Miropean and English The quality and distribution of this fruit is excellent, and to compete favourably with it South Africa must export a higher class of fruit under a few well standardised trade-marks. It would be a great advantage to both countries if their respective representatives could work together in distributing the fruit, for the United Kingdom and Europe could very well absorb all the high quality fruit from both countries at reasonable prices, especially since exports from California during the summer months can not increase to any great extent. What is essential is systematic distribution backed by careful advertisement and propaganda. It is stated that there is a considerable demand for citrus fruits in the far East and Califronia and Australia are gradually opening up these markets, which will form a valuable outlet



for both countries as far as their summer (June to October inclusive) fruit is concerned.

### Boain as a Competitor.

South African fruit arrives on the United Kingdom and European markets from May to December inclusive.
The Spanish crop dominates these markets from November
(sometimes the end of October) to May, continuing into
June and sometimes July, so that South African fruit must
compete with Spanish at the beginning and at the end of
the export season.

According to the Empire Marketing Board Spanish imports into the United Kingdom for the three years 1925-27 respectively averaged 570,000 owts during May, 520,000 owts during June and 120,000 owts during July being negligible in August, September, October and rising to 200,000 owts in Movember. These figures will tend to show the comparatively serious nature of this competition which is even more severe on the Continent. The reason for the comparatively high prices paid for South African fruit at the beginning of the season is that the people are tired of the Spanish fruit.

The Spanish article is not of standard quality, nor is it of very good quality, but this matter is now receiving serious attention in Spain and the quality, grading and packing of Spanish fruit is rapidly improving. It costs Spain about 12/- a case to land fruit in the Horlds fruit markets (England and the European markets). To compete profitably with this fruit South Africa must develop a demand for her fruit and this can only be accomplished with a superior class article systematically dis-

tributed....



tributed and well advertised.

### Competition from the Mediterranean Countries.

It is mainly due to the Italian lemon production that South African lemons cannot find a profitable market in Europe, and citrus-by-products from these countries together with those from Spain eliminate the possibility of profitably marketing large quantities of byproducts on the European markets.

The total production of oranges and mandarine in Italy is about 300,000 tons produced mainly in Sicily. Her principal exporting months are from December to June so that early shipments of South African oranges would meet a slight competition here, especially in Germany which is Italy's largest market. Improvement is taking place in quality, grading etc., but production is more or less stationary. South Africa has not much to fear from Italian competition.

The importance of Palestine as a citrus producer is increasing rapidly both in quality and quantity. Her export season is from late November to April so that apart from competition in December she is not of much concern to South Africa as a competitor. She exports about 2.000.000 cuts of oranges a year mainly to the United Kingdom, though direct shipments to Continental markets are increasing as also to Egypt.

Small quantities of citrus fruits are produced in France and Portugal. Cyprus exports are said to be increasing especially to Egypt and Greece. Algeria is steadily increasing its citrus production which it markets mainly in France owing to favoured tariff proferences.

Syria.....

Byria as a citrus producing country has a production of about \$400,000 owts which it markets mainly in Egypt and Turkey but small quantities are sent to the United King-dom.

The Japanese production is apparently stationary and mostly locally consumed. Considerable quantities of mandarins and a few oranges are exported to Kwantung and fair quantities to the United States and Canada.

Ohina is a fairly large producer of citrus
fruits exporting to Singapore, the Strait Settlements,
Hong-Kong, Siam and French Indo-China but she also imports
considerable quantities from Japan mainly and the United
States. Imports are increasing and these Eastern markets
will prove valuable outlet for the Australian and American
surplus.

### Competition from the Southern Hemisphere.

Of the countries in the Southern Hemisphere South Africa seems to be the most favourably situated of all, for, as markets are opened up they must gravitate south and east into the radius of economic supply geographically belonging to South Africa and Australia.

To bear this statement out we may take the distance of the Southern Hemisphere countries from the Principal markets. The distances are calculated in days taking 10 knots per day.

Harkets.	Argentine.	Australia,	S.AITIOS.
New York	27 <u>k</u>	40	28
London	25)	40	251
Answerp	50 <del>}</del>	32	271
Bombay	39	91B	18}
Rangoon	-	14	•
Far Bast	46	15	27



The most important competitors of South Africa, as far as the Southern Hemisphere is concerned, is South America and here Brazil is at present outstanding.

#### Brazil.

The total production of citrus fruits in Brazil is not known but plantings have been considerably increased of late as also in the Argentine, and a greatly increased The quality of fruit arriving production is expected. on the English and Continental Markets has been inferior to that of South Africa, but export regulations have been put into operation and a great improvement in grading and packing can be expected. Most of the fruit is exported to neighbouring countries in South America, Buenos Aires and Kontevideo being the chief markets, but exports to Europe were tried in 1927 and it is estimated that during 1929 about 200,000 cases arrived in England from June to The fruit was usually sold at lower prices November. than South African but it also brought down the price of It is from South America in the South African product. general and Brazil in particular that South Africa will receive most competition, and unless she rapidly establishes herself on the European markets Brazil will capture those markets from her for the landed cost per box of citrus on the European markets is only slightly higher for Brasil than for South Africa.

Brazil is about 10 per cent larger than Continental United States, outside of Alaska and all of it has a climate capable of producing citrus fruits. It has a population of some \$5,000,000 people and there is still great stretches of the interior country that is relatively uninhabited....

uninhabited. In the State of Minas Geraes alone which is one of twenty there are more square miles of citrus land than occur in Florida and California combined.

Up to the present time only an indifferent attention has been paid to the growing of citrus fruits with the result that the fruit is very variable in quality, but it ripens throughout the year.

co-operative organisation among producers has started and the Government is taking an active interest in helping these organisations.

The State of Soa Paulo, according to P. H. Rolfs, has gone a step further by starting a project to plant twenty million citrus seeds and the state of Minas is also making some preparations for a large production of good citrus stock.

The only way South Africa can meet this coming competition is by waking up immediately and putting her industry on a sound basis.

Australia cannot become an important competitor in the United Kingdom and Continental markets because of her distance from the markets. Her best export markets are undoubtedly India and the Far East.

#### Competition from other Fruits.

Oltrus growers in general are faced with the problem of the possibility of growers of other classes of fruits developing a consumers demand for these fruits above that for citrus fruits. Especially is this the cuse with the home grown soft fruits on the Continental

and......



and United Kingdom markets. These soft fruits are relatively abundant and cheap while citrus fruits are regarded as a luxury, and will only find a demand by replacing some of the soft fruits in the daily consumption.

Pineapples are available throughout the year but are not very popular at present because of the high prices caused by the heavy decay in transit.

As transport improves exports will increase and public taste will become cultivated. They may become a serious competitor with citrus fruits and at present enjoy a 3/- per ton levy favour above citrus.

about the same so that if more soft fruit is bought citrus will suffer. Propaganda and efficient distribution is all that can prevent this. Strawberries are a very popular home grown fruit both in Great Britain and on the Continent. Exports from South Africa in this line, in early spring and summer at close of citrus season, are increasing yearly. The effect of strawberries on the citrus prices can be seen in June and July.

phere come on to the markets at the same time as South
Africa's citrus fruits and the volume of soft fruits exported from America and Europe is on the increase.

In general then South African citrus fruit comes into competition with that from Spain at the end and in the beginning of the export season. Besides this Californian and Brazilian fruit competes with it throughout as also other fruits. Providing, however, that South



Africa exports only high quality fruit under a few well advertised trade marks, and distributes this in accordance with the supply and demands of the various markets, she will obtain remunerative prices for several years to come.

It is self evident that the demand for citrus fruits will depend on many more factors than merely populations and supplies. Such factors as weather, race meetings, holidays etc., have a marked effect.

As far as Grape fruit is concerned South Africa exports fruit from May to September. During this period no other Grape fruit is available on the Muropean markets except some from California and a small amount from the West Indies. Consumption of Grape fruit per capita is very low at present and it will apparently take a great amount of advertising to increase it. Providing, however, that the market is gradually developed growers of this product should receive fair returns for many years to come.

South Africa, however, cannot extend her Grape fruit export season without meeting severe competition, and it may be mentioned that the quality of the bulk of South African Grape fruit cannot compare favourably with that from other sources.



# CHAPTER IV.

# THE MARKETING OF SOUTH AFRICAN CITALS FRUITS.

on the overseas markets are utilised by producers in South Africa. In the first system the individual producer consigns his fruit to an overseas salesman either directly or by means of that saleman's agent in this country; in the second, the fruit is consigned by a body of farmers to the salesman either directly or by means of the agent, and in the third case several bodies of farmers consign their fruit through their own South African Co-Operative Citrus Growers' Exchange to the overseas representative of the Exchange who distributes and supervises the sale of the fruit.

For convenience the first two systems will be dealt with together under the heading "unorganised marketing" and the third system under the heading "organised marketing".

# Unorganised Barketing.

As already pointed out the fruit marketed under this system is consigned by the producer either individually or jointly with other individuals to a fruit broker (or commission salesman) at one or other of the main overseas receiving points. The primary sale takes place at these points where the brokers usually have their head-quarters and receive the fruit as it is disembarked on the quay-side. The sale may be by auction or "private treaty" and is usually on a commission basis on account of the shipper overseas.



#### Augtion Sales.

Auotions are held at practically all of the larger receiving points and are generally owned and controlled by a few of the larger fruit brokers resident at the respective market centres.

obarged at the docks, it is classified, sorted and catalogued in readiness for the buyers before inspection and samples are drawn and forwarded to the sale rooms. Some auctioneers only show the fruit samples as lots are sold whereas others have sample rooms for the display of the fruit. Ugually the fruit is sold ex-docks and the buyers are often permitted to examine the bulk there.

Auotions are held on fixed days of the week and the brokers, prior to the arrival of the fruit, notify all buyers by circular as to the quantity and class of the fruit to be sold so as to obtain as large an attendance of buyers as possible thereby ensuring the highest bids and selling the bulk of the fruit as rapidly as possible. The brokers are in the unfortunate position of having to protect values but at the same time disposing of consignments quickly in order that they may not be swamped by the large number and bulk of incoming shipments of which the South Africas are only a very minor portion. The method followed, of course, ensures quick and apparent correct returns to the shipper for the prices are open to There exists, however, the possibility inspection. of brokers keeping two sets of books and in some instances false returns have actually been made but the old established firms are paually to be considered reliable.

In

In the event of the bulk of the consignment not being up to the standard of the displayed sample, a buyer on the United Kingdom market can reject any shipment within 24 hours after the auction and this privilege can be used as a lever to bring about a price adjustment. On the other hand if the sample is inferior to the bulk and the sale is made with the sample as representing the quality of the whole, the buyer naturally says nothing and the shipper has received a lower price than he would have received if the sample had been truly representative.

Host auction sales are open, i.e. anybody, at the discretion of the auctioneer, is allowed to go in and buy but certain auctions such as those at Liverpool and Hanchester are closed and only members of the Buyers. Association are allowed to buy. Where the number of buyers is small, closed auctions are very undesirable for there exists the danger of a "ring" of buyers being formed but where the membership of the Buyers. Association is large, it is said that there is little danger of this occurring. The closed auctions of course facilitate oredit.

At practically all auctions both buyers and brokers usually form associations in order to deal with matters which may arise between the two in a co-operative manner and also to ensure correct selling and facilitate such.

tablished, owning well-built modern sale and sample rooms with up-to-date facilities and the buyers coming from wide-spread areas act as distributing agents.

Auction sales are excellent on a rising or standing market but are not so good on a falling market, for in the latter wholesalers tend to hold off until no further depression occurs.

The essential feature at auction sales is the concentrated competition between buyers but at private-treaty sales the competition between the sellers is the principal factor.

# Private Treaty Sales:-

these take place mainly at the larger ports but there are private treaty salesmen at other porte also. Nost of these private treaty firms receive their fruit direct from the producer or through their own agents. As in the case of the brokers they all sell on shippers' account at an agreed rate of commission and subject to the deduction of handling charges.

In connection with the commission charges, it may be stated that some salesmen have been found to charge a commission on the sale of the fruit when prices have been high but when prices have been low,, they have charged a flat rate per box of fruit sold. This is naturally to safeguard their own interests but is nevertheless undesirable from the grower's point of view.

\*Private Treaty\* salesmen dispose of fruit by the method of personal bargaining with their customers and the factities they possess for marchonsing which naturally increase their overhead charges, give them more latitude in holding for higher values than is possessed by the auction broker. In some conditions of market this is a definite advantage. On the other hand when fresh



shipments are coming in every week which is the normal situation during a great part of the season, their plower methods of distribution tend from time to time to result in the accumulation of stocks which must eventually be disposed of by auction at depreciated values. often the private treaty salesman has to take his prices as determined by the auction if the two coincide in time The publicity check on returns is lacking. and place. In the case of transaction based on personal negotiation. the retention of the good-will of the purchaser must necessarily loom largely in the saleman's eye and buyers may obtain fruit at a lower price than it is actually selling for on the auctions by playing one salesman off against the other. In the absence of any check on the part of the shipper, discrimination may from time to time arise under such a system in the matter of price between lot and lot. It is also known that the grivate treaty salesman may sell one type of fruit, eg. oranges, at a discount on condition that the buyer also purchases another lot of fruit eg. apples. In such a case the owner of the Where fruit is of doubtful quality oranges looses. speculators, street-hawkers and others take their opportunities and it is here where South Africa suffers on account of the uncertain standard of many of her marks.

Greater satisfaction is obtained from the auction system in cases where large quantities of fruit on regular consignment have to be dealt with especially when such fruit has gone off condition slightly during transit; whereas for really fancy fruit, the private treaty salesman

has ......



has better opportunities for demanding a higher price. The latter often has wide-spread branches of his business in other markets thus bringing the product to the door of the buyers and retailers of nearly every large city and town of importance. For the crange trade of Bouth Africa, both systems are serving their purpose. Several auction brokers have connections in both English and Continental markets. On the account of the irregularity of supply in large enough quantities to the various auctions, price comparisons on returns from firms for both auction and private treaty sale, would show no data of importance and would certainly not warrant the adoption of one of the two on that basis only although suctions do appear to be the most popular.

"Linlithgow Departmental Committee Report on Distribution and Prices of Agricultural Produce in Great Britain", reference is made to the illegal practice of "averaging returns" and to the method of rendering sales accounts in such a way that the detailed costs are not shown.

Of course both these practices are detrimental to the interests of the producers. It is argued that the report referred only to produce produced in Great Britain - this is true but seeing that growers close to the markets were subject to such disorders, is it not more than probable that growers situated more than six thousand miles away would receive even worse treatment?

The report further refers to the practice of commission salesmen buying and selling on their own account at the same time as they were operating on a commission

basis ......

basis.

none brokers to obtain fruit for their sales. As a consequence many of the brokers have in their efforts to inorease their business ceased to be commission salesmen
pure and simple. To secure more and more fruit they have
gradually elaborated methods of attaching the producers
to them by assisting them to finance the picking and
packing of the fruit. In this way there has grown up
a system of brokers advances to growers in the absence of
any other method of covering their immediate expenses.

many brokers have established agencies in the producing countries. The agents visit the producers while the crops are still growing and endeavour to secure control of the fruit on behalf of their principals.

Competition thus arises between these brokers' agents who in the same district bid against one another for the better qualities of fruit by offering greater and greater immediate finoncial advantages.

ocean freight, this system has grown so that advances are now sufficient to meet the cost of packing and shipment and in some cases even a portion of the expenses of harvesting. It has even gone further to a point where the broker has on occasion bought a half interest in the fruit which is then shipped not on a commission basis but on the joint account of shipper and broker. It may also happen that the broker has special salaried men to buy the fruit for him at his own sale in which case he collects a commission for selling the fruit to himself and he then becomes a speculator buying the fruit on a low market and

after gathering the commission for selling it to himsolf, selling it in his own interests on a higher market.

It may also happen that he reports the shipment in a poor
condition and so returns a low price to the grower than
was actually realised for the fruit. So it happens that
on the same day a broker may have on sale at the United
Kingdom markets fruit in which he is interested in three
capacities: as salesman without advances made or as saleman with advances or as part or whole owner. Maturally
fruit in which the broker is interested, may be given preference by him. On the other hand he may sell fruit on
which he has made advances at any price as long as he is
assured of his advances and his commission.

That this diversity of interest in the case of the salesman is an undesirable state of affairs is unquestionable. In certain Continental countries brokers are compelled by law to confine their activities to their proper function and it would be in the best interests of all shippers if all salesmen had to conform to similar regulations.

The present methods of auction and \*private treaty\* sales have grown with the growth of the trade. In easence the system is based on the assumption that the broker receives fruit from the grower and sells it to a wholesale merchant for re-sale through the retail trade to the consumer.

As pointed out above the brokers may not merely as selling agents on behalf of distant growers or as wholesale merchants who purchase outright on their own account. Both usually not in the market and sell either

to ......



to other wholesals dealers or through buying agents to wholesals merchants or retailers in other markets or towns. About 90 per cent of the fruit passing through wholesals markets is handled on commission.

Wholesale merchants may purchase fruit direct and sell direct or through market to other wholesalers or retailers.

The commission buyer acts as buying agent for a provincial wholesaler or retailer purchasing supplies on behalf of his principal from the commission salesman, wholesaler, or occasionally direct from growers and usually making a flat rate charge for his services, he also arranges for the transport of goods to their destination.

In extreme cases the grower may sell his fruit to a local dealer. The dealer sells it through a commission salesman to a commission buyer acting for a wholesale buyer who may sell the fruit to a second wholesaler before it reaches the retailer and finally the consumer.

It will be clear from the preceding description of the existing marketing process that occasionally the services and costs of as many as six intermediaries may be interposed between the grower and the consumer. At each stage the produce is handled two or three times by porters or railway employees making in some cases as many as sixteen to twenty different handlings, while between each stage long hauls by rail or road may increase the tally of distributive charges.

### THE INTERNADIARIES:

The Rigglers: These are dealers or secondary wholesalers who buy produce for resale as opportunity offers. Frequently they have a considerable business with

larger consumers such as resturants, hotels etc., for whom they not as buying agents or contractors thus rendering a service which their customers could not perform so efficiently or economically themselves.

The Commission Buyer: may buy on his own account or on his principal's account. In the first case he usually charges a commission of 2½ to 7½ per cent on the conprise which may include porterage. If he is buying for a principal, he usually charges a flat rate of 1d-3d per package. He is a skilled buyer and in view of the constant fluctuations in supply and value, the skilled agent having the whole of the market supplies on which to operate, has a distinct advantage over the wholesaler who is limited to his own stocks. It is this condition which permits and justifies the continued existence of the commission buyer and keen competition tends to keep his charges low.

The Wholesaleri The principal for whom the commission buyer is acting may be either a distint wholesaler or a large retailer. The business of the wholesaler is epeculative in character and adds from five to ten per cent on the cost price of the fruit to the price paid by the consumer. He usually has heavy overhead charges and often suffers severe losses through deterioration. In general it may be stated that he does not obtain more than a fair livelihood from his business although in some cases a clear profit of more than 30 per cent has gone to the wholesaler. The primary wholesaler may sell to another wholesaler before the fruit reaches the retailer. These secondary wholesalers only duplicate the cost of the primary wholesaler and seem to

be.....



be unnecessary for in such cases the combined costs of wholesaling absorb an abnormal proportion of the total costs of the service of distribution.

The Retailer: The business of retailing consists of sale to consumers of a wide variety of products which are assembled at the retailers premises for that purpose sufficient in variety and quantity to neet the requirements of a large number of individual householders. This naturally means that the retailer is not going to take particular trouble in the sale of any one particular article such as citrus fruits for instance.

The diversity of retail services demanded by the community and the wide range of costs entailed have resulted in the development of certain types of retail The large departmental stores for instance business. deliver to quetomore souttered over a wide urban and sub-Their trade is usually of a high class urban area. character which necessitates in more than ordinary care in market dealing and generally only the highest priced Extensive services in the direction goods are bought. of calling for orders and delivery of goods is also rendered by individual traders with a more or less select trade in the better class residential districts whose customers are concentrated within a convenient and comparatively short range of each self-contained retail establishment. Other businesses sell almost exclusively to customers who call personally for their goods. result of the elimination of service costs, such retailers are able to sell at lower prices giving "rook bottom"

value....



value. Finally there is the street trader or coster whose expenses are practically confined to the hire of a barrow or the upkeep of a horse and ourt. These types are not rigidly definable and the larger business frequently merge the services, charges and characteristics of them all.

Generally retailing is confined to relatively small business units muinly on account of the keen competition that exists in the trade. Condideration of the position, however, appears to show that there must be a point beyond which any further increase will not necessarily react favourably on retail prices.

In general the retailer may be considered the "weak link" in the marketing system. Owing to the relative case with which retail business can be started and to the insignificant trading capital required to commence operations practically anyone can start a retailing business. Due to lack of experience and knowledge of the trade many of them fail.

Owing to the general inefficiency and "weakness of their organisation, to the sudden deterioration of fruit in some cases and to the relatively small quantity of fruit handled by each leading to high overhead charges retailers in general appear to estimate that under normal circumstances the goods they handle must be sold at nearl 50 per cent above their purchase price if the costs of distribution are to be met and a reasonable remuneration provided. In other words one-third of the price paid by the consumer is normally required by the retailer to cover his expenses and profits. The chief complaint th

prefers to operate upon a small turnover and a relatively large margin of gross profit rather than by reducing prices to secure an equal or pessibly greater financial return from a larger turnover. Retailers in general do not appear to adjust retail prices to conform with the reduced prices at which supplies are in some years procurable. The result is restricted demand at a time when increased consumption is the only means of saving the situation from the growers standpoint.

The establishments which undertake delivery and Other services necessarily work on a relatively high margin of gross profit and representatives of consumers themselves have admitted that a large part of the cost of distribution in such cases must be laid at the door of the consumers who grow daily more exacting in their de-His casual and erratic purchases, frequently mands. of small quantities, and his general lack of method are further contributory factors. If consumers would place a regular order, some reduction in distributive costs would be possible while retailers would be able to adjust supply to requirements with greater precision. The retailer who charges the larger margin of profit, exists to a large extent by reason of a specific demand on the part of the public for services which, however, agreeable and convenient, are costly and not always necessary.

In general the competition from street traders and other retailers is sufficiently important to ensure that retailers generally do not take too heavy a toll upon the goods they handle but in order to reduce their costs, better organisation leading to more business and greater business efficiency is necessary.

## Street Traders.

Street vendors, sometimes known as hawkers. costers, or hucksters are retailers who by reason of the almost complete elimination of overhead charges or by performing the minimum of service are enabled to work on a smaller margin of gross profit than the regular shop-Some deal in fruit and vegetables, others in keeper. fruit alone. Many are purely casual and only operate during the summer season. Their practice is buying fruit at the wholesale markets from merchants when prices have fallen sufficiently low to make the proposition attractive. By working on the principal of \*small profits. quick returns\* they bring produce within the reach of all. Their chance of successful business depends on the extent to which they can thus undersell the retail shops. hawker is a most useful factor in the existing distributive system and forms a valuable protection to the consumer.

One of the main services that the hawker renders to the industry is that of clearing the market of surplus produce which would otherwise deteriorate and be wasted.

unorganised system of distribution and marketing much more handling of fruit than necessary takes place and as each handling means an additional charge, the percentage of the ultimate price paid by the consumer and absorbed in the process of marketing is greater than warranted for the services rendered. Further when fruit is consigned to a market irrespective of the relation of the supply to demand on the market at the time, there can be no certainty

that.....



that remunerative prices will be received for if there is a "glut" of fruit on the market, prices realised will be abnormally low and if there is an insufficiency of fruit, the prices will be high - an unsatisfactory condition if extended over any length of time for the higher prices will be repulsive to the poorer classes and hence the demand will be lessened.

A quotation from the \*Review of the British Apple Market by the Agricultural Committee for the United States Department of Agriculture is of interest: " There are gilt edge firms that have been in the business for years whose word is as good as their bond and who are really anxious to secure the largest possible returns for the producer ...... Unfortunately there are, however, firms whose carelessness in picking samples, in putting the fruit up for sale when conditions of the market do not warrant it, in throwing the produce on any market so they can pocket their commission and even making private sales at their own convenience is often the cause of heavy loss. There is under the present system no way of checking these dishonest firms since they can easily say the fruit arrived out of condition and that the prices obtained were due to that cause. Again fruit is thrown on one market in a period of depression when it really should have been consigned to another. Thus the Glasgow market will be up and the London down. London dealer, however, will throw the produce on the London market at a low price and get his commission rather than tranship and get a good price for the shipper in

Glasgow.....

Glasgow and get no commission. The answer to complaints is that the goods were shipped to London and should be sold there.

of speculation which takes place because of the fluctuations in price caused by poor distribution and the middle-man or speculator profits at the expense of the producer as the ultimate price paid by the consumer remains more or less constant. Speculative buying can be beneficial as in the case where speculators make heavy purchases on a low market and thereby cause an upward tendency to come about. Low markets, however, would not exist under a well organised marketing system.

tion of fruit to the most suitable market is only now commencing to receive due attention from producers.

It is no reflection on the integrity and efficiency of auction brokers or commission salesmen to say that the interest of shippers can never be identical with theirs. Shippers are concerned to secure the best price for their fruit, brokers must depend for their earning on their securing supplies from every available source.

It is obvious that brokers who are established at one port, cannot recommend shipments to ports other than their own even though conditions may be such as to render such a course advisable in the interest of the shipper. The port authorities and the railway companies have an obvious interest in favouring a particular port.

Bome port authorities and railway companies have gone so far as to send a mission or maintain a repre-

sentative.....

ing trade in their direction. Thus the interest of the port and railway authorities must be regarded as reinforcing that of the brokers in favour of soncentration at their own port.

If the producer desire the best use to be made of the overseas marketing facilities, they must themselves undertake the delicate and responsible function of controlling and supervising distribution as between the different consuming areas in the overseas countries.

This as will be realised, can best be done through an organisation of producers.

## Organised Marketing.

In a rapidly expanding industry such as the Citrus Industry of South Africa, the farmers are often confronted with several problems, the immediate solution of which is essential to place the industry on a stable basis and where these problems effect all producers alike. it is beyond the power of any individual to bring about any far reaching remedy. But where any single individual is helpless, the combined efforts of a group of individuals can bring about the desired results. It is through organisation alone that the farmer can hope to meet his present problems and by doing so take his rightful place in the economic life of the world. Until farmers can realise that their helpless position is due to independent action, agriculture will continue to be the least effective portion of the economic life of the world. Co-operative organisation is the only possible means whereby



the interests and desires of farmers as a whole can be given full expression. A great deal of interest has centred around co-operation in agriculture in recent years and especially true has this been in South Africa and in order to prevent any misconception as to the possibilities of co-operative marketing, a brief outline of its possibilities and limitations will be given.

Just what they are, will depend upon a number of factors such us the nature of the commodity, the degree to which private business has already perfected distribution of it, upon the degree to which people are trained in co-operation and upon whether the co-operation considered is of a local or of a larger nature.

It will be long before all the possibilities sentioned are fully realised. As a matter of fact many of them are beyond the range of probability for the immediate future though well within the range of possibility if sought by men of ability and clear vision. Moreover, all of them depend on good management.

Some of the outstanding possibilities of cooperative marketing may be summarised as follows:

- Standardization and improvement of production so that better quality may result.
- Standardisation and improvement of grade and pack for both local and distant markets.
- 3. Stabilizing the production.
- 4. Controlling flow to markets so that all have a sufficient supply and yet none are over-supplied.
- 5. Improving distribution between markets.

	6.	*	*	•	*			*	•		*	#
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- 6. Co-ordination of physical transport both on land and sea.
- 7. Advertising and the development of new markets to in-
- d. Collective bargaining thereby more or less stabilizing prices on the market and reducing costs.
- 9. Financing of marketing operations.
- 10. Making marketing more efficient and eliminating speculation on the part of the trade.
- 11. Maintaining favourable public relations by presenting evidence against proposed harmful legislation or by presenting facts in favour of desirable legislation or by presenting justification for any contemplated actions on the part of the producers as a whole.
- 12. Erection and control of storage houses at shipping and receiving points.
- 13. General improvement of all trade and production practices.

Three limitations are set out particularly because they are so often listed as possibilities of co-operation. They are:

- 1. Co-operative associations cannot arbitrarily "fix" prices although they can and do exercise a favourable influence on prices.
- 2. Co-operative organisations cannot \*eliminate the middle-man\* except in the sense of combining the function performed by a number of dealers at any given stage in the marketing process. What they really do is:
  - a. to substitute a co-operative agency for a private, and
  - b. to combine a series of steps in the marketing pro-

3.....

3. Co-operative marketing cannot cut costs greatly.
That is, a co-operative organisation cannot operate a given business unit any more cheaply than a private concern could operate the same unit. They may, however, out their costs if they can increase the volume of business over that of the larger private dealers or if they can operate as efficiently as the more efficient of these.

There are also some inherent difficulties which capable management may and often does overcome. Nost important among these are:-

- 1. It is difficult to maintain harmony between management and members.
- 2. Hombers become oursless as co-operative citizens failing to vote or making poor selections of officerd.
- 3. There is often a tendency towards extravagance.
- 4. Outsiders sometimes get higher prices than members even when an organisation is functioning efficiently.
- 5. Hembers of a new organisation often expect impossibilities.

The management of a co-operative association must not only be an efficient manager but must keep his membership with him. He must have such a vision of what a strong organisation can do that his enthusiasm becomes contagious without leading to extravagant expectations.

Many oc-operative organisations have been formed in various parts of the world in recent years, large numbers of which have been failures or at best only partially successful. A few have been outstandingly successful



and if a careful survey of these is made, it will be seen that they are based on certain fundamental principles. On the other hand it is clear that the organizations that have not been outstandingly beneficial to their members have failed chiefly through violation or disregard of these underlying principles.

## Principles underlying Co-Operative Organisation.

of the Galifornian Fruit Growers' Exchange states "Co-operation emong farmers may be defined as an enterprise in which the members form an agency through which they conduct their business for their greatest mutual advantage". Of the soundness of this doctrine there can be no doubt.

The general principles upon which all the successful co-operations are based may be summarised as follows:

- 1. It must arise from economic necessity.
- 2. Definite, well-marked economic benefits must result soon after organisation in order to strengthen the position of the organisation.
- 3. Membership must be confined solely to producers engaged in the production of the particular commodity handled by the organisation in order to maintain the interest and confidence of members.
- 4. A co-operative organisation must be based chiefly on the loyalty and full confidence of the members in one another and one of the best means of expressing this mutual trust is in the adoption of equality of voting.

  If equality of voting is not adopted a definite limit should be placed on the number of votes accruing to one man.

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- 5 To safeguard an organisation and the interests of 100 per cent delivery of produce to the organisation loyal members your or alternate yours. from the contract at a certain specified time every is necessary. P strict long-time Members should be allowed contract onling for to withdraw
- 0 The organisation must succeed in its primary objects.
- 7. dapital contributions, being merely for the purpose of providing facilities for the conduct of the business and not un end in themselves should be made in financing is the building up of adequate cash reputronage basis. and retention by the association of 1d per box. can be built up by box accessment e.g. the deduction be soundly flushoed and one of the most important steps ciples underlying organisation that an organisation In the case It is of oftrus fruit one of the fundamental such a reastve Trial
- 200 one of the soundest principles received from Danish Agriculture is organisation on a commodity basis and therefore specialised management.
- 9. ideal. re Int tion. is made, will be the strength of the whole organismcorned. there and as strong as the foundation or local unit BDZ instead of beginning at the 8 a decentralized democratic organisation Here the nambers build from the bottom occendities such as citrus fruits are top and stopping 900 F 18
- To. Upon the strength of its munaconent 170 uble of keeping the membership with him and of picking extent the progress and wel-fare of the organization. Hanager must be highly efficient in his work, oup-... rests to a large

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- able associates and generous financial provision in this respect is one of the prime factors in success.
- 11. The operations of an organisation should be conducted at cost plus, if necessary, current interest on the capital stock.
- 12. Pooling is essential for the building up of a uniform brand and it enables the management to distribute one product uniformly. It reduces operating expenses and protects the individual against unavoidable price fluctuations, loss, etc. Pooling should be parely local in nature and the type of pool must be determined by local conditions.
- 13. The members must feel that they are a vital part of the organisation and that it exists not only for them but of them.
- 14. The manager must be fair in all his dealings and the organisation should actively encourage and stimulate members' interest in their organisation by keeping them fully informed as to its policies and work.
- 15. To be successful the organisation must have complete control of at least 50 per cent of the crop handled and it must find and open up markets for this produce.
- 16. The organisation must be a free and voluntary association in order to maintain the loyalty, mutual confidence and trust of its members, and no compulsion must be brought to bear on members to compel them to become co-operators. A small percentage of the produce should be outside the organisation in order to keep up competition. Co-operation in agriculture

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can best develop if it is carried on by producers and producers alone. The function of the Covernment should be to assure legal power to co-operative organisations, help in standardization and see that fair play is accorded to all interests.

Co-operation in agriculture is not a theory - it is a sound business doctrine which has been subjected to the most severe tests and where the fundamental principles have been followed and fully understood, it has been a complete success.

A few further points that are worthy of note in the formation of a successful co-operation are:-

- 17. Important differences in mationality, religion and language may prove to be obstacles to success and the population should be stable.
- 16. The character of the enterprise must not be too ambitious or complex. He promises incapable of fulfilment should be made otherwise dissatisfaction arises.
- 19. The organisation must not interest itself in politics.

Having thus briefly emmerated the fundamental principles underlying successful co-operation for commodities such as citrus fruits, the writer will now pass on to a discussion of the South African Fruitgrowers' Exchange from the viewpoint of the citriculturist.

# The Fruitgrowers' Exchange of South Africa Limited. Historical Development.

As early as 1918 the Rustenburg growers made an attempt at some form of organisation of growers throughout Bouth Africa. Fortunately or unfortunately, however,

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and the Bustenburg growers had to be satisfied with local trus Society in 1921. orgunt aution. there appeared no necessity for organization at the Oftrus Union which was registered in 1920 was folents da registration of the Marioo Oc-operative Ci-The example of the Sustanburg Oc-Opera-110

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question of shipping and to undertake the task of organiits members, made use of the Transvaul Agricultural Union Conference which was in progress at Rustenburg to raise which was the first co-operation to export the fruit of betatodus question of shipping and of the organisation of losses arose in 1921, however, Industry. to interview the Minister of Agriculture on the When the crists due The result was that a committee was to delayed shipping and the Rustenburg Union

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Agricultural Library, Union Buildings, Pretoria agreement was arrived at and a well attended mosting of With the help of Mr. Pickstone and Mr. Rusk a workable Elst July and delegates from the Cape Province attended. this meeting was published and can be obtained from the Brownes The 1921. 品の Committee held a meeting at Pretoria on the called in Johannesburg on A special report of the proceedings of the 15th

-templica es pertame assepted by the General Meeting of growers may be sun-The principles proposed by the Committee B

The pucking muterial required. 100 marketing of the organisation must be a co-operative lines. truit and with providing the It must 8 concerned one run purally objectly with

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- 2. It must be built up from the bottom i.e. the growers must form locals and the locals must form a Federated Central Body and the whole must be run on the lines of the Californian Exchange.
- 3. An executive committee must be appointed to not tempossilly until such time as the federated exchange is formed by the district associations.

The duties of this committee should be:

- a. To useist in the organisation of citrus growers into associations.
- b. To enter into negotiations with the Government and the Union Castle Steamship Company to ensure shipping space for the next season.
- c. To begin the necessary marketing arrangements for the next season.
- d. To obtain quotations for the requisite supply of packing materials.
- e. To engage a temporary manager and secretary pending appointment of permanent offices by the Exchange.
- f. To perform all other work appertaining to the Ex-

It was also proposed to finance the Exchange by a self-imposed levy of 5/- per ton on all fruit exported. Legislation to this effect was introduced and the levy money was handed over to the Exchange to dispose of in the best interests of the industry.

Among those taking part in the movement for organisation were those who envisioned a scheme of cooperation that would embrace the fruit growing fraternity generally and proposed that the enlarged organisation

should.....



should be designated accordingly - that is in place of the Citrus Exchange it should be called the Fruitgrowers' Exchange.

Among the members of the Committee appointed at the September Conference and supplemented by members from the Western Province, a very sharp division of opinion took place on this point. Sine of the members were in favour of a Fruitgrowers' Exchange while three members held that they could not over-rule the declared policy of the September Conference and that a Citrus Exchange had to be registered.

Those opposed to the larger idea set out their reasons in a Minority Report that was circulated to all the growers. They could not see how a general union of fruit growers could solve problems peculiar to the citrus industry, claimed that the movement was against true cooperative principles and experience and fore-spelled difficulty over the allocation of revenue and expenses to the respective industries.

However, in April 1922, a conference was held in Johannesburg and a scheme was agreed to by a majority of 62 votes against 15, by which each division - citrue, decidents and pineapples - should be managed by a subboard forming together the board of the Exchange having charge of the interests common to all. The proportionate importance of the respective divisions was scknowledged in the principles adopted for the election of the sub-boards namely eight for citrue, five for decideous and two for pineapples.

The .....



The motion proposed squinst the above was for separate exchanges which would co-operate in questions of common interest.

Provision was made in the articles for the election of the central board members on a tennage basis after December 1923. Fortunately the Minister of Agriculture recognised that this was ultra - co-operative and would not confirm it with the result that the members were chosen on a provincial basis.

A temporary board of thisteen members who were preponderatingly citrus carried on the work of the Exchange until March 1923.

while the general interest and purpose of any combination or co-operative movement may be understood by the constituent members at its inception, radical differences of opinion are upt to arise later concerning the exact interpretation of the word co-operation and the manner in which the common object will best be achieved.

Such a difference of opinion arose in connection with the activities of the Fruitgrovers Co-Operative Exchange which was brought into being in April, 1923, and this difference threatened if not to wreak the whole movement, to curb its usefulness and influence and to do insettimable harm to an industry which had reached a stage where co-ordinated co-operative control and direction was essential if the industry was to progress and its pursuit made worth while.

Behind all the manifestation of discatisfaction and discontent was a spirit of distrust and suspicion regarding the bons-fides and disinterestedness of individuals



who were administrating the affairs of the Exchange and in a leaser degree there was also apparent the distrust and jealousy born of that attitude with which one section of an industry regards another and with which different  $P_{ZO}$  vinces are inclined to regard each other.

In addition to all this, powerful forces were working behind the scenes to frustrate the co-operative movement. Those most opposed to the co-operative movement were the local agents of the overseas salesmen and a few of the large-setate proprietors with a minor portion of the individual growers who were under the influence of the anti-co-operators.

Every conceivable weapon was used from attacks on the integrity, judgment and capability of the management to accumations that the Exchange was doing nothing for the grower and wasting his money. This lead to a government enquiry into the expenditure of the levy money and justification of this expenditure was thereby shown. The manager was accused of being connected with the interests of a London Fruit Firm, the structure of the Exchange was attacked, it was claimed that the Western Province was "pulling the strings" that the Exchange favoured Cape Town and attacks were even made on the fairness of the fruit inspectors at the docks.

These and pumerous other causes, genuine and otherwise, constitute the chief grounds on which objections to the Exchange and its policy or alleged want of policy were based.

A careful study of the objections and existing conditions has led the writer to the conclusion that the

chief.....



chief cause of the objections can be traced back to the difference of opinion as to the form the Exchange should take at its inception and to the fact that the growers were in too great a hurry to derive direct benefits from the Exchange. Together with these causes it appears that the Exchange management was tactless and neither had nor could inspire the growers with full confidence in itself.

In the face of all the objections, however, the Exchange accomplished important work and this in spite of the fact that the conditions were such that the Exchange bud to be built from the top downwards instead of from the bottom upwirds owing to the insufficiency of the local co-operatives in existence and to the fact that important work such as shipping awaited immediate attention. appointed a field advisor to act in an advisory capacity to all growers on all questions in connection with the industry and was instrumental in getting two inspectors stationed inland. The Exchange approached the Covernment on the questions of transport and of cold storage at the docks, prevented all confusion and saw to the orderly shipping of the fruit, secured better terms from the Labo Bank, caused a reduction in the duty on box wood from 20 per cent to 3 per cent, secured a reduction in railway rates and many other improvements oun be ascribed to the efforts of the Exchange.

At a Conference convened at Pretoria on August 8, 1923 to discuss the grievances of all the growers a committee of six, three Exchange members and three of the com-

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- F organisation must 8 federal exoubly.
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The above proposal was agreed to and came into operation in 1924.

The Provincial System worked satisfactorily but dissatisfaction still existed. This became more acute with the shipping trouble in September with the result that the Citrus Sub-board interviewed the Transvahl Citrus Growers! Association and after four meetings the revised articles of association were agreed to in December 1924.

In Jammry 1925 the first overseas representative of the Exchange was appointed in London and a further reduction in railway rates was obtained.

As a result of the enquiry into shipping matters in 1924 the Export Control Board was appointed in 1925. This relieved the Exchange of its most important functions viz: that of shipping its members fruit. The functions of the Exchange during the 1925 season were reduced to a minimum with the result that by the end of the season it had practically collapsed.

ments at Durban and the difficulty of sending Transvall fruit overseas are some of the reasons for the establishment of the Mational Fruit Growers' Association of South Africa by five or six of the big-estate proprietors in 1925. This Association was anti-co-operative in essence and was established to rival the Go-operative Exchange.

During 1925, however, prices realised for citrus fruits were low and over a hundred thousand cases of fruit were rejected at the ports. The Exchange was financially crippled owing to the Minister of Agriculture deducting £3,000 for the Control Board and a further £2,500 for any

purpose he may think fit from the lewy money. The result was that the industry was on anything but a stable basis.

a general meeting in Protoria on December 1st, 1925 to discuss the position. A committee of fifteen, five Exchange, five Estional Fruit Growers and five independent members, was appointed to come to some acceptable agreement and it was decided by eight votes to six that a separate Citrus Exchange should be established. The general meeting were unanimous with the exception of five or six in their adoption of this resolution.

After a great deal of controversy during the curly part of 1926 the South African Co-operative Citrus Exchange was registered on 1st September.

The most significant features of the new constitution were the independent existence of the Citrus and Deciduous Exchanges respectively co-operating only where interests common to both were concerned and the abolition of the Provincial Companies. This latter step met with sewere criticism from all quarters.

An idea of the growth of the co-operative movement among citrus growers oun be obtained from the following figures:

Yer.	No. of local	Organisations. Total membership.
1920	1	21
1921	2	138
1922	5	243
1923	13	373
1924	16	484
1925	18	656
1926	24	<b>8</b> 90
1927	25	879
1926	30	1,010
1929	31	1,018

During .....

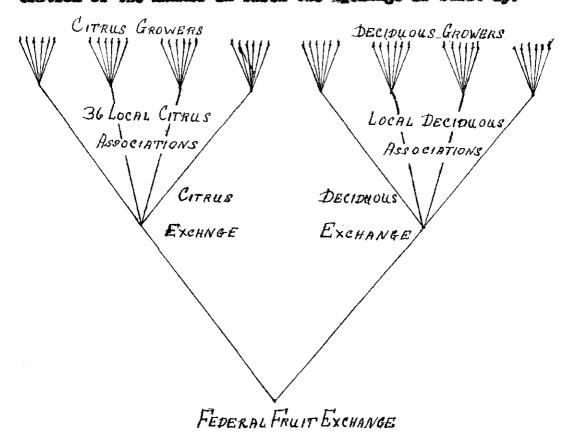


During the year 1929 an additional six cooperative societies were registered. Of the 31 societies and companies in existence in March 1929 fifteen of
the companies with limited liability and two societies
with unlimited liability were in the Transvaal, twelve
limited companies in the Cape Province, two in Natal and
one in Rhodesia.

During the 1927 Citrus season the South African Citrus Exchange handled 25 per cent of the citrus fruit shipped from South Africa. By 1926 this had risen to 49% of the total while the estimates for 1929 was over 75 per cent. Thus the progress so far has been very satisfactory.

# The Construction and Working of the South African Citrus Exchange Maited.

The accompanying diagram will serve as an illustration of the manner in which the Exchange is built up:





The individual growers unite to form local organisations and these local organisations co-operate to form the Central Exchanges which federate to form the Federal Fruit Exchange.

# The Local Organisations.

greatly according to the work entrusted to it by the growers. The number of growers belonging to the local also varies but may not be less than seven according to the 60-Operative Act under which all the locals must be registered - Act No. 28 of 1922 is to provide for the formation, registration and management of Co-operative Agricultural Societies with unlimited liability, Co-operative Agricultural Companies with limited liability and Co-operative Trading Societies with limited liabilities.

Schedules A, B and O give model regulations and statutes for these Co-operative associations respectively.

As stated in the Act generally and applied in such regulations, the objects of such Associations of Citrus Fruit Growers are amongst others:-

- (a) to dispose of the fruit of its members in the most profitable manner;
- (b) to manufacture or treat the fruit of its members and to dispose of the products so manufactured or partly manufactured in the most profitable manuer;
- (c) to commence, acquire and carry on supply stores under co-operative system for disposing of and supplying fruit;



- (d) to purchase, hire or otherwise acquire and to work on behalf of its members, agricultural implements or machinery;
- (e) to acquire and distribute information as to the best menner of carrying on fruit farming operations profitably;
- (f) to acquire and distribute information on the markets of the world and on co-operation in general:
- (g) to raise money on loan for any of the lawful objects of the Association and for that purpose mortgage the movable and immovable property of the Association.
- (h) to engage competent persons to carry out any of its objects and to give instruction and advice to its members concerning fruit farming operations.

whatever the legal form the association takes on, whether a co-operative Company with limited liability or a co-operative Society with unlimited liability, the purpose it must serve is common, and members must, in forming, decide on this as they themselves are best prepared to bind themselves. As laid down in the regulations the members will bind themselves by contract and the one purpose in these regulations must be to promote the cause of co-operation. To do this the principles underlying co-operation must be observed.

Into the details of the various operations in the local packhouse, it is not necessary to go. One of the essentials, however, as stated before is efficient management. The growers choose a board of directors who must be efficient men. They in turn engage a manager

who.....

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who must be highly efficient. Much of the trouble experienced during the 1929 season due to the decay and inefficient packing and grading of fruit can be traced back
to careless management.

It is the secret of co-operation, in Citrus at least, that a pool of the members fruit be formed to meet the fluctuation in price; to check it, and to put out a large quantity of fruit of standard quality and uniform grade thereby bringing it to the notice of the consuming public.

The pool in South Africa is generally made for one grade, one wariety over the whole season. In some cases a pool is formed for each individual count. This is due to preference on the part of buyers for certain

In other counts are grouped:-

aizes.

eg. 96 and 112 - one pool

126, 156, 176 - one pool

200 and 216 - one pool

226, 252 etc. - one pool.

Owing to the great amount of clerical work involved in single count pooling, group-pooling is to be preferred. If any apparent seasonal fluctuation in price takes place regularly, it will be necessary to form seasonal pools as is done in California. This is not apparent as yet. However, all packhouses should keep careful data of the prices so as to be able, after several years, to draw up a definite pooling system.

all expenses in connection with packing etc., are met by percentage or box accessment. The latter is

apparently.....



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apparently the fairest, though the act stipulates a percentage accessment not exceeding five per cent.

A few of the advantages derived through cooperative pack-houses may be summed up as follows:

- (1) One efficient packing plant is erected centrally instead of each individual having a cheaper plant which
  is, in many cases inefficient. Honce efficient
  packing, handling etc., is ensured (Providing the
  Manager is efficient). The efficient machinery required is expensive and cannot be afforded by the average farmer.
- (2) Pooling: by this risk is reduced, more fruit is put out under one brand and the result is facilities for wider distribution and better advertisement.
- (3) Efficient storage space and shelter for the fruit is provided.
- (4) The estimates made for the Control Board are made by the Manager and he has more chance of keeping to these estimates than have individual growers.
- (5) The co-operative purchase of requisites reduces costs owing to bulk purchasing.
- (6) More efficient handling owing to specialisation in operations such as picking, grading etc. The labour becomes specialised in the particular work.
- (7) The cost of pucking over a number of years is reduced.
- (8) Specialised management, supervision and advice our be obtained.
- (9) The Grower has more time to devote to his cultural practices, etc., and the necessity of cash expenditure in paying for packing obviated.

Thas	a.	 _	_	_		_	_

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These as well as many other advantages mentioned previously are derived.

Co-operative picking: this is practiced with success in several cases. It is a local problem to be decided on by the management. However, owing to specialised handling and picking gangs, the fruit is more efficiently handled and it is picked at the convenience of the pack-house.

Co-operative funigation: Because of the large capital cutlay to install funigation and spraying services, the individual farmer finds difficulty in buy-ing the necessary machinery, tents, etc. Local associations often undertake such work and can thus procure experienced workmen to do it. In a few isolated cases the association also co-operatively buys the more expensive implements needed for cultivation. By employing the staff of the pack-house to do the funigation work and other work during the time when there is no packing, overhead-charges are reduced considerably and hence also packing costs.

The Co-operative Society often supplies its members with implements and requisites other than actual packing material and citrus requirements with the result that the merchants' profit is eliminated. The first object of the local must be citrus and where other functions are undertaken these must not be to the detriment of the citrus industry and must develop gradually.

Some locals only undertake to dispose of the fruit of its members after it has been packed by the

growers.....



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growers themselves. It is found to be more economical for them to extend their work than to specialise in only one line.

Some of the societies are meanly dormant, their sole object being representation on the Citrus Exchange. This should be discouraged for it should be the aim of the locals to lower the cost of production, picking, packing etc. Some give advice to farmers on cultural methods, type of trees to plant etc. This is highly satisfactory where the adviser is capable. Some provide all the transport required for the members fruit.

## The Financing of the Co-Operative Association.

As can be realised from the foregoing discussion, the association needs a considerable amount of capital to ensure success, for sufficient capital is one of the underlying principles of success.

The funds required by the association are of a two-fold nature:

- a long time loam to be raised for the purchasing of ground, erecting, equipment of packing-house, etc;
- a cash credit account, for the period of one year for running cost, packing material, export loans.

Communication with both the Standard Bank of South Africa Limited and the Sational (Barclays') Bank shows that it is not possible for these banks to cater for the first item since money is not invested for such long periods by them.

For the second there is no reason why they should not, but each case is treated on its merits.

There.....

There is of course the possibility of raising the money from such banks for one year provided it is known that the money can be obtained elsewhere after that period.

Provision for such loans is made in the Land
Bank Act No. 18 of 1912 in which various other Acts are
incorporated. Article 28 of the Act sets out to lay
down the legal points which have to be considered in the
financing of co-operative societies and companies.

The Legal Hecessities are given full attention in the Act and are discussed lengthly; they are available from the Government Printer and it is not necessary to dwell on the subject in this paper.

The model constitution drawn up by the Cooperative Citrus Exchange meets all the requirements of
the Act pertaining to Co-operative Societies; this again
is so construed as to meet the requirements of the Land
Bank Act.

Further the Exchange has available a circular:
\* How to form a Co-operative Association\*.

A few points, touching more on the practical application and the value of the facilities offered by the said Land and Agricultural Hank of South Africa are, however, worthy of mention.

At present this Bank has advanced money for such matters as the purchase of land, erecting of a house, equipment of same, packing materials required, running costs. funigation equipment, binding department etc.

Upon an application for a loan in the first instance fixed to provide for the packing house, being filed

with.....

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with the Bank, it is essential that:

- 1. the Company be registered under the Co-operative Society Act;
- the fruit be shipped through an agent recognised by the Bank e.g. Overseas Federated Farmers.

The Security offered may be adequate in accordance with the Law, but certain general points are considered also. The Sank will e.g. obtain a report from some person acquainted by them. Attention is amongst other things given to:

- 1. waterfurrows and permanency of water;
- 2. packing sheds in existence;
- 3. the economy of establishing a Co-operative packing-house; how much will be saved;
- 4. aspirations and future of sattlers;
- 5. total production and the number of growers;
- 6. personal impression of proposition;
- 7. quality of fruit, diseases and pests;
- 8. types of settlers;
- 9. permanency of settlement, climate and health;
- 10. prospect of a railroad and development of area, and
- 11. obligations towards other companies, agents etc., from which the Land Bank is keen to liberate.

These are incidently all points which have been given high consideration by the growers before associating themselves to form a company.

The security of the bank in advancing is based on legitimacy of object, demonstrated success of growers and whether or not the unpaid amount of shares would be easily recoverable; thus a consideration is given to the

financial.....



financial position of the individual members of the society.

Further the Bank stipulates that insurance is essential. There is provision made for insurance under export loans as advanced by the Bank.

First hand information and advice can always be obtained on the point of Co-operation from the Manager of the Exchange.

houses etc., is raised from the growers on a patronage basis based on the amount of fruit to be handled. The farmer is required to pay up ten per cent of the capital that he has to contribute towards the expenses and signs a promissory note for the balance. This note is then used as security to raise money from the Land Bank and the grower's debt is gradually paid off by box accessment.

The Regulations of the South African Co-operative Citrus Exchange Limited lay down the regulations regarding the membership of the Local Societies or Companies.

On such a Society or Company making application for membership to the Exchange and being accepted, it is bound by contract but may withdraw at the end of the financial year by giving three months notice.

For further information as to the organisation of Locals and as to the functions of same, reference can be made to the Manager of the Exchange.

#### The SOUTH AFRICAN Co-Operative Citrus Exchange Limited.

Each Local Association or Company elects one director to the Central Board of the Exchange. This



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Board of Directors consists of 36 in number at present and appoints a General Manager and staff to execute the work of the Exchange. This staff at present consists of an assistant manager, a field-advisor who is vacating office shortly, a general clerk, three office girls, and an office boy.

An annual general meeting is held at the beginning of the year, the minutes of the last annual meeting confirmed and the adoption of the following reports moved:

- I. Bulance Sheet:
- II. Income and Expenditure Account;
- III. Auditors Report, and
- IV. General report by the Directors.

Any criticisms forthcoming from the growers will be given due consideration.

Exchange the Chairman of the meeting now calls upon each proxy-holder to nominate the representative of his local society on the board of directors and the formal election of directors to hold office for the coming year takes place. Then second representatives or alternates to substitute their respective directors in their absence are nominated by the proxy holder and such nominations are subject to the approval of the meeting.

After this auditors are appointed for the next season and their remmeration fixed.

The meeting then elects five representatives on the Board of the Fruit Exchange and these name their alternates.

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Any special subject meeding the approval or opinion of the General Meeting may now be brought up for discussion or a Special General Meeting may be called for the purpose.

After the Annual General Meeting it is oustowary that the New Board of Directors proceed with
their first meeting of the year. A Chairman and vicechairman are appointed and the following committees elected:

- (a) Executive committee;
- (b) Finance committee;
- (e) Orading committee;
- (d) Shipping and Overseas Marketing committee;
- (e) Packing unterial committee.

General matters of importance are discussed after the agenda arranged by the retiring Board of Directors has been adequately dealt with.

The Regulations of the South African Co-operative Citrus Exchange, Limited give detailed information regarding the objects etc., of the Exchange and may be obtained from the Exchange Manager.

In addition to the above committees the Exchange also employs the services of a Technical Advisor to give advice on all matters in connection with citrus growing.

#### The Executive Committee:

This Committee consists of eight members including the Chairman and Vice-Chairman of the Full Board.

It is elected for the year and is constituted of repre-

centative.....

Province delegates eentative 02 certain four modesia, TO: functions the state one Transveal. of Natul, 5 this committee, **CHO** The TOT PELO BOARD the they are: Capa

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delegated to them appointed moeting. 2 Tunetions 5 function until the following annual Ey. 2 the put Board COMMITTEES SALT. LIB a re COMMITTED doug

# The Finance Committee:

This consists 2 three esonia susdimen function?

O University of Pretoria

## 10.00

UNIVERSITEIT VAN PRETORIA
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- control and 200 manage all SE SE 11 menoss O. 1
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# The Grading Openities:

lations trability **function** Executive power governing the knowledge, j. Gi This of that 8 to co-operate 00mm1 t tee Commattee with member 1 exetate TT waters export. they think it necessary. KOI 8 with other the 1928 season consisted do the 0 OTTO outrus Wark. gram notification Stransing. frulta. persona. THE O **E** committee Sursseased Thair

Shipping....

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#### Shipping and Overseas Marketing Committee:

This Committee consists of five members who are to deal with all matters relating to the shipment of citrus fruits.

#### Packing Material Committee:

This is a committee of four members whose duty is to deal with all matters relating to the purchase by the Exchange, on behalf of its members, of packing material.

It is of interest to note here that the most important items purchased through the Exchange during the 1926 season were:

Orange and other Box boards 904,900 Strapping 962 cases

All from the United Kingdom.

Halls 45 tons

All from South Africa for the first time.
Wrappers 83 millions

All matters affecting the Exchange are published in the "Citrus Grower" which is a paper issued quarterly.

To obtain an idea of the expenditure and income of the Exchange the Income and Expenditure Account for the year ended 31st December 1928 may be reviewed and is as follows:

Income.....



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### INCOME AND EXPANDITURE ACCOUNT FOR THE YEAR ENDED 31st December 1928.

To	Advertising	7.10
	Budwood, Travelling expenses	48.17. 6
	Citrus Grower - Publicity	192.10
	Directors Expenses £398.13. 7 Directors Travelling* £33.17.10	752.11. 5
	Sundry expenses	184.15. 2
	Gifts to ships officers	75. 3. 9
	Orading Committee expenses	22 6
	Organising expenses and travelling	481. 2. 3
	Postage, Telephones, Telegrams and	
	Ombles	528.13.11
	Rent	155.10
	Selaries	,310. 1. 2
	Stationery and printing	243.12. 8
	Travelling Expenses	<b>85 9</b>
	Balance, Excess of Income over	
	Expenditure, transferred to Reserve	
		.032. 4. 2 (.119.13. 3
By	Balance transferred from Levy Accor	int 7,099.16.11
	Interest on Fixed deposit	11.14.11
	Commission on local sales of	
	citrus fruit	8. 1. 5

The item "Budwood" is the expenses incurred in the selection of bud-wood undertaken by the Exchange.

£7.119.13. 3

As far as the Directors' expenses are concerned, it may be stated that to hold a Full board meeting it costs close on £500. This is a large sum of money and is the cause of so few Full board meetings being held. It is a matter calling for careful consideration as frequent meetings are escential for efficient working and organisation and for stimulating the Directors' interest in their work.

It may be mentioned that for their services as the distributors of the Exchange, the Overseas Farmers Co-operative Federations charged #2,461/1/8 during the 1925 season. Their remineration is based on two pence a case for "free" fruit and one-half penny a case for "nominated" fruit. This is paid out of the Levy As all the activities of the Exchange are fin-Fund. anced out of this fund which is proving inadequate to meet the requirements of the Exchange and thereby curtailing its activities, the opinion of the writer is that all charges for distribution should be made against the grower and met by a box assossment by the Local Associa-This would mean more each at the disposal of tions. the Exchange for such activities as advertising etc.

Dwing to the difficulty of financing the shipping agency service during the 1928 season, the Exchange
was given the right by the Special Conexal Meeting in
the beginning of 1929 to raise from the Land and Agricultural Bank of South Africa an amount not exceeding
£10,000 to finance this service whose costs include
railage, port charges, and all other expenditure reasonably incurred in placing and selling the produce on a
market overseas.

Aa......

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As already pointed out the Exchange is financed by a levy of 5/- a ton on all citrus exported. Out of this, however, the citrus proportion of the cost of the Control Board has to be paid. The proportion of these expenses paid by the Citrus Exchange during the 1927 and 1926 seasons was 10/20 while the Deciduous paid 7/20 and Eggs 3/20. The total paid by the Citrus section for 1928 was £2,222/5/5.

Having briefly considered the manner of the working, the financing and the expenditure of the Exchange, an attempt will now be made to briefly analyse the activities of the Exchange overseas:-

#### Representation Oversens:

keting there are many evils in that type of dis-organisation such as non-co-ordination of supply and demand false returns ato. The only way of checking these is by organisation and this requires representation in the markets. A move was made in this direction in 1925 but owing to the expense of keeping a special office in London, the representation was transferred by the Fruit Exchange to the Overseas Farmers' Co-operation Federations of London early in 1927. This Organisation consists of representatives of South Africa, New Zealand and Australia.

While the Federal Fruit Exchange is responsible for the appointment, the Citrus Exchange is responsible for payment of the services of the representative arising out of the distribution of citrus fruits. Indeed in

practice....



practice the Citrus Exchange and the Overseas Federations work direct in all matters relating to citrus without reference to the Federal body.

As a result of the apparently satisfactory work of the representative during 1927, a contract was entered into with the Overseas Farmers Federations as distributors of citrus fruits on the overseas markets for a period of three years reckoned from the 1929 season.

The functions of this representative are mainly to receive the fruit sent by the Citrus Exchange and
(a) if consigned to the Overseas Representative, to

- distribute it to reliable agents in the best markets and
- (b) if consigned to a particular selemen, to receive it and to despatch it to that salesman.

available the latest information regarding all the markets in the United Kingdom as well as on the Continent and must have a reliable salesman in each market. The representative them distributes the fruit according to his own discretion keeping in mind the supply to that market from other sources, the demand in the market and the continuity of supply to the market. Maturally the Bouth African supply is not sufficient at present to supply all markets but all the markets must gradually be opened up and preference given to the most promising. These are, however, all matters for the representative to settle for himself.

Then there is the question of choosing reliable salesmon and obtaining favourable terms from them; this

10 .......

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is also a matter for the representative to decide.

It may be mentioned here that the Exchange has the right to enforce rule 67 and compel members to consign all fruit to the Overseas representative for distribution at his own discretion. This rule has not been enforced as yet but the time for its enforcement is not very far distant.

It must be remembered that the representative is a distributor of the fruit pure and simple.

must have complete control of over70 per cent of the fruit exported. When such control is obtained, it may be possible for the South African Representative to work in conjunction with the California Representative and so distribute the fruit as to prevent any oversupplying of the markets. For the Overseas Representatives of the different countries to work in conjunction with each other there are many practical difficulties to be removed, but it is the writer's firm conviction that such an action would be in the best interests of all the countries' marketing citrus fruits at the same time in the same markets.

As can be seen the functions of the representative are such that he must be of the highest capability procurable.

Judging from all available statistics, London is the most suitable place to have the distribution done from for it is in very easy reach of all the leading markets.

Propaganda.....

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#### Propugation and Advertising Overseas.

The desirability of this cannot be questioned and it is the writer's firm belief that while it is essential overseas, it should also be undertaken in South Africa where there is plenty of room for increased consumption.

The Exchange has undertaken this overseas and their first step was the appointment at the beginning of 1929 of a Publicity Agent in London. His work is to study general conditions and organise methods of popularising and increasing the demand for South African His salary and other expenses amount to Oltrus. about £2,000 a year. His appointment was a step in the right direction and growers should try and follow his ad-He stresses the great variability of vice carefully. the South African Citrus fruits and the importance of having only a few brands of standard quality, pack, etc., in large quantities and encourages the formation of District Associations as pointed out in the former Chapter of this paper.

Anything on advertising and propaganda would be incomplete from South Africa's point of view unless some reference is made to the work of the Imperial Economic Committee and the Empire Marketing Board.

The ultimate object of both is to foster increased consumption of Empire produce from home and overseas in Great Britain and to assist measures-especially those in the field of co-ordinated research - directed towards that end. But in constitution, methods of work and duties the two bodies are entirely distinct.

The .....

The Imperial Economic Cosmittee is representative of all parts of the Empire and can only investigate subjects remitted to it with the consent of all the Governments of the Empire and it derives its authority from the Imperial conferences. Its object is to improve the preparation and marketing of Empire products.

The Empire Marketing Board is entrusted with funds and executive powers by His Majesty's Government in Great Britain to further the marketing of Empire produce from Home and Overseas in the United Kingdom. It is thus responsible to H. M. Government.

These two bodies have done much to increase the consumption of South African products overseas, but they also stress the importance of a few large and well standardized brands.

propaganda to increase consumption, reference can be made to the Californian Citrus Exchange, Sun Haid Raisins, Eat More Fruit Campaign, etc. Think of what standardisation supported by adequate advertisement has done for California - "Sunkist" oranges are known throughout the world. This incidently also serves as an example of a big brand well popularised. It stands to reason that a number of small brands compete with each other and the fruit under any one single small brand is in too small a quantity to command respect. The choosing of a short crisp and attractive name for such a brand is of the utmost importance.

Before any marked results can be obtained from advertising, the brand advertised must consist of a large volume......

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volume of thoroughly standardized fruit well distributed on the overseas market and continually kept before the consumers.

There is sometimes a disposition to regard propaganda and publicity in terms of news-paper advertising. Nevs-paper advertising is a most excellent thing but good results can be expected only if it is tackled in a big way and that means spending large sums of money. Other methods of advertising need careful study. one thinks of the introduction of the Juice Extraction" by the Californian Exchange to increase consumption and the excellent results achieved thereby, you cannot but realise the importance of investigation in similar directions to increase consumption. Another step that may be considered is the choosing of a number of the larger retailers to "push" the sale of South African oranges by window displays and advertisements. Then another line that has been exploited by South Africa is displays at shows and other big public gatherings. The methods of advertising are numerous and need careful study to ascertain which are the most effective, Trade Commissioners have also done much advertising work.

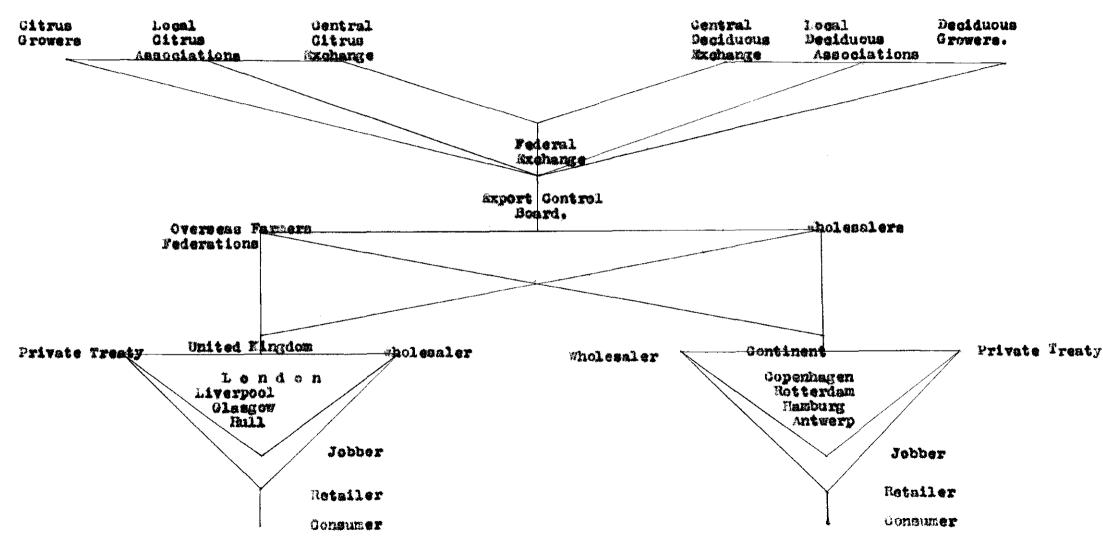
#### The Vederal Exchange.

As already stated the Deciduous and Citrus Exchanges federate to form the Fruitgrowers: Co-operative Exchange whose function is to deal with all matters affecting the common interests of all fruit growers.

In practice the expenses of the Federal body are paid by the Citrus Exchange and the Deciduous Exchange

in.......

### the export and distribution chart south aprican citrus pruits.



in the same proportion as the proceeds of the respective levies bear to each other.

The proportions for the year 1925 were:-

Deciduous 35.8 % or £330.18. 9

Further particulars regarding the Federal Exchange can be obtained from the General Manager of the Citrus Exchange.

See accompanying diagram on the Export and Distribution Channels of South African Fruit.

#### The California Fruit Growers Exchange.

The accompanying diagram illustrates the organisation of the California Exchange and will serve as a comparison of that organisation with the organisation of the South African Citrus Exchange.

The essential differences between the two Exchanges may be summaried as follows:

- (1) In California the Industry is concentrated in a comparatively small area and thus co-operation is easier than in South Africa.
- (2) The California Exchange handles over 70 per cent of the total citrus production of that State and can thus have more effective distribution of its grop.
- (3) The total crop handled by the California Exchange is about fifteen times as large as the amount handled by the South African Exchange with the result that through large scale handling and large scale bargaining over-head charges are reduced and a larger total amount of money is available for expenses;

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this makes efficient and extensive organisation possible and enables the Exchange to undertake a wide scope of activities as can be seen by the number of departments, each one with its own special function, indicated in the diagram;

- (4) The financing of the Exchange in California is done by box assessment. In South Africa it is by a levy imposed on the growers by the Government.
- (5) In California all shipping matters are in the hands of the Exchange. In South Africa an independent Control Board instituted by the Government sees to the booking of space and shipping of all fruit.
- (6) The California Exchange deals with a standardised article and maintains its own impectors to keep up the standards.

  It sells its fruit under one or two brands. In South Africa the quality of the fruit is very variable and over 700 brands exist.
- (7) District Exchanges form a link between the locals and the Central California Exchange and enables weekly meetings of the directors of the Central Board. In South Africa the locals affiliate directly with the Central with the result that Full Board meetings only take place two or three times a year owing to the large expense involved.
- (8) The contracts holding together the whole organisation in California are for a certain specified number of years. In South Africa they are indefinite and are binding until such times as either party withdraws on notice.



- (9) The California Exchange has a large local market for its fruit with the result that it only exports those counts popular in the overseas markets. The South African Exchange only concerns itself with export fruit and must export all counts.
- (10) Inspection in South Africa is by Government Fruit
  Inspectors.
- (11) The District Exchange has the final say in the price to be accepted for its fruit. In the case of the South African Exchange no price stipulations are made. The Californian Exchange lays down the areas of consumption for its fruit and thereby eliminates unnecessary transport and speculation.
- (12) The California Exchange is over thirty years older than the South African Organisation and is therefore much wider in its organisation and the men have been educated to their particular posts.

The organisation may be briefly outlined as follows:

As in South Africa the growers form locals and elect a board of directors for business purposes. The functions of the locals are the same as those of some of the more progressive locals of South Africa. Some large producers, individuals and co-operations, who pack the fruit from their orchards through privately owned packing houses, are also classed as locals. In addition commercial packing companies grade and pack fruit of individual growers at a fixed charge per box. A number of these, as well as producers owning large orchards......

chards and operating their own packing houses are members of the exchange and have the same status as the associations.

Associations are of both stock and non stock types. In the first shares are issued in proportion to the number of trees, acreage, or amount of fruit harvested while in the second the capital required is raised by entrance fees.

The members of the district exchange are the local associations, individual shippers and packing companies affiliated. Buch local unit chooses a representative and these representatives form the board of directors of the district exchange. The district exchange acts as the sales agent of its members. The manager keeps in constant touch with the sales and traffic departments of the control, and, acting on available information, pats a price upon the various grades he is dispatching. central sales agent and the distant market agent cannot accept a lower price without referring back to the district manager, who usually consults the local manager. The district charges a fixed amount per box to cover the cost of the district, the maintenance of the control including all branch offices, advertisement costs and payments by instalments for stock in the Fruit Grovers Supply Other deductions may be made if the local Company. supports the orange or lemon by-products companies.

tance to affiliated groups in matters of membership and organisation. Some make efforts at improving field and packing house handling and to improve the quality and grade

of their output of their respectiveareas.

The representatives of the 20 districts become directors of the control exchange which is a non-stock corporation financed by assessments per box retained by the districts. The work of the departments are as follows:

- (1) The orange sales division handles the sale of oranges grape fruit, and tangerines, keeping in touch with the districts and with the salesmen and brokers who represent the exchange in its different markets; the lemon sales department works in the same way. There are 52 males offices in the U. S. A. and Canada, comprising six divisional managers and 46 district agents; the exchange deals directly with & brokers in large markets and has brokerage representatives in 25 smaller centres. The policy aimed at is an equable distribution, avoiding gluts and scarcities; each season the sales agents, general manager, and divisional salesmen confer, and afterwards an estimate is made of supply and demand each week; locals may be urged to ship more or less each week according to the situation, and factors such as weather maturity of fruit, our supply, and available labour affect the position.
- (2) The traffic department advises locals regarding rates, routes, cars, embargoes, claims for loss or damage to shipments.
- (3) The advertisement department centres in trade brands such as Sunkist. All the chief media such as magazines, news-papers, posters, street-our advertising

and.....

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and display are used to advertise:

- a. the advantages of eating more oranges and lomons;
- b. the gains in consuming Sunkist brands.

Personal contact is made with the retailer through dealers service men, who call on grocers and stores, distribute advertisements and arrange displays of fruit.

- The field department is organised to deal with those problems that arise in the production, harvesting and packing of fruit. It is concerned with handling practices, preservation of the standard of brands such as Sunkist; in the busy seasons inspectors from the central will visit packing plants practically every day. Other work is research into post control and citrus by-products. A growers' service bureau is maintained to organise new associations and to consolidate the position of old ones; it also deals with the complaints and dissatisfaction of members.
- (5) A law department deals with legislation, court decisions, preparation of contracts, bye-laws, and in part with finance.
- (6) An accounting and statistical department examines
  the factors influencing marketing margins and makes
  efforts to introduce more effective merchandising
  methods.
- (7) The Fruit Growers Supply Co. is owned and operated by the locals. Its purpose is to supply for its members the essential supplies, packing house and crohard. Failure to obtain box material, for example, would be disasterous to growers. It is,



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however, an entirely separate undertaking from the Sales and Marketing Organisation.

- (5) The Exchange Grange Products Co. is a corporation also owned by the locals, and designed to deal with the poor quality or "cull" oranges. It makes marmalade, orange oil, orange vinegar, orange peel and outtle feed.
- (9) The Exchange Lemon Products Co. was created to provide an outlet for culled lemons, and manufactures citric acid and lemon oil.

This brief outline of the California Fruit
Growers Exchange serves to show that the South African
organisation is, at its best, but a poor imitation.
This, however, must not be taken as meaning that it
will not grow for with the growth of the industry and the
increase in the percentage of the total crop handled the
Exchange is bound to grow also, just as the California
Exchange has grown, but such growth will be slow and it
is doubtful whether it will ever reach the same high
standard as the California Exchange owing to the comparative smallness of the South African crop.



# THE MARKETS and THEIR POTENTIALITIES for SCUTH AFRICAR CITRUS FRUIT.

#### The Local Markets.

The complaint is often made that it is impossible to obtain first class oranges in South Africa, as all the best fruit it exported. It is true that such fruit is not readily available but with a little trouble, first class fruit can be obtained from both private growers and co-operative associations at prices equal approximately to export prices less export charges. One of the compunies, in order to popularise its good fruit, has a \*penny campaign' whereby first class oranges are sold at 1d each plus transport charges. The campaign is meeting with a fuir amount of success and during the 1927 season approximately 4,000 cases were disposed of in this way in South During the 1926 season, owing to the good prices Africa. overseas, there was not much of an increase in the amount sold here. Generally the prices obtained for such fruit compare very favourably with the net price obtained overdeus.

ing of fruit of export quality, but the marketing at satisfactory prices of fruit unfit for export. This class of fruit is increasing annually at an enormous rate. The existing organisation is totally inadequate to handle such fruit, and a tremendous amount of wastage and loss occurs each year. Markets are frequently glutted with fruit unfit for consumption. This brings down the price of good fruit as well. Oranges are often sent from one

fruit.....



fruit area to another, thus occasioning unnecessary rail—way expenses. Prices realised as a result are often so low, that packing and transport charges are not covered. It seems that the time has arrived whenan attempt should be made to organise the South African market for fruit so as to avoid this highly unsatisfactory state of affairs. Reliable and readily available market—news, showing prices prevailing and quantities handled should be of immense value to growers in their choice of when and where to sell.

To the writer it is inconceivable how fruit can profitably be marketed locally without some form of organisation. It is true that the potentialities of the local markets are not great when the European population is taken into account. The total European population is not more than 1,750,000, but there is no reason why consumption cannot greatly be stimulated by careful advertisement, grading and packing, standardisation of fruit marketed locally and better distribution etc. In this way all the better wlass culled fruit could be marketed profitably in South Africa. The only way in which this can be done is by co-operative organisation of producers with a centralised control to assemble the produce if necessary, provide market intelligence and advice as to the best means of distribution. The machinery for such a system is at hand in the organisation of the Exchange. which, with a few extra officials and a little extra expense, could in all probability deal with the situation in a profitable manner. The extra expense could be met

by.....



by a box assessment on the fruit so marketed and then good class fruit could also be marketed with less risk and a profitable return.

Such a sub-section of the Exchange could investigate and put into practice methods of increasing consumption such as prevailing upon the Railway Administration and other organisations to instal Sunkist Juice Extractors, persuading those in charge of the various gold mines etc to purchase citrus fruits for their servants. They could also be instrumental in reducing the costs of marketing, transport and making the marketing efficient by a system of advising retailers and wholesalers as to how to obtain a bigger turnover with smaller margins through more efficient organisation.

What the actual consumption per capita of citrus is the Union is not known but the general opinion is that it is not more than five or six pounds in the fresh form. This shows the room for increasing boal consumption for the United States of America consumes about twenty-three pounds per capita per annum.

Then there is the possibility of encouraging the native to purchase and consume oranges. At present the average wage of the native will not allow him to buy fruit. However, it is certain that as his standard of living assumes a higher scale oranges and even grape-fruit must form part of his diet. This is very speculative but nevertheless does seem to form an outlet for the distant future.

Another valuable outlet is the sale of oranges to by-product manufacturing companies such as the African

Canning.....



Canning Company and H. L. Hall and Son. While by-products will find ready sale in South Africa providing supply does not exceed demand, it is doubtful whether an overseas market at remunerative prices, could be found for them owing to competition from Italy, Sicily, Spain, France, California, etc. There seems, however, a possibility of selling concentrated orange juice in England and on the Continent. By-product manufacture is a very expensive undertaking requiring large sums of money to be spent on research. Its greatest difficulty as far as citrus fruits are concerned is the problem of providing markets.

ture sound fruit must be used otherwise by-products of a uniform high class quality cannot be manufactured. The methods of manufacture will have to be evolved and it has cost California £150,000 to perfect her methods. The problem for the grower then is to produce a high standard product with a small percentage of culls rather than to try and manufacture by-products from his low grade fruit.

In general it may be stated that the potentialities of the local market are not great but consumption can be greatly stimulated by the systematic organisation of the local markets and the efficient and economic distribution of the fruit. To accomplish this standardisation of packing, grading and quality is essential. This will enable profitable advertisement of the product marketed.

It is of interest to note that two cities in the Union have a population of over 100,000 and two more of 42,000 and 53,000 respectively, while there are two others 20,000 and 29,000 respectively. Seven have populations

of.....



of between 10,000 and 20,000 respectively while quite a number have populations of over five thousand.

#### The Oversons Harkets.

Seeing then that the local market for South
African citrus fruits is at its best but a small one it
is evident that the overseas markets become South Africa's
primary markets.

The United States are closed to South African
fruit because of the danger of importing the Mediterranean
fruit fly. Even should this quarantine be removed, there
would be little sale for oranges from here as they would
come in direct competition with the Florida crop and the
California crop, the latter being about twenty-four
million cases a year. Shipments go to the markets every
day in the year so that no opening exists for South African
fruits in the United States.

Onnada is at present well supplied with California organisania oranges and to compete with the California organisation in this territory would require better organisation,
market news and distribution than could be secured at present or for a long time to come. It may be mentioned
that a trial shipment of citrus fruit to Canada in 1928
realised fairly good prices but the fact that the 1928
season was an exceptionally good season must not be lost
sight of.

The logical market for South African citrus is the United Kingdom, the European countries on the Continent and to a lesser extent the Eastern markets especially India.

The ......



#### The United Kingdom as a Market.

ter of citrus fruit in the world, and yet many parts of that country, if not all, have not been taxed to their full capacity as far as consumption of fruit is concerned. This of course is most certainly the case with citrus fruits from the Southern Hemisphere arriving on those markets when there is practically no citrus fruits from elsewhere.

The total quantity of oranges retained for home consumption in the United Kingdom decreased slightly in the years before the war. Since the war, however there has been a very substantial increase. The consumption in 1927 was 18.3 lbs or about 75 oranges per head per year. This includes the amount manufactured into marmalade so that the quantity eaten fresh is much smaller.

As can be seen from the following tables over 50% of the total supply is eaten during the winter months. If the winter rate were continued throughout the year the average individual would eat at least 120 oranges. This indicates the scope which exists for the expansion of the trade.

Imports of oranges into the United
Kingdom each month 1925-27

-	(ooo cwt).									
Month	Spain	Pales- tine.	South Africa.	U.S.A.	Italy	South Ameri- cu.	British Wost Indies.	doun-		
January. 1925	1,176	153	**	7	24		•	20		
1926	972	176	****	1	16	***	**	49		
1927	642	22 <del>9</del>	<del>4.0</del>	16	13	•	***	27		

February ........



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Month	Spain.	Pales-	Sou Afr	th U.S.A 108	Italy.	South Ameri-	British West Indies.	Other coun- tries.
February 1925	887	205	<b>set</b>	2	12	-	•	11
1926	644	164	7	3	16	•	••	29
1927	<b>6</b> )† <sub>1</sub> †	407	**	10	35		***	8
March 1925	1,016	277	-	3	9	1	***	25
1926	1,150	234	***	11	5	8	**	21
1927	937	545	•	10	25	**	-	18
April 1925	749	224	4140	2	2	•	<del>70</del>	19
1926	633	234	**	8	4	**	•	5
1927	539	250	••	17	4	***	•	4
May 1925	660	12	**	3	1	**	***	6
1926	567	2	1	10	3	**	-	13
1927	491	50	1	27	3	**	**	3
June 1925	276	14	2	2	4	**	**	2
1926	646	1	18	15	5	••	N <del>©</del>	13
1927	337	•	30	48	5	5	240	6
July 1925	61	**	70	2	2	••	•	•
1926	215	6	129	<b>26</b>	1	1	•	13
1927	95	**	137	58	2	5	***	7
August 1925	3	***	124	3	***	1	1	1.
1926	15	**	120	19	5	4	**	14
1927	\$	***	54	71	***	8	0	3
Boptembes 1925	1	<b>an</b>	84	1	••	1	•	15
1926	**	**	66	22	1	1	***	1
1927	1	***	88	73	**	8	•	8

Gotober .....

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Month	Spain	Pales- tine.	South Africa	U.S.A.	Italy.	South Ameri- co.	British West Indies	Other Coun- tries
otober 1925	••	•	61	2	**	<b>100</b>	28	11
1926	2	••	<b>3</b> 4	<b>33</b>	•••	***	31	8
1927	1	1	128	83	***	4	7	4
November 1925	143	5	49	1	1	•	27	14
1926	153	4	2	16	**	-	37	10
1927	313	45	65	54	3	1	34	18
Jecember 1925	1,032	85	16	**	3	***	14	37
1926	1,099	183	**	3	1	en <b>b</b>	18	18
1927	1,234	136	21	ı	2	3	20	19

From these figures 95% of the South African fruit arrives on the British market during the six summer months June to November inclusive. During these months 1.482.000 owts of granges arrive in England while during the whole year 5,283,000 owts arrive. This gives an idea of the wide scope for increasing consumption of citrus fruits during the summer months, especially during the months of July, August, September and October respectively. During these four months, taking the average for the three years 1925, 1926# 1927 respectively, only 686,000 owts of Exports to the United Kingdom durfruit were consumed. ing these months are gradually increasing as the exports from the United States of America, South America and South Africa increase, but in general it will be several years before the demand for citrus fruits in the United Kingdom is saturated.

The ......



The main sources of supply of oranges to the United Kingdom and the amounts they supply can be seen from the following figures:

# Imports of oranges into the United Kingdom in thousands of out.

Country whence	1925.	1926.	1927.
consigned.			
<b>Opain</b>	6,010	6,096	5,291
Palestine	975	1,004	1,359
Syria	23	55	3
British South Africa	426	377	524
United States	25	156	431
Egypt	<b>8</b> 2	53	53
Italy	58	54	92
British West Indies	70	86	61
Portugal	5	3	3
Conary Islands	8	11	3
Argentine	3	14	15
Australia	21	1	8
Germany	ł.	23	18
France	5	8	1
Other Countries	13.	32	45
Total	7,729	7,973	7,898

This fruit did not necessarily originate in the country whence consigned, eg. the bulk of the fruit from Egypt is Palestine fruit that was seconsigned. These figures bring out the significant fact that South African exports only 6 to 7 per cent of the total imports of oranges into the United Kingdom.

South ....

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Bouth Africa is fortunate in being one of the Empire for by being such, besides all the other advantages. she enjoys the privilege of preferential sentiment that is being encouraged to such a great extent by the Empire Marketing Board. To draw full benefit from this it is necessary for her to market highly standardised graded fruit under a few well advertised trade marks and to distribute this fruit in an efficient manner. For efficient distribution it is essential that at least 55 per cent of the exported fruit from South Africa be handled by the Erchange and the Exchange representative should have a free hand in the distribution of this fruit. tative must have agents in all the important markets. both in the United Kingdom and on the Continent, and must ration these markets according to their requirements. To do this he must have a thorough knowledge of the daily markets as regards weather conditions, supply of competing fruit both in the market and on the way to market, and the demand for fruit in the market. This information can be supplied by the agents if reliable men are chosen. The greatest difficulty in distribution is that the bulk of South African fruit is consigned to London, and the shipping contract only makes provision for it being landed at Nine Elms Station, so that it cannot be diverted to other ports unless it is on chartered or continental steamers. The Railway charges and handling charges from London to the Morth on the other hand are very high eg.

London to Glasgow or Edinburgh over 2/- per box,

London to Liverpool or Hull nearly 1/3 per box,

in spite of the fact that Glasgow is 600 miles further

than Liverpool. It is doubtful whether these charges will

be lowered in the immediate future and the only way of effecting economy will be by regularity of supply and gradual development.

It is not necessary to go into a full discussion of the merits of each market for they are amply set out in Mr. M. van den Hoek's article on marketing fruit in the United Kingdom.

the South African crop handled by the Exchange Representatives in 1926 totalled 335,719 cases of which 45,455 cases were nominated for special agents. This total represents 36% of the total shipments from South Africa. The remaining 62% was distributed at random and consequently often lead to the flooding of markets. The fruit distributed by the Exchange representative was as follows:

Zovn.	Quantity.	Percentage.
London	207,062	71.33
Liverpool	21,229	7.31
Hull	8,769	3.02
Glasgow	6,536	2.25
Birmingham	5,827	2.01
Bristol	4,593	1.58
Worthing	4,203	1.44
Gardiff	2,930	1.01
Southampton	2,435	. 84
Kanchester	2,386	.82
Edinburgh	1,619	.58
Hewastle	1.449	<b>.</b> 50
Leeds	592	.20
Devabury	136	.05



These figures then show that over 70% of the fruit was sold in London. In contrast to this only about 18% of the Californian fruit was marketed there.

To obtain a better idea of the weakness of the above distribution reference must be made to the populations in the different centres:

Aroa N	o.of Countrie	e. R	Ŋ	live.		Population.
London	21	5	-	100	miles	15,000,000
Liverpool & Man- chester.	15	10	**	<b>6</b> 0	ú	13,933,000
Oluseoa	33	10	**	150	*	4,861,000
Hull	4	10	**	60	*	5,100,000
Belfast	33	10	**	150	#	4,500,000
Bristol	7	10	<b>-</b>	100	#	3,200,000
New Costle	3	10	**	50		2,500,000
Cardiff	8	10	***	80	*	2,200,000

The distribution then was not in proportion to the population i.e. the demand. This is no doubt the reason for the great amount of speculation that goes on with the South African fruit, and the reason for the fact that the difference between the wholesale and retail price is so great (often as much as 13/- a box according to Mr. Rusk). If this is true for the fruit handled by the Exchange how much more true is it not for the fruit sent at random. This all proves the necessity of control of the bulk of the South African fruit by the Exchange and its systematic distribution by the Exchange Representative.

The six principal ports of entry for the primary sale of fruit by auction or private treaty are the following.....

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ing:- London, Southampton, Liverpool, Manchester, Hull and Clasgow. Of these London and Liverpool are the most important as far as direct consignments are concerned, the former including. through Mill of Lading traffic via Southampton. These two ports are favoured by America, Australia and also Spain.

Judging from the populations in the vicinity of the ports it will undoubtedly be a great advantage and saving if direct shipment can take place to the several ports, or at least the more important of them.

The most important market is naturally Covent Garden, but according to data it appears to be inadequately equipped for the rapidly expanding fruit trade.

This will necessitate its expansion or the opening up of a new market in London.

Liverpool is the natural port to a large industrial centre, and in conjunction with Manchester, a population of nearly the same as that of the London area is in its vicinity. The facilities at the docks as well as the suction rooms are to be highly recommended.

As a port for the primary sale of South African fruit it should be certainly one of the first to be exploited. No market can show profitable returns however when the commodity is suddenly put up for suction in fairly large quantities at irregular intervals. What is needed is to supply the markets regularly with high class fruit and to develop the provincial markets in the United Kingdom by a carefully planned system of advertisement.

London and Liverpool to a certain extent are the only two ports of any importance to the South African

orange trade at present. But several of the other ports may in the future become of great value to the South African export trade eg. Hull may be of importance for the re-export trade with the Continent as she has regular services to the various countries there. Southampton seems to be growing in importance especially because its railroad connections with points in its natural area, are such that attendance of buyers to the sale rooms and delivery are most satisfactory and speedy. Both Ireland and Scotland effer good markets for South African fruit. There is no doubt great possibilities in the development of the provincial markets but they can only be developed by beginning with small regular supplies and then gradually increasing these supplies.

Both Auction and Private Treaty sales are carried out in England and the distribution is as pointed out in an earlier section of this paper.

in the United Kingdom who deal with South African Fruit and about 3,000 retailers. By these salesmen lowering their prices to the consumer and organising their businesses efficiently they would increase their sales and have a more rapid turnover and consequently bigger net profit. This would be of benefit to the consumer and salesman as well as to the producer. During this season (1929) the California Citrus Exchange appointed three dealerservice men in England to instruct, and show how to improve the efficiency of the Salesmen. This is something for the South African Exchange to do when they have adequate finances.

What.....

what is essential is a large volume of standardised graded fruit of high quality marketed under a few
(three or four in the case of South Africa) well advertised trade marks and distributed over a wide area according
to the demands of the respective markets. This will
minimise speculation, increase demand and assure the grower
of a fair return.

## The Continental Markets.

potentialities as regards future consumption of citrus fruits, for not only are continental countries provided with large populations, but the populations are mostly concentrated in small areas making distribution easy.

Owing to the great competition in transport between England and the Continent transport is efficient and the charges therefor comparatively low eg. it takes a night to reach Antwerp and Rotterdam and two to three days to reach Bremen, Hambury or any of the Scandanavian ports.

In general it seems that the best method of supplying these markets at present is by trans-shipment from England, for ships on route to England cannot be diverted to the Continent, and Continental Steamers between South Africa and the Continent do not carry a regular cargo of citrus fruit.

As pointed out before the most convenient centre from which to distribute South Africa's fruit to both the English and Continental merkets is London. The Exchange representative should keep in touch with a salesman in each of the markets so as to be able to estimate the re-

quirements.....

quirements of each market. A start should be made to regularly distribute small quantities of high class fruit to some of the most important of these markets so as to get South African fruit known there. As production then increases these markets will serve as outlets for the increased exports.

At present it appears that preference in Continental markets is given to Brazilian and California fruit. The main reason for this is that their fruit is better known and in the case of California it is of a uniformly high standard. In this connection it may be mentioned that some South African fruit had to be reshipped again from the Continent back to England during this season (1929) The main reason being that it was not known and dumped in a market without consideration to the requirements of that To create a demand for her fruit on the Conmurkat. tinental merkets South Africa must send forward regular quantities of uniformly high quality fruit starting with small quantities in the beginning even if they are sold at a comparatively low price and increasing these quantities as demand and supply increases.

#### Paris as a Fruit Market.

Franc after the war the fresh fruit market in Paris suffered greatly, but there is no doubt that when France regains her former stability she will take a fair supply of oranges and grape-fruit during July, August, September and October. From November to July she is supplied with citrus fruits from Spain, Algeria and Italy, and homegrown soft fruits, so that during these months there is

little.. .....

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little.. .....

little prospect of a merket for South African citrus. The import duty on citrus fruits is about 1/-10 per case and the principle method of sale is the "private treaty" system.

the main centre for distribution though the market is not so conveniently situated with regard to the railway as some of the markets in Germany for instance. This necessitates extra transport and handling charges.

On account of the high price of citrus fruit in France during the months of August, September and October it is a luxury, but nevertheless Paris should be able to take at least 400 - 500 cases weekly during these months.

The per capita consumption of citrus fruit in France is about 7 lbs. This shows the great increase in consumption that can still take place when compared with the per capita consumption of 23 lbs in California.

The following table giving the population and per capita consumption of the various countries is of interest:

Consumption of Oyanges.						
Country	1bs.per head.	Population				
U. S. A.	23	105,710,620	(1920)			
Australia	20	6,262,720	(1928)			
United Kingdom	19	42,919,710	(1921)			
Canada	19	8,788,483	(1921)			
New Zealand	12	1,344,469	(1926)			
Morway	10 x	2,649,775	(1920)			
Belguim	10 x	7,465,782	(1920)			
Switzerland	9	3,987,000	(1927)			

Germany.....



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Country	Lbs per bead	Population
Germany	7	62,410,619 (1925)
France	7 x	40,743,897 (1926)
Irish Free State	6	2,971,992 (1920)
onmark	5	3,434,555 (1925)
ustria	5	6,534,481 (1923)
lweden	4	6,087,923 (1927)
)sechoslovakia	3	14,356,600 (1926)
imerry	2	7,980,143 (1920)
oland .	<b>}</b>	30,213,000 (1928)

#### z Including Lemons.

This table shows what a great amount of room there is for increasing the consumption of citrus fruits in the European countries and so widening the market. However it is doubtful whether the prospective increase in the exportable surplus from producing countries can be fully absorbed by these countries unless consumers are enabled to purchase the fruit at lower prices than those One of the chief obstacles to increased now ourrant. consumption of citrus fruits in many European countries is to be found in the duties imposed upon imports, and the removal of these teriffs would undoubtedly stimulate consumption and help to solve the problem of disposing of the world's citrus production.

#### Holland as a Market for Fruit.

There is perhaps little difference as regards the importance of the two ports Rotterdam and Amsterdam except that Rotterdam is the main transit port or gateway to the Rhineland and Westphalia, and is situated more favourably for this purpose. A very large percentage



of the fruit imported into Holland is exported into Both the above mentioned ports have excellent Germany. facilities for the handling and re-expedition of fruit.

Oranges, mandarine and lemons are imported into Eblland free of charge but it is difficult to ascertain what it costs to market oranges in France.

The bulk of fruit imported into Holland has to pass the auction which is of a closed type first\_little. if any, private selling isdone by the auction brokers. Auctioneers may only sell to members of the "Bond van Mederlandse Oroseiers in Verse Zuidwruchten en Aanverwante Artickelen' of which there are about 300 Dutch members. The auctioneers are not allowed to do any wholesaling in connection with the most important perishable. smaller markets the electrical dial system of sale is in operation - it has not been applied to the sale of citrus fruits in large quantities however.

There is apparently a shortage of citrus fruits in Holland during the months July to October inclusive. South African citrus should find a good market there during this period and the shipping charge from London to Rotterdam works out at about 10d per box.

Transport in Holland is fairly efficient and Besides supplying Germany Rotterdam also supplies cheap. Switzerland with fruit.

The population of Rotterdam is about 500,000 and that of Amsterdam about 650,000. Eighteen towns have populations of between 30,000 and 285,000, the total population for Holland being about 7,000,000.

The....

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#### The Fruit Trade in Belgium.

Antwerp is the port for importation of fruit into Belgium and its importance as a transit port for the Ruhr and Westphelia is practically equal to that of Rotter-dam. Belgium is, to a great extent, dependent on western Germany as an outlet for the large quantities of fruit handled, especially by the importers in Antwerp. Good railway facilities exist between this port and the Rhur district.

Antwerp is the principal distributing centre and most of the fruit-brokers are situated there. Sales are of the open suction type and buyers from Belgium, laxemburg, Holland and the Rhur more or less regularly attend.

Most European countries passed through a severe depression after the war and are only gradually regaining their former stability. Railway rates are fairly low in Belgium chiefly on account of the low rate of exchange.

Antwerp and the freight is about 1/-6 per box. The import duty is about 3d per box. In general Belgium, with Antwerp as a distributing centre, has good potentialities as far as South African citrus fruit is concerned during the months July to October inclusive. The marketing charges, duties, etc., as for all European countries, however, need to be considerably reduced in order to reduce South African citrus fruits from the present luxury class of goods to the every day diet class, and still.....

still return a fair return to the grower.

Antwerp has a population of 300,000 while Belgium alone has 18 towns of population of over 30,000 each. The portion of Germany served by Antwerp has a population of 11,000,000 while the total population of Belgium is 7,600,000.

#### Commune as a Fruit Market.

Owing to the war the fruit trade collapsed in Germany and, although her present economic condition is far from satisfactory on account of the low purchasing power and unemployment, the fruit trade has again developed considerably during the past few years and is increasing rapidly in extent.

Owing to the country's decentralised position, the distribution is very extensive, because, naturally, the big towns form the main consuming centres. There are 45 towns with a population of over 100,000 most of which are highly industrial. Every town has its central market and on the whole all have a flourishing retail trade.

It is about time that South Africa commenced opening up these markets with a regular supply in order to become established in them, for of all the Continental countries Germany is the largest importer of fruit and she owns the most potential markets, receiving her fruit through Holland and Belgium as well as her own ports.

Hamburg, Bremen and Berlin are auction centres.

The auctions, being closed, only sell to members of the buyer's.....



Bremen, is admirably equipped for the handling of fruit and other perishables. The ship off-loads at the one side of the auction rooms and at the other the commodities can be immediately loaded into the railway trucks.

A considerable amount of fruit is consigned directly to a number of firms in the interior but the auction in these two ports distribute large quantities weekly, mainly throughout Germany. For small quantities of fruit the dial system of sale is often used in Bremen.

Many of the auction, as well as the wholesale buyer firms have branches of their business spread out through the European countries and in this way much of the fruit is distributed.

Although perhaps cramped for space, the Berlin masket has as fine facilities as Hamburg, the only inconvenience being the lack of river connections.

As in the case with other European countries the German markets are open to South African fruit from July to October inclusive.

South Africa enjoys a reduced duty on citrus fruits in accordance with the Trade Treaty with Germany.

In general apart from other citrus fruits South African citrus fruits will come into competition in Germany, as in all European countries, with home grown and imported soft fruits. This means that European nations must be gradually educated to appreciate and value the South African fruit. The only way of doing this is by regular supplies and systematic advertisement. Providing these markets are gradually developed they hold great future potentialities.

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#### The Fruit Trade in Denmark.

Owing to the war Germany was shut off as far as the fruit trade was concerned and this encouraged sales in Northern countries with the result that Copenhagen has developed quite an important trade, using the greater portion of her imports for her own consumption. The surrounding countries, Norway and Sweden, Finland and Poland obtain certain supplies via Copenhagen which has apparently developed a high class trade in fruit.

Most of the fruit sold in Copenhagen is obtained directly from the foreign countries, although a small amount is sent via Hamburg by firms situated there.

South African Fruit is transhipped from Hull and Copenhagen should be able to dispose of about 600 tons weekly, but the market must be built up slowly and systematically.

Copenhagen appears to be the most favourably situated distributing centre for Scandanavia, Finland, the Baltic Provinces and also for Poland and Danzig.

Oranges are sold by auction, very similar to the method of sale in Hamburg, and the transport facilities are good. The total population of Denmark is about 3,300,000.

#### Horsey us a Market.

onlo with a population of 250,000 is the most important city for fruit consumption in Norway. Through this port imported fruits are distributed to the southern parts of the country. The city has direct transportation with New York and good shipping connections with Hamburg and Copenhagen, as well as with England through Bergen



and Cothenburg. Host of the fruit is obtained at European auctions. Auctions in Oslo have proved a failure. The total population is about 2,650,000 and transport is cheap.

Sweden. Gothenburg is the most important shpping city here. As regards the American trade the shipper is represented by a local broker who has the quotation of his shipper and obtains the orders from the Gothenburg trade. Transport is cheap and the population about 6,000,000 of which 660,000 occupy two towns. Supplies are also obtained through several European auctions.

<u>Finland</u>, has a population of about 3,500,000 with five towns of over 30,000 inhabitants. Local transport is efficient and cheap.

About 69,000 owts of oranges were imported into Finland in 1927 and the annual imports show an increase. There are no oranges on the market during the months August, September, October and Hovember respectively.

There will apparently be an excellent market in Norway, Denmark and Sweden during the tourest season which coincides with the South African export season.

From this brief survey of the most important European fruit markets it is apparent that there is room for expansion in citrus consumption in these countries. The survey indicates that citrus consumption in the summer months is practically negligible, and suggest that eventually a market for the increasing production of South America, Australia, the U.S.A. and South Africa, may be found in these markets.

It is largely, however, a

matter....



able and willing to pay. This means a reduction in handling and marketing charges and a diminishing of import
duties. Handling and marketing charges will be reduced
by regular shipments of high class fruit and by the direct
shipment of this fruit from South Africa to the European
port from whence it is to be distributed. The latter
step will not be possible to any great extent for a long
time to come.

It is interesting to note that Mr. Moonew estimates a potential summer market in the United Kingdom and on the Continent of at least 5,000,000 cases a year.

In most European countries there are more or less plantiful supplies of home-produced fruit available, and consumers have a choice of fruits at fairly low prices. The improvement in the economic condition of Europe should, however, facilitate the sale of imported luxury fruits, among which summer oranges may be classed, although, in view of the prospective increase in supplies in the near future, it would be basardous to prophesy that the whole of the summer surplus a few years hence will be disposable at the price levels of recent years.

In the above analysis of the markets no attention has been given to comparative costs of marketing and production, nor to alimatic influences on per capita consumption in the different countries. While they all play their part they are matters for more local and intensive study than can be contemplated in this paper.

Trade......



## Trade with India.

Up to the present little trade between South Africa and India has taken place and transport facilities as far as citrus fruits are concerned are very poor. Political relations between the two countries, however, are improving and this naturally improves trade possibili-Should there be sufficient demand for South Afritcan fruit in India ocean and railway facilities will be forthcoming. India's possibilities as a market must not be lost sight of and Bombay and Calcutta may prove important distribution centres in the future. An attempt to open up these markets is at present being made by Rhoderia. Further East, however, South Africa will have to compete with Australia and Eastern produced fruit which does not seem a very profitable proposition.

#### Factors Effecting Demand and Supply.

## Competition from the Morthern Hemisphere.

In general the principal producers of oranges are the United States with about 27,357,000 cwts per year, Spain with about 22,000,000 cwts, Italy with over 5,000,000 cwts and Japan with about 5,500,000 cwts. (Report of the Empire Marketing Board). Many other countries produce large supplies but the above four countries supply fully three-quarters of the world's output.

Most of the United States production is consumed within the country and Spain is easily the world's greatest exporter, its exports being roughly twice as great as those of all other exporting countries combined. Italy takes

second.....

second place with a quantity about one-fifth that of Spain, and the United States is third while Palestine is of growing importance, being now not far behind the United States. Smaller quantities are exported by the other producers, the chief contributors to world supplies being the Union of South Africa, Australia, Algeria, Japan, Syria, Cuba, Porto Rico, China and the countries of South America.

seen from above, are in Europe. The United Kingdom takes fully one-third of the oranges entering the world trade, Germany is second, importing in 1927 about one-half the quantity of the United Kingdom, while other important markets in Europe are France, Belguim, Holland, Poland, Osephoslovahia, Switzerland, Norway, Sweden, Hungary, Denmark, Irish Free State and Rumania.

#### Competition from the United States.

Omlifornia and Florida together produce 27,071,000 owts of the total production of the States and of this amount California produces about 19,619,000 owts.

while only moderate expansion in the productive capacity of California orange groves is to be looked for during the next few years, in Florida developments are likely to be much more pronounced. It was estimated that Florida by 1932 would show an increase of 50 per cent on the bearing acreage for 1927 the year for which most of the above figures are given.

The bulk of the exports from the United States goes to Canada but the export to the United Kingdom and



the European countries is rapidly increasing, especially during the summer months. During this year (1929) it is estimated that from June to November California shipped over 500,000 cases of citrus fruit to the United Kingdom. The Florida season extends from October to June. Only 24 per cent of the total United States crop is marketed during the five months, June - October inclusive.

The ability of European markets to absorb large quantities of United States oranges between November and April is limited on account of the large supplies of comparatively cheap Mediterranean fruit during that season, but it is precisely during those months that United States production is likely to show the greatest increase.

At present California Sunkist oranges are South Africa's greatest competitor on the Miropean and English The quality and distribution of this fruit is excellent, and to compete favourably with it South Africa must export a higher class of fruit under a few well standardised trade-marks. It would be a great advantage to both countries if their respective representatives could work together in distributing the fruit, for the United Kingdom and Europe could very well absorb all the high quality fruit from both countries at reasonable prices, especially since exports from California during the summer months can not increase to any great extent. What is essential is systematic distribution backed by careful advertisement and propaganda. It is stated that there is a considerable demand for citrus fruits in the far East and Califronia and Australia are gradually opening up these markets, which will form a valuable outlet



for both countries as far as their summer (June to October inclusive) fruit is concerned.

#### Boain as a Competitor.

South African fruit arrives on the United Kingdom and European markets from May to December inclusive.
The Spanish crop dominates these markets from November
(sometimes the end of October) to May, continuing into
June and sometimes July, so that South African fruit must
compete with Spanish at the beginning and at the end of
the export season.

According to the Empire Marketing Board Spanish imports into the United Kingdom for the three years 1925-27 respectively averaged 570,000 owts during May, 520,000 owts during June and 120,000 owts during July being negligible in August, September, October and rising to 200,000 owts in Movember. These figures will tend to show the comparatively serious nature of this competition which is even more severe on the Continent. The reason for the comparatively high prices paid for South African fruit at the beginning of the season is that the people are tired of the Spanish fruit.

The Spanish article is not of standard quality, nor is it of very good quality, but this matter is now receiving serious attention in Spain and the quality, grading and packing of Spanish fruit is rapidly improving. It costs Spain about 12/- a case to land fruit in the Horlds fruit markets (England and the European markets). To compete profitably with this fruit South Africa must develop a demand for her fruit and this can only be accomplished with a superior class article systematically dis-

tributed....



tributed and well advertised.

#### Competition from the Mediterranean Countries.

It is mainly due to the Italian lemon production that South African lemons cannot find a profitable market in Europe, and citrus-by-products from these countries together with those from Spain eliminate the possibility of profitably marketing large quantities of byproducts on the European markets.

The total production of oranges and mandarine in Italy is about 300,000 tons produced mainly in Sicily. Her principal exporting months are from December to June so that early shipments of South African oranges would meet a slight competition here, especially in Germany which is Italy's largest market. Improvement is taking place in quality, grading etc., but production is more or less stationary. South Africa has not much to fear from Italian competition.

The importance of Palestine as a citrus producer is increasing rapidly both in quality and quantity. Her export season is from late November to April so that apart from competition in December she is not of much concern to South Africa as a competitor. She exports about 2.000.000 cuts of oranges a year mainly to the United Kingdom, though direct shipments to Continental markets are increasing as also to Egypt.

Small quantities of citrus fruits are produced in France and Portugal. Cyprus exports are said to be increasing especially to Egypt and Greece. Algeria is steadily increasing its citrus production which it markets mainly in France owing to favoured tariff proferences.

Syria.....

Byria as a citrus producing country has a production of about \$400,000 owts which it markets mainly in Egypt and Turkey but small quantities are sent to the United King-dom.

The Japanese production is apparently stationary and mostly locally consumed. Considerable quantities of mandarins and a few oranges are exported to Kwantung and fair quantities to the United States and Canada.

Ohina is a fairly large producer of citrus
fruits exporting to Singapore, the Strait Settlements,
Hong-Kong, Siam and French Indo-China but she also imports
considerable quantities from Japan mainly and the United
States. Imports are increasing and these Eastern markets
will prove valuable outlet for the Australian and American
surplus.

#### Competition from the Southern Hemisphere.

Of the countries in the Southern Hemisphere South Africa seems to be the most favourably situated of all, for, as markets are opened up they must gravitate south and east into the radius of economic supply geographically belonging to South Africa and Australia.

To bear this statement out we may take the distance of the Southern Hemisphere countries from the Principal markets. The distances are calculated in days taking 10 knots per day.

Harkets.	Argentine.	Australia,	S.AITIOS.
New York	27 <u>k</u>	40	28
London	25)	40	251
Answerp	50 <del>}</del>	32	271
Bombay	39	91B	18}
Rangoon	-	14	•
Far Bast	46	15	27



The most important competitors of South Africa, as far as the Southern Hemisphere is concerned, is South America and here Brazil is at present outstanding.

#### Brazil.

The total production of citrus fruits in Brazil is not known but plantings have been considerably increased of late as also in the Argentine, and a greatly increased The quality of fruit arriving production is expected. on the English and Continental Markets has been inferior to that of South Africa, but export regulations have been put into operation and a great improvement in grading and packing can be expected. Most of the fruit is exported to neighbouring countries in South America, Buenos Aires and Kontevideo being the chief markets, but exports to Europe were tried in 1927 and it is estimated that during 1929 about 200,000 cases arrived in England from June to The fruit was usually sold at lower prices November. than South African but it also brought down the price of It is from South America in the South African product. general and Brazil in particular that South Africa will receive most competition, and unless she rapidly establishes herself on the European markets Brazil will capture those markets from her for the landed cost per box of citrus on the European markets is only slightly higher for Brasil than for South Africa.

Brazil is about 10 per cent larger than Continental United States, outside of Alaska and all of it has a climate capable of producing citrus fruits. It has a population of some \$5,000,000 people and there is still great stretches of the interior country that is relatively uninhabited....



uninhabited. In the State of Minas Geraes alone which is one of twenty there are more square miles of citrus land than occur in Florida and California combined.

Up to the present time only an indifferent attention has been paid to the growing of citrus fruits with the result that the fruit is very variable in quality, but it ripens throughout the year.

co-operative organisation among producers has started and the Government is taking an active interest in helping these organisations.

The State of Soa Paulo, according to P. H. Rolfs, has gone a step further by starting a project to plant twenty million citrus seeds and the state of Minas is also making some preparations for a large production of good citrus stock.

The only way South Africa can meet this coming competition is by waking up immediately and putting her industry on a sound basis.

Australia cannot become an important competitor in the United Kingdom and Continental markets because of her distance from the markets. Her best export markets are undoubtedly India and the Far East.

#### Competition from other Fruits.

Oltrus growers in general are faced with the problem of the possibility of growers of other classes of fruits developing a consumers demand for these fruits above that for citrus fruits. Especially is this the cuse with the home grown soft fruits on the Continental

and......



and United Kingdom markets. These soft fruits are relatively abundant and cheap while citrus fruits are regarded as a luxury, and will only find a demand by replacing some of the soft fruits in the daily consumption.

Pineapples are available throughout the year but are not very popular at present because of the high prices caused by the heavy decay in transit.

As transport improves exports will increase and public taste will become cultivated. They may become a serious competitor with citrus fruits and at present enjoy a 3/- per ton levy favour above citrus.

about the same so that if more soft fruit is bought citrus will suffer. Propaganda and efficient distribution is all that can prevent this. Strawberries are a very popular home grown fruit both in Great Britain and on the Continent. Exports from South Africa in this line, in early spring and summer at close of citrus season, are increasing yearly. The effect of strawberries on the citrus prices can be seen in June and July.

phere come on to the markets at the same time as South
Africa's citrus fruits and the volume of soft fruits exported from America and Europe is on the increase.

In general then South African citrus fruit comes into competition with that from Spain at the end and in the beginning of the export season. Besides this Californian and Brazilian fruit competes with it throughout as also other fruits. Providing, however, that South



Africa exports only high quality fruit under a few well advertised trade marks, and distributes this in accordance with the supply and demands of the various markets, she will obtain remunerative prices for several years to come.

It is self evident that the demand for citrus fruits will depend on many more factors than merely populations and supplies. Such factors as weather, race meetings, holidays etc., have a marked effect.

As far as Grape fruit is concerned South Africa exports fruit from May to September. During this period no other Grape fruit is available on the Muropean markets except some from California and a small amount from the West Indies. Consumption of Grape fruit per capita is very low at present and it will apparently take a great amount of advertising to increase it. Providing, however, that the market is gradually developed growers of this product should receive fair returns for many years to come.

South Africa, however, cannot extend her Grape fruit export season without meeting severe competition, and it may be mentioned that the quality of the bulk of South African Grape fruit cannot compare favourably with that from other sources.



#### CHAPTER 5.

THE COST OF MARKSTING CITRUS FRUIT AND THE RETURN TO THE GROWER.

The functions of merketing are briefly as follows:

- 1. Collection and assembly;
- 2. Transportation:
- 3. Wholesale dealing and processing;
- 4. Retailing:
- 5. Risk taking.

The marketing of agricultural produce unlike agricultural cultivation is subject to the law of increasing returns. Therefore large scale marketing units are more economical than small ones because of the internal economics that can be effected. This allows of specialisation in particular steps in the marketing.

fruits a decrease in price realisations for such fruit can be expected and, owing to the law of diminishing returns, an increase in the cost of production. For the producer to make a profit he must lower his cost of production by the production of a higher percentage of good quality fruit and a higher yield per tree, and by the reduction of his marketing expenses by wholesale dealing and large scale organisation.

At present there is little data on the cost of marketing South African citrus fruit.

In 1923 the manager of the South African Fruit Exchange issued a report on the comparison between the 1914 marketing charges and those for 1923 and showed that



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there was an increase in costs of just over 3/- per box.

In their report on fruit the Imperial Economic Committee give the cost of marketing South African granges in London in 1926 as follows:

## From Point of Primary Sale in the United Kingdom to Producer.

		Per box of 70 1bs.	\$
Primary Sale in London		16. 0.0	100
Charges in United Kingdom Commission 72 per cent Consolidated handling char	s. d. 1/-2.4		
ges	1/-6	2/-8.4	16.9
Transportation Costs -			
Ocean freight	2/-7.5		
Marine insurance	0/-1		
Dook and Harbour dues	0/3.5		
South African Railway			
freight	1/-0	4/-0	25
Costs at South African Port -			
Cold Storage (one week)	0/-3.5		
Export levy	0/-3.5		
Government Inspection	0/-1	0/-8	4.2
Gross return to grower	·	8/-7.6	53.9

Analysis.....



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## Analysis of Gross Return to Grower.

	Per box of 70 lbs.	4.
Cost of box materials and		
making 2/-4		
Cost of picking and haul-		
age to pack-		
ing house 0/-2		
Grading and packing 0/-1.5		
Haulage to rail-head 0/-1	2/-8.5	16.9 %
Return to grower out of		
which he must meet all		
expenses of oultivation		
(including interest, taxes,		
equipment, fertilising, prun-		
ing, irrigation, thinning,		
propping trees etc.	5/-11.1	37%
Net return to grower	Cannot be	estimated
(see above)	8/-7.6	53.9%

In an article by Dr. J. M. Tinly, Inspector of Co-operative Societies, Division of Agricultural Economics and Markets, an analysis of the expenses of various Co-operative associations who marketed citrus fruits during the 1927 season is given as follows:

Statement.....



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## Receipts, Expenses and Gross Payments

## Per case for Exported Fruit.

Variety.		No.of		Overseas - Charges	S.A. Char- ges.	Char- ges.	Pick- ing & Trans- port.	Total Char- ges.	Heturn to Gro- wer.
Grape-	A	.707	e. d. 17. 2	s. d. 5. 9	s. d. 1.10	#. d. 3. 3	e. d.	s. d. 10.10	e. d 6. 4
fruit.	0	2,610	18. 3	5. 2	1.10	3. 1	***	10. 1	8. 2
	E	7,488	22. 2	5.10	11	4. 5	0. 3	11. 5	10. 9
	B	182	18. 1	7	2. 1	3. 2\frac{1}{2}	0.42	12. 8	5. 5
	0	1.012	21. 9	5. 6	1.11	4	66 98	11. 5	10. 4
	-	11,999	20.11	5.8	1, 3	4.		11.1	9.10
Mavels	٨	810	20	5. 9	1.10	3. 3		10.10	9. 2
	À 5	5,589	19. 9	5. 9	1.10	3. 3	•• ••	10.10	8.11
	0 1	3,222	18. 9	5. 7	1.10	3. 3	• •	10. 7	8. 2
	E	7,684	20. 1	5. 9	1	4. 4	0. 3	14. 4	8. 9
	B 1	4,378	17.10	5. 5	2. 1	3. 3	0. 41	11. 2	6. S
	0	1,313	17. 1	5, 1	3. 2	4		11. 3	5.10
	9	2.996	18.11	5. 8	1.10	3. 4	•• ••	10.11	<u> </u>
Valencias		2,439	15	5. 9	1.10	3. 3		10.10	4. 2
	0 1	4,664	19. 5	5. 6	2. 2	3. 5	• -	11. 1	8. 4
	R	4,218	16. 4	5. 8	1. 1	4. 4	0. 3	11. 4	5
	B 1	8,994	19.11	4. 11	2. 1	3. 5½	0. 41	10.10	9. 1
	0	1.306	15	5.11	2	4		21.11	3. 1
	4	1.621	16.11	5. 3	3	3.6	-	11.0	7.11
Seedlings		9	12. 7	5. 9	1.10	3. 3	• •	10.10	1. 9
	0	395	16	6. 5	1. 9	3. 4		11. 6	6. 6
	D 3	1.725	14. 2	4.10	1.10	0.3 x		6.11	7. 3
	3	5,132	14. 2	4.10	1.10	0. 4	40 46	7	7. 2

With one or two exceptions the total cost of handling export fruit is remarkably uniform. Overseas charges

show....

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show little variation and what variation there is can be ascribed to differences in commission charges and to different price realisations for the fruit.

South African charges on the other hand show a considerable amount of variation, due largely to the distance of the company from the point of shipment and the length of time fruit may have to lay in cold storage.

Insurance, inspection fees and dock dues are practically of uniform cost.

Variation in co-operative charges may be due to a large number of causes e.g. cost of material, services rendered by the company, size of packhouse and efficiency of operation, gross turnover and commission charged.

In case of Company H and Company G a consolidated packing charge is levied. Company B picks and transports its members fruit to the pack house at the very low rate of 42d per case. Company E transports its members fruit from the orchard to the pack house.

It should be pointed out that most of the cooperative companies are organised to handle far larger
quantities of fruit in the future. As their turnover
increases, the co-operative charges for packing etc.,
will diminish.

This is shown in Statement 2 where, with the exception of Company A there has been a decided decrease in handling charges of each company, illustrating that the efforts to economy are meeting with some success.

Statement.....



Statement No. 2 - Comparison of Expanses
for 1926 and 1927.

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Company	-		Overseas Charges	S. A. Charges.	Co-Operative Charges	Total Kapenses
Company	A	1926	6/- 0	1/-6	3/-0	10/-6
		1927	5/-9	1/-10	3/-3	10/-10
	0	1926	\$ 5/-10 \$	2/-3	5/0	13/-1
**		1927	± 5/ <del>-</del> 6	1/-10	3/-3	10/-7
٠	0	1926	± 5/-10 ±	2/-3	4/0	12/-1
•		1927	± 5/-6 ±	2/=0	4/0	11/-6
*	H	1926	6/-0	2/-1	3/-10	11/-11
**		1927	5/-11	2/-1	-/-31	÷
#	ם	1926	net only	2/ 2	0/-42	
*		1927	•	1/10	0/-34	<b></b>

Most companies levy a commission of 5 per cent on the proceeds of sales to cover their administrative charges. During years of low prices it is difficult to meet these charges with this commission. As the packing house is primarily there for packing and has very little, if any, control on the prices realised, and as the overhead and other expenses to be paid out of the commission do not vary in accordance with prices obtained, it is considered that the directors should fix the packing charges each season.

As far as local packing of fruit is concerned it has already been pointed out that co-operation will reduce the cost of operations such as picking, hauling, packing etc. Administrative charges can be lowered by employing the administrative staff in fumigating etc., during the season when no packing is done. Another point

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that needs stressing is efficient organisation within each co-operative company. If the various companies would co-operate in helping each other to reduce their expenses by showing how they manage to run their own packhouse economically much more would be gained than by the present system of keeping everything secretive.

By efficient grading and standardisation the costs of advertising will be lessened, a wider market stimulated and thereby the overhead charges lowered. There is less risk on an efficiently graded and standardised article and, since insurance against risk increases cost of production by increasing interest charges on money required to market the article, lessening the risk will reduce the cost of marketing.

Efficient packing into standardised containers reduces the cost of transport.

The regular supply of large quantities of fruit and the stabelising of the industry in general will not only tend to lower transport charges but also the cost of distribution which is very high at present. By introducing dealer service men more efficient organisation will result and retail charges will be reduced. This will in turn stimulate a greater demand which indirectly means lower costs of production.

In general the fruit brokers of Europe make two charges for their services. One a commission charge; the other is a consolidated handling charge which includes disbursements at the port of discharge for dock or wharfage dues; labour for receiving, piling, and delivering;

various.....



various market tolls and porterage fees; and revenue for themselves.

The services of various brokers differ greatly and their commission charges vary just as much being from 2% to 10%. In some cases the higher charge is justified, in other cases not.

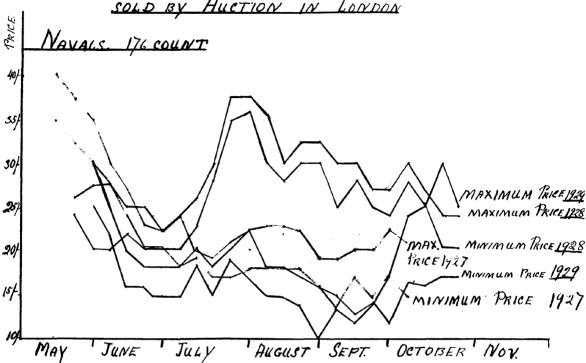
The consolidated handling charge is the same within eachport but varies greatly between the different ports. In Southampton it is about 1/-6 per box oranges, in Liverpool 1/-3, in Rotterdam 4d, in Hamburg 1 mark and in Copenhagen .75 Krone.

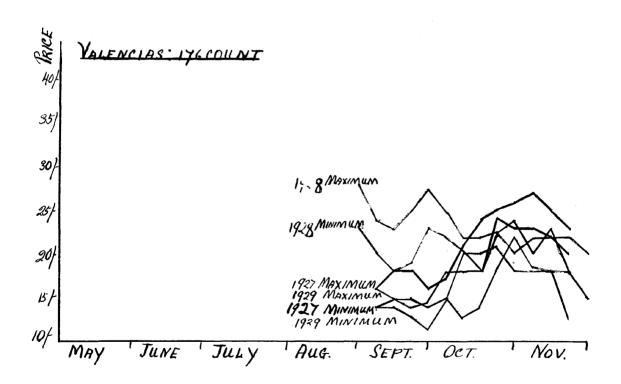
Roonomic Committee concludes:— "there does not seem to be any justification for any difference in commission to—day, when South African shipments have reached considerable dimensions". This was because it was found that a higher commission was charged on South African fruit than on any from Spain or Palestine. Further it is of the opinion "that consolidated handling charges should be capable of detailed and satisfactory analysis into the several items of out-of-pocket expenses..... that the commission should be sufficient to cover all other expenses incurred in connection with the business."

They found that a certain percentage of the consolidated charge could not be accounted for except as an additional charge.

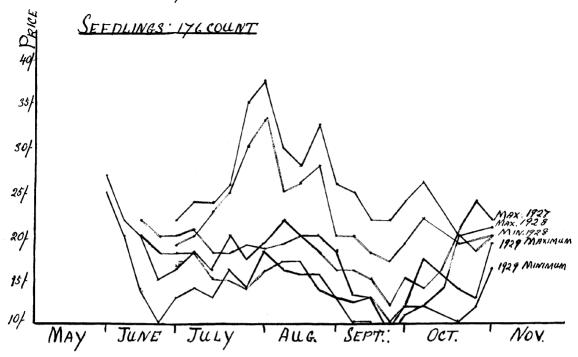
Any further information on the details of the cost of marketing in European markets are obtainable in a U.S.D.A.....







# WEEKLY PRICES FOR WINNERSHELL VA PRETORIA ORANGES SOLD BY AUCTION IN LONDON



See annendix.

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U.S.D.A. circular No. 90 by Edwin Smith entitled \*Merketing Fresh Fruit in Europe.\*

A further point of interest is that under the present system of distribution the shipping freight charges from South Africa, on fruit shipped through the Exchange, are pooled in the so called system of "equalisation of freight rates" but the charges for sending fruit from London to Glasgow, for instance, are charged to the shipper. Seeing that the representative distributes the fruit passing through his hands in such a way as to benefit all the shippers of fruit and not only those whose fruit is shipped to Glasgow, it is the opinion of the writer that all expenses connected with the distribution of citrus fruits by the Exchange Representative should be pooled and the expenses paid on a patronage basis by the members whose fruit is so distributed.

The accompanying graph shows the general trend of prices for fruit on the London market and the reason for the fluctuation.

In general then there is much room for reducing the marketing charges. The best and only way of effecting such reduction is by large scale business, which can be accomplished by the decentralised co-operation of over 85% of the growers and the provision of efficient management in all the units of such an organisation.

The prices realised by the farmer, less the costs of marketing and production, give the farmer his profit. To maintain a remnerable profit the farmer must stimulate demand and this can only be done by co-operation and the pooling of his fruit which must be of high quality.

Fluctuations.....



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Fluctuations in the purchasing power of a nation will naturally cause fluctuating and weak markets.

and consequently the return to the grower are trade and preference treaties existing between the different countries, because such treaties determine the duties on the products imported into consuming countries; weather conditions effect the demand for fruit as also holidays, social events e.g. racing - it is found that whenever any big racing event is taking place in England the demand for fruit is less owing to the fact that money that would otherwise have been spent on fruit is spent in betting, etc.

The orange producer is further faced with the danger of substitution of oranges by some other fruit or even some other trade mark of oranges. Another danger is the possibility of extending the citrus export season of the producing countries in the Horthern Hemisphere and of the invention of some method of storing citrus fruit in its fresh form.

In general however the grower of a good quality product will receive remunerable prices for several years to come, providing the precautions mentioned above are observed.



#### CHAPTER 6.

#### RECOMMENDATIONS.

In concluding this paper, in which many deductions have been made from time to time, the writer wishes to stress a few general recommendations, which he considers are essential if the Citrus Industry of South Africa is to be stabilised.

In general the quality of South African citrus fruits can still be greatly improved. To do this low yielding and inferior trees must be replaced by high yielding trees of superior quality; up-to-date methods of cultivation must be resorted to; pruning and fumigation must be efficient; and a sufficiency of manure, nitrogen fertilisers and water should be available.

At least 85% of the growers should be members of co-operative associations which are affiliated to the Central Citrus Exchange. Such co-operative associations should pick, grade, pool and pack their members! fruit. For maximum economy the pack-houses should be run at maximum capacity.

Efficient management of any co-operative concern is essential. The manager must be a very capable man. Much of the waste during the present season can be traced to poor management coupled with untimely rains.

Each local should market all its fruit through the Central Citrus Exchange whose Overseas Representative should have a free hand in the distribution of the fruit. A sub-section should be created in the Exchange to see to the orderly marketing of local-marketed fruit.

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In order to keep growers constantly informed of the activities of the Exchange, and to provide a connecting link between the locals and the Central Citrus Exchange, District Exchanges should be instituted. These would enable more efficient organisation of the Exchange with less expense.

When at least 55% of the citrus fruits of South Africa are marketed through the Exchange an endeavour should be made to put the citrus section of the Export Control Board in the hands of the Exchange. This would mean complete control of the fruit from the grower to the market and would possibly be more economical for the Exchange.

Research into the many problems of marketing and producing is essential. Such research should be undertaken by the Exchange but funds, at present, are inadequate. Growers, themselves, must provide the money for such activities - preferably on a patronage basis.

South African citrus fruits should be marketed under as few trade marks as possible. This can be put into practice by establishing district trade marks as previously outlined. These trade marks must then be advertised to the consumers and to the trade and must be stamped on the rind of the orange.

The Overseas Representative should be kept well informed of the condition of the markets, amount of competing fruit, weather conditions and amount of South African citrus fruit the market can take. He must then distribute the fruit to his agent in each market according to requirements. He should set the minimum price at

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which the fruit is to be sold and should limit the area within which it can be sold. In general he should work along the same lines as the California representative, with whom he should always endeavour to co-operate as far as distribution is concerned.

New markets must gradually be opened up, and costs of distribution and overseas marketing should be pooled and met by a box-assessment made by the Exchange.

In general the strictest economy should be practised by the members as well as by the Exchange.

As the Industry develops the Exchange will also develop. One of the problems that needs attention is that of lowering the costs of distribution. This will be easier with a greater volume of produce for then such services as instruction to retailers as to the best way of organising etc., can be undertaken.

In general it is essential that citrus growers co-operate whole-heartedly for only in co-operation between producers does the success of the Citrus Industry of South Africa lie.

International co-operation between all the citrus - producing countries of the world, though, at present, faced with many difficulties, may yet prove the salvation of the citrus grower as far as marketing is concerned.



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#### APPENDIX.

Conclusions drawn from the Graphs on the weekly prices for South African oranges in London.

The data presented in the above graphs is insufficient to draw any definite conclusions.

The 176 count was chosen because it is the most popular and therefore the best indicator of the price trend.

In general it appears that the season opens with high prices falling during the strawberry season in June and July, at the end of which there is a slight rise again. Prices tend to fall steadily towards the end of the season when they rise again slightly to fall when the Spanish crop agrives.

to the extraordinary warm weather in Great Britain accompanied by a relative scarcity of California and South African oranges. The South African oranges, due to the introduction of the sugar-acid test, showed an improvement in quality.

The packing charts have been eliminated owing to their size but can be obtained from the Citrus  $E_{\mathbf{X}}$  change Offices.

