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The Campaign Against East Coast Fever in South Africa.

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It is convenient to review the campaign against East Coast Fever, over three particular periods, viz:—

1. The period prior to the institution of short-interval dipping, i.e. between 1902 and 1910.
2. The short-interval dipping period, i.e. between 1910 and 1929.
3. The period of intensive control, i.e. between 1929 and the present time.

1. The Period Prior to Short-interval Dipping.

The first recorded outbreaks of East Coast Fever in what now constitutes the Union occurred in May, 1902, at Komatipoort and Nelspruit (East Coast Fever Commission Report, 1943).

An Inter-Colonial Veterinary Conference was convened at Bloemfontein in December, 1930. According to the report of its proceedings, such notable veterinarians as Robert Koch, Stockman, Theiler, H. Watkins Pitchford and Hutcheon took part in the discussion. At this conference, too, were representatives from the Pre-Union Colonies, from Southern Rhodesia, Basutoland, Bechuanaland, South West Africa (then German South West Africa) and from Portuguese East Africa.

Although South Africa is still a paradise for investigators into animal diseases, it was much more so then, as this conference discussed and passed resolutions for the control of Rinderpest, Contagious Bovine Pleuro-pneumonia, Glanders, Swine Fever, Sheep Scab, as well as of the new " tick plague ". These diseases were all present in South Africa at the time. In connection with African Coast Fever, the conferences resolved that its future control should be arranged in terms of: —

(*a*) Control over cattle movements.

(*b*) Destruction of all cattle connected with isolated outbreaks, with the payment of compensation.

(*c*) Fencing and quarantining of infected veld.

(*d*) Dipping, or cleaning from ticks, of all cattle in the immediate vicinity of infection.

(*e*) Further research by all territories.

At this conference very significant statements were made by some of these distinguished workers.

It is of interest to recall some of these, which even in present times, are characteristic of control.

Robert Koch stated *inter alia*:—

> "This disease is very difficult to recognise. You will find in the blood not only the specific germ of East Coast Fever, but often another germ, that of common Redwater. . . . *The symptoms of the disease are not so characteristic that you can afford to dispense with microscopical examination of the blood*"

Theiler made four very significant statements, viz.:—

(*a*) He contended that in Basutoland, in the highveld of the Transvaal, and in other places where no "*ordinary redwater*" would exist, Rhodesian Tick Fever would more than likely not appear, and if it did, it would quickly die out.

(*b*) He disputed the possibility of transmission of the disease by the blue tick; pointed to Lounsbury's demonstration in the Cape that this belonged to the adult brown tick, and to his own findings that the nymphae of this tick, which had been feeding as larvae, also carried the infection.

(*c*) He disagreed with Koch and saw difficulty with inoculation as a means of protecting susceptible cattle. He contended that the time had not arrived to start inoculation in the Transvaal, and that there was no intention to do anything else but to recommend the fencing of farms, and the isolation of outbreaks, until more experience had been gained.

(*d*) He disagreed with Koch that the salted animal kept the infection in its blood, and that the ticks, dropping from such animals, acted as carriers of the disease. Theiler agreed that this was theoretically possible, but stated that he had experimentally exposed salted animals to susceptible animals, for nine months, and had failed to produce the disease.

In spite of what the authorities could do, the disease continued to spread into Swaziland and from there back into the Transvaal *via* Piet Retief, as also into Natal.

In the Transvaal, by 1905, infection had occurred in all the lowveld districts in which the campaign, in subsequent years, had to be intensified before the disease was finally eliminated from them, viz. Zoutpansberg, Letaba, Pietersburg, Pilgrims Rest, Lydenburg, Belfast, Nelspruit, Barberton, Carolina, Ermelo, Wakkerstroom, Piet Retief, Pretoria, Middelburg and Rustenburg. Incidence of the disease had also been recorded in the districts of Marico, Germiston and Boksburg.

By 1906 (Woollatt, 1906), outbreaks had occurred in the Natal Districts of Paulpietersburg, Ngotshe, Vryheid, Nongoma and Mahlabatini, while the Districts of Ingwavuma, Ubombo, Hlabisa, Lower Umfolozi, Mtunzini, Eshowe, Melmoth, Nkandhla, Babanango and Nqutu were under control.

The method of control advocated at the time by the Natal Department of Agriculure was:—

1. That all cattle deaths, occurring even remotely from the nearest outbreak, should be regarded with suspicion, and blood smears submitted.

2. Farms should be fenced.
3. Straying of stock should be prevented but if such stock should be encountered they should be separately paddocked—a clean camp should always be available on every farm.
4. Cattle should be removed from infected into clean paddocks through temperature camps where they had to remain for 21 days; those showing temperature elevations to be destroyed, and the remainder dipped before removal.

In 1904, according to the report of the Secretary of Agriculture of Natal, a sum of £2,000 was voted for assistance to farmers in connection with the erection of cattle dipping tanks which would be available for public use.

The Zululand (Bambata) Native Rebellion in 1906, caused the disease to spread still further, and by March, 1910 it had crossed into East Griqualand *via* the District of Umzimkulu. No Natal districts escaped infection although, once more, the highlands suffered less.

Dixon (1912) reported the disease as spreading in the Transkeian Territories and in close proximity to the border districts in the eastern portion of the Cape Province. It appeared during this year in the East London and Kingwilliamstown districts (East Coast Fever Commission Report, 1943).

Thus, within 10 years of its entry into the Union, the disease had engulfed all the areas within which it could spread and be maintained, and during this time had considerably depleted what cattle had still survived after Rinderspest and Pleuropneumonia had taken their toll. While much information had been gained about the disease, and its methods of transmission, little more than quarantine measures had been taken against it; such dipping methods as had been applied, had as little effect in preventing mortality as any other measures which were resorted to.

During this period a system of inoculation was devised by Theiler and applied in the Transkei. There were no dipping tanks in that territory then, and the maintenance of transport was essential. According to Power (1920) inoculation was carried out on a large scale by veterinary officers in the Transkei. The result was that about 60 per cent. of the cattle were saved by this method, when at that time, 95 per cent would have died.

The only country which successfully dealt with the disease was Portuguese East Africa, from where it was eradicated by slaughter in 1917. A small recurrence was experienced some years later, but this was also eliminated in the same way. As late as 1923 however, there were only 300,000 head of cattle in Portuguese East Africa (Botelho, 1924).

2. The Short-interval Dipping Period.

Dipping played little or no part in the prevention of East Coast Fever until Pitchford, in his work which started in 1908, showed the benefits of short-interval dipping. Until then there were comparatively few dipping tanks. Pitchford's work restored confidence to the cattle owners and the erection of dipping tanks took place on a large scale. (Report of Veterinary Conference, Bulawayo, 1913.)

At a conference of veterinarians, held at Bulawayo on April 10th, 1913. Gray stated as follows in respect of the Transvaal:—

> As a result of the adoption of short-interval dipping, combined with fencing, the disease had been banished, except in one or two

> areas largely occupied by natives, and even there it was fast disappearing. In the Zoutpansberg district, when he went to the Transvaal there were about 60 active outbreaks of African Coast Fever; now there were about six, and all these were fenced with one exception, and at that place they had cattle concentrated and dipped at three day intervals. The most extensively infected area in the Transvaal was formerly the district of Zoutpansberg, where there had been, at one time, something like 150 centres of infection. The number of infected areas in that district had been reduced to seven, on all of which, with the exception of two, dipping tanks were erected, and in use. At the two areas in which there were no dipping tanks, the cattle had been inoculated and susceptible calves killed immediately after birth, in order to prevent the reinfection of the veld; so that the position in this district was entirely satisfactory. The next district, in which there was any disease at all, was Carolina, where there had not been a fresh outbreak for eight months. All the infected centres, there, were dealt with by transfer of the stock to concentration camps, or by slaughter—mainly by slaughter. In the Middelburg district, where the disease was once prevalent, it had disappeared."

Within six years of this pronouncement the Pretoria district experienced one of the biggest outbreaks of East Coast Fever ever recorded in the campaign against it, in the Union.

In the report of the Principal Veterinary Officer of the Union for the year ended June, 1925, it is stated in respect of the Transvaal that:—

> Infection exists in five districts as compared with seven last year. During the year the Wakkerstroom, Carolina and Zoutpansberg districts, became clean, while reinfection occurred in the Barberton and Pilgrims Rest districts."

In actual fact, the Zoutpansberg district was not entirely freed of the disease until a couple of years later, and the last known infection in the Carolina district was slaughtered out in 1944.

It can be said that H. Watkins Pitchford performed an outstanding service to the country, in proving the necessity of short-interval dipping. During this short-interval dipping period, 3 day, bi-weekly, and 5 day dipping intervals, vied with one another as popular methods for the control and eradication of the disease.

Pitchford (1911) showed that ticks could move for a distance of sixty-five feet, and that they could reach this point in 9 days after liberation. This fact was made use of in practice at the time. Certain relaxations were granted to the owner of an incontact farm if he erected a "*Neutral Zone*" (on his boundary with the infected, farm) provided this was at least 25 yards wide.

The period of short-interval dipping was almost characteristic of alternating optimism and pessimism. Official phrases such as "*just when you think you have beaten the disease that is the time to expect East Coast Fever*" and "*there is something we still have to learn about East Coast Fever*", were in daily use. All farmers recognised Joseph Baynes as the person who owned the first cattle dipping tank in Natal. The number who

claimed to have owned the second, was legion. This was a very interesting period in the campaign against East Coast Fever, but finality in its ultimate eradication seemed by no means to be at hand. In many outbreaks, cattle continued to die in spite of short-interval dipping, at least until this operation had been in progress long enough "*to wear down the infection*". At this stage came the Kindergoed experiment of du Toit and Viljoen (1929), which without question marked a new era in the control and eradication of the disease. It was felt that something more than mere short-interval dipping, would be necessary before success could be achieved. About that time, also, du Toit (1930) conducted an immunity experiment in regard to East Coast Fever. About the same time, du Toit addressed the Eleventh International Veterinary Congress in London. Viljoen (1930) in an address to the Pan-African Agriculture and Veterinary Conference at Pretoria (in August, 1929), in indicating some of the reasons why the eradication of East Coast Fever had failed, pointed very strongly to certain unsatisfactory features of control which had, up to that time, existed.

In 1913 there were 329 recorded fresh outbreaks of East Coast Fever in the Union. In 1918 there were 86. In 1921 there were 284. In 1925 there were 85. In 1929 there were 60. In 1930 there were 85.

This fluctuating incidence, was sufficient evidence to lead the authorities to the view that short-interval dipping *alone* could never hope to eradicate the disease.

Many advocated slaughtering out each outbreak as it arose. Theoretically this seemed a sound method of approach. The cattle farmers, and also the natives, were, however, not to be readily persuaded into such a policy. By this time the Union cattle owners had been subjected to a compulsory dipping campaign of just on twenty years. From their point of view, "*the regulations were worse than the disease*", and in their opinion "*the Government should relinquish all restrictions, let the owner who valued his cattle look after them, and let the rest die*".

The Provincial Agricultural Union Congresses debated the subject of East Coast Fever Eradication, *ad nauseam*, and in these debates much angry criticism was levelled at the Division of Veterinary Services. At nearly every such congress, and at very many meetings of Farmers' Associations, the Director of Veterinary Service was in constant attendance.

It was obvious that the campaign would be very long. While it was relatively easy for the Portuguese East African authorities to apply a slaughter policy to their country, having a cattle population of less than 300,000, such a policy would never be agreed to by the Union farmers, who collectively owned more than ten times this number in East Coast Fever areas alone. There would, always, only be one opportunity when this policy could be applied, and that was in order to prevent further spread, from isolated outbreaks.

The alternative measure of intensification of control, and particularly of what has come to be known as the "*counts and smears*" policy, was then (1930), put into operation.

In passing, it is fitting to associate the names of Viljoen and van Heerden, with that of du Toit, in the initiation of this campaign—this, the next period, in combating East Coast Fever.

Prior to the advent of this "*count and smear*" period there were two official investigations, into the reasons for the continued spread of East Coast Fever, viz.:—

1. *The Select Committee appointed by the Senate, in* 1920.
2. *The Bridson Committee of* 1924, appointed by the Minister of Agriculture; its members were, G. A. H. Bridson (Chairman), P. J. du Toit, J. D. Borthwick and A. Spies, with Mr. P. te Groen as Secretary.

One very important recommendation was put forward by the Bridson Committee, viz. that there should be a substantial increase in staff, in order to ensure that the legal requirements in respect of the control of the disease, were being carried out.

3. The Period of Intensive Control.

This period was initiated in an attempt to come to intimate grips with the disease, and particularly in respect of:—

(*a*) Its early and definite diagnosis.

(*b*) Intimate and short-interval control over the counts of cattle with registration of births, deaths and all movements not only on infected farms and areas, but also in all areas where the disease had, in recent years, been troublesome.

(*c*) Close supervision of short-interval cattle dipping, on both infected and susceptible farms, and areas.

(*d*) Close control over cattle movements, under the *permit system*.

The commencement of this period also marked the appointment of the first Supervising Stock Inspector.

In the report of the Principal Veterinary Officer for the year ended June, 1925, the Natal staff is stated to have been increased, and that the East Coast Fever position in that Province had improved correspondingly.

This report goes on to indicate that:—

> During the year ended 30th June, 1923, when 140 fresh outbreaks occurred, 64 dipping inspectors were employed. In 1923/24 there were 120 fresh outbreaks and 147 inspectors employed, while for 1924/25, the figures were 60 fresh outbreaks, and 156 inspectors."

During the year ended June, 1945, there were over 500 "dipping inspectors" (assistant stock inspectors), just on 150 stock inspectors, and 4 supervising stock inspectors, doing duty in the East Coast Fever areas. The number of fresh outbreaks for that year was twelve, but it is also to be pointed out in extenuation, that most of them were residual from the very severe outbreak in the Vryheid district, during 1942-44.

The table in Schedule I indicates the number of recorded outbreaks of East Coast Fever since the year 1913. Reference to the table in Schedule II will show how the campaign against East Coast Fever had been intensified in regard to smear examination, for the purpose of arriving at an early diagnosis. Surely no country in the world has ever embarked on such an intensified campaign, to diagnose a disease by blood (spleen) smear examination. It called for the examination of an average of over 200 smears per day, per examiner, year in, and year out.

The intensified "*count and smear*" policy did not fail to recognise the value of eliminating isolated outbreaks of the disease, by application of the slaughter policy. The table below gives the number of farms and areas cleared by slaughter since 1928.

No. of areas cleared by slaughter, 1928-1948.

District.	Total Farms.	Total Cattle.	Mortality.	Province.
Krantzkop	4	428	10	Natal.
Richmond	7	1,365	327	,,
Utrecht	3	1,071	84	,,
Pietermaritzburg	3	271	21	,,
Umvoti	2	365	35	,,
Paulpietersburg	1	216	4	,,
Newcastle	2	677	20	,,
Dundee	5	1,062	39	,,
Klip River	1	306	28	,,
Ixopo	2	313	55	,,
New Hanover	1	69	4	,,
Helpmekaar	4	1,546	45	,,
Estcourt	3	326	32	,,
Vryheid	28	8,423	1,176	,,
Entonjaneni	2	428	141	,,
Lions River	2	84	30	,,
Camperdown	1	71	22	,,
Babanango	1	1,052	223	,,
Utrecht	2	818	68	,,
Port Shepstone	1	97	5	,,
Umzinto	1	777	2	,,
TOTAL	76	20,165	2,371	
Wakkerstroom	2	318	108	Transvaal.
Piet Retief	4	431	41	,,
Pietersburg	7	2,668	111	,,
Carolina	6	1,796	158	,,
Pilgrims Rest	7	2,127	113	,,
Barberton	7	781	67	,,
Nelspruit	5	2,086	41	,,
Letaba	5	5,274	130	,,
Belfast	1	128	11	,,
TOTAL	44	15,609	775	
Komgha	3	896	58	Cape East & Transkei.
East London	3	240	177	,,
Peddie	4	513	95	,,
TOTAL	10	1,649	330	
GRAND TOTAL	130	37,423	3,476	

The investigation into the persistence of East Coast Fever by the Bridson Committee in 1924, was closely followed by the appointment, in 1926, by the Minister of Agriculture, of the Viljoen—Goodall Committee. The recommendations of this committee still further emphasised the need for closer control, both as regards count of cattle, and examination of smears from all cattle in areas where the disease would be likely to appear, whether such cattle died or were slaughtered, and for whatever reason.

Naturally, the intensified control reacted more adversely than ever on the cattle owners. Provincial Agricultural Unions debated the question more strenuously than ever before. At some congresses very severe and outspoken criticism was levelled against the Veterinary Division. The Director of Veterinary Services made it his duty to attend almost every one of these congresses, stating the scientific facts, and calmly but very clearly indicating the policy.

However, by 1936, it became necessary for the Minister of Agriculture to call a conference of farmers and cattle owners at Pietermaritzburg. The cattle owners strongly indicated that they desired to be consulted in the measures adopted, so that their application might be arranged to their ultimate advantage and *not to their ultimate ruin.* The constitution of *District Advisory Boards* was therefore agreed to.

While this conference of stock owners did not, and could not, result in any serious departure of policy, its very free and frank discussion *did* result in a somewhat better understanding and in the creation of a more co-operative spirit between official and stock owner.

The intensified campaign was making fairly good progress until, in 1942, it received a severe setback in the shape of a widespread outbreak of East Coast Fever in the Vryheid area.

Meantime, the Provincial Agricultural Unions, were still pressing for "*an independent commission of enquiry to investigate all aspects of East Coast Fever*". Thus, in 1943, a *Parliamentary Commission* was appointed to enquire into the apparent lack of success in eradicating the disease, by the control measures which were being applied. This was the East Coast Fever Commission of 1943, and consisted of S. H. Elliot (Chairman) P. J. du Toit, P. J. Wessels and W. E. Stanford, as members, with Mr. J. Coetzee as Secretary.

This commission put up a very comprehensive report and considered also all aspects of the recent severe outbreak of the disease in the Vryheid area. This Commission spared no pains in meeting and taking evidence from any one who wished to give it, and to that extent alone it did much to ease the tension between official and stock owner.

During the intensive campaign against East Coast Fever many so called "*one death*" cases were encountered and much trouble was experienced at times in differentiating microscopically, between *T. parva* and *T. mutans*.

The work of Gilles de Kock, R. du Toit, van Heerden and Neitz (1937), did much to assist in determining the presence of *T. parva* and in eliminating possible hardships to owners who were unfortunate enough to have "*Koch's bodies only*" diagnosed in smears from their cattle.

The work of the Director of Veterinary Services for the Veterinary Division (Dr. P. J. du Toit), in its campaign against East Coast Fever in the Union, had however not yet ceased. The apparent prosperity which followed World War II, was drawing the staff of the Veterinary Division to private practice, and to other more lucrative enterprises. Generally speaking, the Division was finding itself in a bad state, in many ways.

The Minister of Agriculture, very wisely, appointed yet another committee (The Adams Committee) and once again Dr. P. J. du Toit was correctly chosen to serve as a member of it.

This Committee went very deeply into all aspects of its terms of reference, and, in November, 1945, produced a most comprehensive report. One of the outstanding features of its findings, in so far as the campaign against East Coast Fever was concerned, was a strong recommendation that the inspectorate staff should be adequately trained.

This recommendation has since been given effect to and already it has made a substantial contribution, not only towards the eradication of East Coast Fever, but also in securing better co-operation between stock owner and official.

Much work is still to be done before complete victory is achieved, but, it can truly be said, that this end point has now come far closer, within the last ten years, than ever before. Reference to the table in Schedule I, reflecting the outbreaks of East Coast Fever from the year 1913, will show this very clearly, as it will show the steady decline since 1930. Since 1944 the Transvaal has been completely free of the disease and many of the districts which were so heavily infected have been clean for ten and more years. Natal had a severe set-back in the shape of the large outbreak in the Vryheid area in 1942-44, out today Natal has only three infected centres; from one of them the cattle have been evacuated, while on the others, mortality from the disease has ceased.

In the Transkeian Territories and the Eastern Cape, only three outbreaks have occurred over the past three years. In the case of two of these the slaughter policy was applied, and in the case of the other (a native area), the cattle were successfully removed from the infected zone through temperature camps. These evacuated areas will remain cattle-free for 18 months.

It is interesting to review the number of *deaths from East Coast Fever* in the Union since the year 1936-47.

The table below indicates these:—

Province.	1936–7	1937–8	1938–9	1939–40	1940–1	1941–2	1942–3	1943–4	1944–5	1945–6
Natal	336	299	99	43	62	30	2,363	675	68	—
Cape East	33	13	—	67	158	134	—	1	—	—
Transkei	2	2	13	62	—	3	75	440	6	2
Transvaal	93	44	2	5	13	—	—	26	18	—
TOTAL	464	358	114	177	233	167	2,438	1,148	92	2

Many of the districts in Natal, Transvaal, Transkeian Territories and the Eastern Cape have been free from East Coast Fever for a number of years.

In the application of the new Benzene-hexachloride and D.D.T. dips, to the problem of tick control, the Union Veterinary Division, has contributed effectively. Experimental work in this connection is still proceeding.

When East Coast Fever entered South Africa, its similarity to "*Ordinary Redwater*", gave rise to its early name of *Rhodesian Redwater*. Redwater (*Babesiosis*), and Gallsickness (*Anaplasmosis*), side by side with East Coast Fever, have through the years, made considerable inroads on the cattle population of the Union.

A comparison of the respective incidence in *Natal* over seven years is given below, and shows clearly the degree to which the campaign against East Coast Fever has been successful.

In regard to Redwater and Gallsickness the cattle owner has been given a free hand to save his animals or to allow them to become affected by its ravages.

Year.	Redwater and Gallsickness Cases.	East Coast Fever Cases.
1939–40	2,946	43
1940–41	3,927	62
1941–42	6,307	30
1942–43	6,516	2,363
1943–44	5,571	675
1944–45	7,330	68
1945–46	6,408	—
TOTAL	39,005	3,241

There is no curative treatment for East Coast Fever, but there is for Redwater and to some extent for Gallsickness. In the case of Gallsickness there is an excellent prophylactic inoculation.

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SCHEDULE I.

East Coast Fever Outbreaks: Union 1913-1947.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938.	1939.	1940.	1941.	1942.	1943.	1944.	1945.	1946.	1947.
Natal.....	96	39	58	109	75	56	56	84	138	134	153	118	75	84	57	42	39	61	41	24	31	38	34	15	14	11	13	5	5	38	69	9	11	1	2
Transvaal...	11	23	34	32	25	25	66	90	83	45	22	5	7	44	27	12	11	3	7	5	5	2	11	18	3	2	1	—	—	—	—	1	1	—	—
Transkei....	205	75	41	18	1	2	3	12	63	64	12	14	3	6	5	7	10	21	7	2	5	9	4	4	2	1	2	1	1	—	2	2	1	—	1
East Cape..	17	6	1	1	2	3	—	—	—	—	—	—	—	6	10	1	—	—	2	—	—	1	—	—	4	3	—	2	12	3	1	—	—	2	—
	329	143	134	160	103	86	125	186	284	243	187	137	85	140	99	62	60	85	57	31	41	50	49	37	23	17	16	8	18	41	72	12	13	3	3

SCHEDULE II.

Schedule of Smears Examined since 1914/15.

Year.	Natal.									Total.
	Allerton.	Dundee.	Eshowe.	Ixopo.	Nongoma.	Estcourt.	Vryheid.	Miscellaneous Government Vet. Officer.	Total.	
1914–15	5,197	—	—	—	—	—	—	—	5,197	—
1915–16	7,258	—	—	—	—	—	—	—	7,258	—
1916–17	9,049	—	—	—	—	—	—	—	9,049	—
1917–18	10,138	—	—	—	—	—	—	—	10,138	—
1918–19	11,286	—	—	—	—	—	—	—	11,286	13,335
1919–20	14,121	—	—	—	—	—	—	—	14,121	17,664
1920–21	16,500	—	—	—	—	—	—	—	16,500	23,392
1921–22	17,863	—	—	—	—	—	—	—	17,863	23,485
1922–23	25,759	—	—	—	—	—	—	—	25,759	24,447
1923–24	25,939	—	—	—	—	—	—	—	25,939	23,251
1924–25	30,987	—	—	—	—	—	—	—	30,987	17,240
1925–26	37,338	—	—	—	—	—	—	—	37,338	16,070
1926–27	45,365	—	—	—	—	—	—	—	45,365	39,066
1927–28	67,617	—	—	—	—	—	—	—	67,617	55,583
1928–29	72,267	—	—	—	—	—	—	—	72,267	55,792
1929–30	118,279	—	—	—	—	—	—	—	118,279	59,344
1930–31	287,339	—	—	—	—	—	—	—	287,339	97,396
1931–32	247,737	—	—	—	—	—	—	—	247,737	127,799
1932–33	340,084	—	—	—	—	—	—	—	340,084	74,559
1933–34	268,745	—	—	—	—	—	—	—	268,745	66,350
1934–35	324,715	—	—	—	—	—	—	—	324,715	59,593
1935–36	303,672	—	—	—	—	—	—	—	303,672	102,027
1936–37	165,902	52,700	53,132	9,539	16,843	—	—	510	308,976	88,835
1937–38	180,004	66,400	61,424	30,593	41,639	—	—	410	380,470	69,207
1938–39	83,909	46,217	39,866	35,492	34,656	—	—	1,038	241,178	68,840
1939–40	132,862	70,555	64,424	55,055	50,588	—	—	383	373,867	89,051
1940–41	114,737	56,780	53,027	48,894	56,660	—	—	282	330,470	76,462
1941–42	156,287	61,970	74,595	57,646	75,500	—	—	532	428,530	116,559
1942–43	79,283	60,644	67,564	44,163	81,887	44,764	8,848	210	387,363	89,042
1943–44	63,191	51,000	69,232	54,118	61,379	84,458	47,479	202	431,059	94,350
1944–45	55,963	43,708	57,370	60,700	52,517	78,070	48,000	250	396,578	101,125
1945–46	24,128	48,711	78,341	20,736	80,137	29,603	64,997	160,087	506,740	98,065

SCHEDULE II (*continued*).

Year.	Transkei.					Cape East.						Combined Total.
	Umtata.	Kokstad.	Butterworth.	Flagstaff (Port St. Johns)	Total.	East London.	Grahamstown.	Queenstown.	Kingwilliamstown.	Port Elizabeth.	Total.	
1914–15	—	—	—	—	—	—	—	—	—	—	—	—
1915–16	—	—	—	—	—	—	—	—	—	—	—	—
1916–17	—	—	—	—	—	—	—	—	—	—	—	—
1917–18	—	—	—	—	—	—	—	—	—	—	—	—
1918–19	—	—	—	—	—	—	—	—	—	—	—	—
1919–20	—	—	—	—	—	—	—	—	—	—	—	—
1920–21	—	—	—	—	—	—	—	—	—	—	—	—
1921–22	—	—	—	—	—	—	—	—	—	—	—	—
1922–23	—	—	—	—	—	—	—	—	—	—	—	—
1923–24	—	—	—	—	—	—	—	—	—	—	—	—
1924–25	—	—	—	—	—	—	—	—	—	—	—	—
1925–26	—	—	—	—	—	—	—	—	—	—	—	—
1926–27	26,030	4,621	7,317	3,282	41,250	—	—	—	—	—	—	41,250
1927–28	35,267	6,603	9,004	4,776	55,650	—	—	—	—	—	—	55,650
1928–29	56,505	11,132	8,200	7,055	82,982	—	—	—	—	—	—	82,892
1929–30	56,698	9,609	6,854	9,488	82,649	4,980	—	293	—	—	5,273	87,922
1930–31	68,178	13,847	20,066	12,189	114,280	4,704	—	252	—	—	4,956	119,236
1931–32	81,645	12,243	14,641	10,853	119,382	4,222	—	202	—	—	4,424	123,806
1932–33	85,743	13,558	8,765	13,598	119,664	3,013	—	—	—	—	3,013	122,677
1933–34	122,958	26,338	—	20,429	169,725	4,839	—	549	—	—	5,388	175,113
1934–35	89,413	15,201	—	16,232	120,846	1,840	—	306	—	—	2,146	122,992
1935–36	110,948	19,264	—	15,978	146,190	1,365	—	502	—	—	1,867	148,057
1936–37	149,746	13,487	6,387	21,079	190,699	3,157	—	290	—	—	3,447	194,146
1937–38	175,616	28,524	8,238	23,396	235,774	3,246	1,334	231	—	—	4,811	240,585
1938–39	93,142	17,393	6,357	12,076	128,968	3,222	1,428	175	—	—	4,825	133,793
1939–40	122,502	50,959	17,977	18,160	209,598	4,212	2,112	2,683	—	—	9,007	218,605
1940–41	126,299	37,492	2,531	14,868	171,190	11,483	7,825	33,878	1,799	—	24,985	196,175
1941–42	215,702	63,327	—	20,100	299,129	33,942	4,032	5,200	4,970	—	28,114	347,243
1942–43	150,007	37,262	—	10,930	198,199	55,075	1,350	3,655	3,457	4,421	67,958	266,157
1943–44	125,971	58,632	—	22,155	206,758	50,846	2,849	6,956	3,690	1,766	66,107	262,865
1944–45	122,000	57,671	—	20,560	200,231	59,793	4,136	6,986	—	—	70,915	271,145
1945–46	168,711	43,428	—	46,812	258,951	102,049	8,677	5,538	—	42	116,306	375,257