

Trends in SAFEX trading of Western Cape wheat producers

by

Jurre Hartwigsen

A thesis submitted in partial fulfilment of the requirements for the degree

MSc (Agric) Agricultural Economics

in the

Department of Agricultural Economics, Extension and Rural Development

Faculty of Natural and Agricultural Science

University of Pretoria

Pretoria

South Africa

April 2013

DECLARATION

I, Jurre Hartwigsen, declare that the dissertation, which I hereby submit for the degree MSc(Agric) Agricultural Economics at the University of Pretoria is my own work and has not been submitted for a degree at any other tertiary institution.

SIGNATURE:

DATE: April 2013

ACKNOWLEDGEMENTS

First of all I would like to thank God for giving me the ability to complete this thesis.

Secondly, I would like to thank Professor Johann F. Kirsten for all he has done for me during my studies at the University of Pretoria. The opportunities he gave me and the support in all my academic endeavours. I would also like to thank my supervisor Dr André van der Vyver for his advice and supervision and for assisting me in completing this thesis, whom without it would not have been possible. I would also like to extend my gratitude towards the various agribusinesses, brokers and producers who was surveyed; thank you for your compliance and input.

Thirdly, I would like to extend my appreciation towards Almarie Nordier for her guidance and patience with my many questions.

Lastly, I thank my family for all their support they gave me and the sacrifice they made to enable me to complete this master thesis.

I will be forever grateful.

ABSTRACT

Trends in SAFEX trading of Western Cape wheat producers

by

Jurre Hartwigsen

Degree: MSc (Agric) Agricultural Economics
Department: Agricultural Economics, Extension and Rural Development
Supervisor: Dr André Van der Vyver
Key Concepts: Commodity Markets, Wheat, Hedging Strategies

When the South African Futures Exchange (SAFEX) Agricultural Products Division (APD) was formed in the early 1990s after the demise of the Marketing Boards, the support and direct participation of producers on the exchange was core to its long term success. A tremendous amount of energy and cost was invested by SAFEX and brokers to educate and sign up primary producers. Most agribusinesses (ex-cooperatives) also had broking divisions.

This campaign was very successful and a large percentage of producers, particular of maize and wheat, opened SAFEX accounts through brokers. It was not unusual for many of them to open more than one account with different brokers. Collectively, they had a very important impact on the market.

Fifteen years after the launch of the wheat contract (in 1998), this is no longer the case. Industry sources have it that many, if not most, producers have either closed their accounts, have an inactive account, or have scaled down their trading activities. This leads to the hypothesis that direct participation by producers on the JSE/SAFEX Commodity Division is declining.

The questions that arise from this observation are:

- Are producers distancing themselves from SAFEX (or the other way around)?
or,
- Has the industry matured and progressed into a new era?

This research had the objectives to:

- Determine the estimated percentage of producers that directly traded on SAFEX during the initial years and compare the data to present numbers. Based on the outcome of the primary data collected, to determine if there is indeed a trend.
- If correct, to determine what the reasons for this could be. Has there been a shift in hedging practices? Are brokers offering additional services which make it unnecessary for producers to operate directly on the exchange?

Wheat producers in the Western Cape were selected as the target group for various reasons, including the province's geographical isolation, its importance as a wheat production area and the importance of wheat in the gross income generated by producers.

The survey firstly established the importance of wheat in the Western Cape grain production areas. No doubt, income derived through wheat production is still very important throughout the Western Cape, but in certain areas it is absolutely crucial. Next, the survey attempted to determine how and when producers 'price' (sell) wheat. The survey then aimed to establish what the most important factors are that influence producers' pricing strategy. Producers ranked growing conditions as the number one factor in taking a pricing decision, followed by production costs. Furthermore, producers do adjust their marketing strategy but there seems to be a difference of opinion as to whether it is on their own accord or on advice of their brokers.

The survey not only depended on producer data but cross-referenced with brokers (traders and agribusinesses). Based on overall feedback, the analysis determined

that on average in the Western Cape 10 – 20% of wheat producers had SAFEX accounts, while in selected areas it was as high as 37 – 50%.

It was also important to determine to what extent SAFEX trading activity had decreased, if at all. This question only applied to those respondents that said they did have a SAFEX account and their activities had decreased. The answer revealed that 91% of respondents had stopped trading altogether.

Having now established that a fairly large number of producers had accounts on which most had ceased their activities, the question is why. Cash flow requirements are the single biggest reason why producers have reduced (or completely stopped) their participation on SAFEX. The second reason was that a producer could achieve the same benefits and more through the services offered by the grain traders and agribusinesses, compared to trading directly on SAFEX.

It should not be forgotten that the trader could only offer these service if he or she does a deal, back-to-back, on SAFEX. This is part of the reason why all traders and agribusinesses have a SAFEX account.

The survey concluded with what might be singled out as one of the most important questions (given what had been determined up to this point): Do producers believe brokers offer all of the marketing options that could be achieved by trading direct on SAFEX? With the benefit of already having analysed the response to the earlier questions, the answer might have been expected. However, the response was overwhelming: 97% of respondents said that brokers offer all of the marketing options they were interested in.

It could therefore be said that the decline in direct SAFEX participation by Cape wheat producers is the direct result of the all-inclusive services offered by traders and agribusinesses. Producers sign a forward contract with their brokers while the brokers would offset their risk on SAFEX. An element of caution, however, needs to be expressed. Given the importance of wheat in the Western Cape, and particularly in the Swartland, producers should not relinquish their responsibility to acquire or maintain a minimum amount of knowledge on the functioning of SAFEX. Irrespective

of whether producers deal directly on SAFEX or through their brokers, knowledge now and in the future will hold the key to their marketing performance and should not be replaced by using brokers.

TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENTS	iii
ABSTRACT.....	iv
TABLE OF CONTENTS.....	viii
LIST OF TABLES	xi
LIST OF FIGURES.....	xii
LIST OF ACRONYMS.....	xiv
CHAPTER 1: INTRODUCTION TO THE STUDY	15
1.1 BACKGROUND.....	15
1.2 PROBLEM STATEMENT.....	15
1.3 PURPOSE STATEMENT.....	16
1.4 RESEARCH OBJECTIVES.....	16
1.5 ACADEMIC VALUE AND CONTRIBUTION OF THE PROPOSED STUDY	17
1.6 DELIMITATIONS AND ASSUMPTIONS	18
1.6.1 <i>Delimitations</i>	18
1.6.2 <i>Assumptions</i>	18
CHAPTER 2: LITERATURE REVIEW	19
2.1 INTRODUCTION	19
2.2 SOUTH AFRICAN FUTURES EXCHANGE	22
2.2.1 <i>Hedgers</i>	23
2.2.2 <i>Arbitrageurs</i>	23
2.2.3 <i>Speculators</i>	24
2.3 INSTRUMENTS TRADED ON SAFEX TO HEDGE RISK	24
2.3.1 <i>Futures contracts</i>	25
2.3.2 <i>Options</i>	25
2.4 PARTICIPANTS ON SAFEX.....	26

2.4.1 Producers	26
2.4.2 Agribusinesses (ex-co-operatives)	30
2.4.3 Traders	32
2.4.4 Processors	32
2.5 CONCLUSION.....	32

**CHAPTER 3: AN OVERVIEW OF THE SOUTH AFRICAN WHEAT INDUSTRY
WITH SPECIAL FOCUS ON THE WESTERN CAPE.....34**

3.1 INTRODUCTION	34
3.2 SOUTH AFRICAN WHEAT INDUSTRY	37
3.2.1 Production of wheat in South Africa.....	39
3.2.2 Consumption of wheat in South Africa.....	42
3.2.3 Imports and exports.....	43
3.2.4 Wheat prices	45
3.2.5 Wheat grading	46
3.3 WESTERN CAPE WHEAT INDUSTRY	47
3.3.1 Agriculture and wheat production in perspective	47
3.3.2 Sub-regions of wheat production within the Western Cape	50
3.3.3 SAFEX Cape Wheat Contract	53
3.4 CONCLUSION.....	54

CHAPTER 4: RESEARCH METHODOLOGY56

4.1 INTRODUCTION	56
4.2 DESCRIPTION OF INQUIRY STRATEGY AND BROAD RESEARCH DESIGN.....	57
4.3 SAMPLING	60
4.3.1 The Sample	61
4.3.2 Reason for this particular sample	61
4.3.3 Sample size.....	62
4.4 DATA COLLECTION	62
4.5 DATA ANALYSIS.....	63
4.6 ASSESSING AND DEMONSTRATING THE QUALITY AND RIGOUR THE PROPOSED RESEARCH DESIGN	64

4.7 RESEARCH ETHICS.....	64
CHAPTER 5: ANALYSIS OF SURVEYED DATA	66
5.1 INTRODUCTION	66
5.2 WHEAT PRODUCTION IN THE WESTERN CAPE	66
5.3 MARKETING AND PRICING STRATEGY	69
5.4 PRODUCERS HEDGING DIRECTLY ON SAFEX	73
5.5 REASONS FOR THE DECLINE IN DIRECT SAFEX PARTICIPATION BY PRODUCERS.....	78
5.6 SAFEX FUTURES AND OPTIONS	82
5.7 CAPE WHEAT CONTRACT	83
5.8 WHEAT GRADES TRADED ON SAFEX.....	86
5.9 WHEAT MARKETING CHANNELS AND METHODS	89
5.10 AGRIBUSINESSES AND BROKERS.....	93
5.11 SILO CERTIFICATE AUCTIONS	96
5.12 WHEAT PRICE AND PREMIUMS	98
CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS	99
6.1 CONCLUSION.....	99
6.2 RECOMMENDATIONS	105
REFERENCES.....	106
ANNEXURE A: QUESTIONNAIRE.....	111

LIST OF TABLES

Table 2.1: Contract specifications on SAFEX.....	23
Table 3.1: South African wheat production calendar according to the wheat marketing year.....	37
Table 3.2: South Africa's total wheat production and Western Cape wheat production for the 2007 – 2012 period.....	38
Table 3.3: Wheat grading regulations of South Africa.....	47
Table 3.4: Estimate regional production and yields.....	52
Table 3.5: Cape Contract Silos.....	54
Table 5.1: Factors influencing pricing strategy	71
Table 5.2: Reasons for decrease in SAFEX participation by producers.....	78
Table 5.3: Reasons for non-participation on SAFEX by all respondents	80

LIST OF FIGURES

Figure 2.1: Derivative instruments used by agribusinesses to hedge against price risk.....	31
Figure 3.1: Share of real value added by the agriculture, forestry and fisheries sector to total real value added by all sectors in South Africa's economy (at 2000 constant prices).....	35
Figure 3.2: Risk in Agriculture	36
Figure 3.3: Total wheat production in South Africa.....	39
Figure 3.4: South Africa's wheat production ('000 tons) from 1990/91 to 2011/12 .	40
Figure 3.5: The South African wheat production per province in million tons from 2000 - 2012	41
Figure 3.6: The five year average distribution of South Africa's total wheat production per province.....	41
Figure 3.7: Wheat consumption in South Africa.	42
Figure 3.8: South African wheat balance.....	44
Figure 3.9: The three year average distribution of South African wheat Imports per country	44
Figure 3.10: The three year average distribution of South African wheat exports per country	45
Figure 3.11: South African Wheat prices compared to import and export prices.....	46
Figure 3.12: Western Cape wheat production	48
Figure 3.13: Crop production the Western Cape	49
Figure 3.14: Livestock and Crop production in the Western Cape	50
Figure 3.15: Map of dryland crop productivity in the Western Cape.....	52
Figure 5.1: Crop production contribution to gross farm income.....	67
Figure 5.2: Wheat contribution to total crop production	68
Figure 5.3: Wheat production for all the respondents.....	69
Figure 5.4: Wheat marketing strategy	70
Figure 5.5: Producers' response to price expectations.....	72
Figure 5.6: Number of producers that had a SAFEX account	74
Figure 5.7: Opening of SAFEX accounts.....	75

Figure 5.8: Change in trading activity	76
Figure 5.9: Level of decrease in SAFEX participation by producers.....	77
Figure 5.10: Wheat price reflected by SAFEX price	81
Figure 5.11: Futures and Options.....	82
Figure 5.12: Percentage of options used by respondents	83
Figure 5.13: Informed about the Cape contract.....	84
Figure 5.14: Number of producers that aimed in trading their wheat over the Cape wheat contract.....	85
Figure 5.15: SAFEX deliverable wheat grades.....	87
Figure 5.16: Wheat price difference for grades	88
Figure 5.17: Preferred marketing channels	90
Figure 5.18: Delivery point of wheat	91
Figure 5.19: Preferred pricing method.....	92
Figure 5.20: Pricing option provided by broker opposed to trading on SAFEX.....	94
Figure 5.21: Reason for marketing wheat through a broker	95
Figure 5.22: Is broker competition preferable	95
Figure 5.23: Respondents knowledge of silo certificate trading	97

LIST OF ACRONYMS

APD	Agricultural Products Division
AMD	Agricultural Markets Division
BFAP	Bureau for Food and Agricultural Policy
CEC	Crop Estimate Committee
JSE	Johannesburg Stock Exchange
SAFEX	South African Futures Exchange
NAMC	National Agricultural Marketing Counsel
WC	Western Cape

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 BACKGROUND

When the South African Futures Exchange (SAFEX) Agricultural Products Division (APD) was formed in the early 1990s after the demise of the Marketing Boards, the support and direct participation of producers on the exchange was core to its long term success. A tremendous amount of energy and cost was spent by SAFEX and brokers to educate and sign-up primary producers. Most agribusinesses (ex-cooperatives) also had broking divisions.

This campaign was successful and a large percentage of producers, particular of maize and wheat, opened SAFEX accounts through a broker. It was not unusual for many of them to open more than one account with different brokers. Collectively they had a very important impact on the market. Although not orchestrated, they often had the same approach in their price outlook, meaning for example, in times of difficult growing conditions they would drive prices higher (whether from a risk management point of view or because of a speculative approach), and the opposite, should good growing conditions prevail. They were able to do this because the producer accounts made up a very important percentage of the market in volume and value.

After approximately 15 years, this is no longer the case. Industry sources have it that many, if not most, producers have either closed their accounts, have an inactive account, or have scaled down on their trading activities.

1.2 PROBLEM STATEMENT

Direct participation by producers on the Johannesburg Stock Exchange (JSE) Commodity Exchange is on the decline. Is SAFEX distancing itself from producers

in favour of more lucrative clients, or has there been a shift in hedging practices? This could have all sorts of implications. If the producers (or primary agriculture) are not using SAFEX as a risk management tool, who then uses it. Also, why are they not using it, is this a lack of education, lack of need or have they found other and better alternatives that perform the same function more cost effectively?

1.3 PURPOSE STATEMENT

The purpose of this study is to determine whether producers are still actively trading on SAFEX. This will be done, firstly by determining the percentage of producers that traded in the initial years of the exchange. After which the current level of trading will be determined, by way of a quantitative survey. This study also aims to show whether there has been a change in hedging practices. If there is a change in hedging practices, it will have an impact on the view of conventional marketing strategies and channels available to the producer and agricultural sector. It will also bring about a secondary change in the way in which agribusinesses and organised agriculture should view their engagement with producer marketing strategies.

1.4 RESEARCH OBJECTIVES

The research objectives are:

- To determine the estimated percentage of producers that traded directly on SAFEX during the initial years. The Western Cape wheat producers have been selected as the target group. Trading accounts are often considered confidential, similar to bank accounts, and so the study will also rely on secondary data to achieve an estimation. Traders and agribusinesses will form part of the survey to provide this secondary data.
- To compare participation numbers in the initial years with present day numbers.
- Based on the outcome of the primary data collected, to determine if there is indeed a trend and to ascertain what the reason for that might be. A

subsidiary question is whether SAFEX is distancing itself from its previous core producer client base in favour of more lucrative clients.

- To ascertain whether there has there been a shift in hedging practices and whether brokers are offering additional services which make it unnecessary for producers to operate directly on the exchange.
- To determine the implications this might have on policy decision making.

1.5 ACADEMIC VALUE AND CONTRIBUTION OF THE PROPOSED STUDY

The South African Government by and large subscribes to a free market policy with reference to the South African grain and oilseed industries. This is not only applicable with regard to the local industry but also to imports and exports. A policy of minimum government intervention is enforced. The industry, therefore, is largely self-regulatory. This specifically applies to the JSE which functions under licences from the Financial Services Boards. The only licence currently issued for trading agricultural derivative products is in favour of the JSE which operates a separate Commodity Division, trading in agricultural commodities, amongst others.

It is therefore of industry-wide importance that the JSE operates a market where participation by all potential players is free, fair and transparent, and that they have the support of core industry groups, including primary agriculture. If this is still the case, stakeholders in the grain and oilseed industries could continue to support the concept of the JSE/SAFEX as being the sole commodity exchange for South Africa. Alternatively, if there is a decline in producer participation, the reasons should be determined. It also holds secondary consequences for agribusinesses and financiers whose clientele might be shifting. For example, no longer will the producer require financing, since the stock will be in the hands of agribusinesses or traders.

To put the importance of the grain and oilseed sector that utilises SAFEX in perspective, the following should be taken into account. Six basic contracts are traded on SAFEX, namely white and yellow maize, wheat, soybeans, sunflower seed, and sorghum. Combined they have gross value of 69% of field crops and 18% of primary agriculture. Primary agriculture contributes 3% to the national

GDP (as reported by Statistics South Africa on 28 August 2012) and its contribution to secondary processing is around 12% (DAFF, 2013). Its role in food security has not yet been touched on.

1.6 DELIMITATIONS AND ASSUMPTIONS

1.6.1 Delimitations

The target group is the Western Cape wheat producers. The survey is not limited to producers trading on SAFEX. If successful, the survey could be expanded to the inland areas and/or other commodities as well, but limited to those commodities trading on SAFEX.

The focus is on wheat marketing strategies: when and how producers sell their wheat, and to whom, and on what basis they make their decisions.

1.6.2 Assumptions

The study rests on certain assumptions, which are:

- It is assumed that the respondents to the data collection design will answer truthfully and as correctly to their knowledge as possible.
- That they will not be influenced or led in anyway by the researcher or supervisor.
- That the survey method is unbiased.
- This study will comply with the ethics requirements as prescribed by The University of Pretoria.
- Permission will be given to use data collectively.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

After World War I the global agriculture sector experienced many problems. This manifested in high prices and a shortage of local and imported commodities in South Africa. This was followed by the great depression in the 1920s that led to credit shortages in agriculture (Scheepers, 2005).

These two worldwide events left a negative impact on South Africa. Producers found them in a position where input prices were high and output prices low. Not only were the prices unfavourable, but the market was also very unstable and volatile. Soon after this, many complaints by the producers to the government were issued. The purpose thereof was to establish a market for their produce, grain and other commodities; one which would give a more stable environment, with an emphasis on price stability.

The government of that time responded with the Co-operative Act (No 28 of 1922) to improve the infrastructure in the agricultural sector. In addition, the Land Bank was empowered to increase credit available to producers (Scheepers, 2005). To improve on the low prices for their products, the Export Subsidies Act (No 49 of 1931) was introduced. This Act allowed for subsidies on the exports of certain, but not all, agricultural products. The result was an increase in prices, but the prices were still unstable.

The next important event that led to the fixing of prices was the establishment of a “one channel” marketing system. This was to stabilise prices. The result was that from 1937 to 1996, grain producers in South Africa traded under a one channel marketing system. The Marketing Act of 1937 led to the creation of the National Marketing Council. Control Boards (later referred to as Marketing Boards) were instituted. The outcome was that these Boards were the only buyers of certain

products, which included most of the grain commodities. The Boards also set the price of the commodity by looking at factors such as supply and demand, locally and internationally, as well as current stock levels. Marketing Boards, by means of fixed prices, were able to increase price stability, as well as farming efficiency, reduction of producer and consumer price spreads, and producer prices (Scheepers, 2005).

During World War II there was a shortage of grain owing to the war and unfavourable weather conditions. This led to a high price for grains worldwide, but South African producers did not benefit from it because of the Marketing Boards' efforts to maintain price stability (Scheepers, 2005).

As a consequence of the ineffectiveness of the Marketing Boards to harness benefits from the high global grain prices (although their initial aim was for food security and not better prices), the Marketing Boards developed and implemented a price support system. This meant that grain market prices were no longer determined solely by supply and demand. In itself this led to many problems in the South African agricultural sector. Producers became inefficient and uncompetitive in the international market. This was because they no longer needed to produce in a profitable, sustainable way. As prices did not reflect supply and demand there was no need to improve production and marketing methods.

Changes had to come and in 1992 the Kasser Committee was appointed. The end result was the new Marketing Act of 1996 which was promulgated by the new democratic government. This Act was in favour of a free market, where prices were able to fluctuate and were to be determined only by supply and demand. Government had no longer any direct influence on the prices. In addition there were more marketing channels accessible to producers, where they could secure the highest price available to them in the market.

The most important part of this Act was the abolition of the Marketing Boards. This meant that the South African grain market was now liberalised. The object was to improve market access and export earnings and also to create a more sustainable agriculture sector and more efficient market (Scheepers, 2005). The immediate effect of this liberalisation, as expected, was manifested in vast price fluctuations as

prices were no longer pre-determined. These fluctuations led to producers looking for a new approach to acquire price stability. The result was the establishment of the South African Future Exchange (SAFEX). However the first futures contracts (potatoes and beef) traded before the new Marketing Act was promulgated.

The derivative market was developed to help producers and consumers in the grain market to deal with price fluctuations and the increased risks that resulted from market liberalisation.

Hedging was a way in which producers could handle the increased risk of adverse price movements. According to Scheepers (2005), the hedging of a crop at the right time, at the right price, could lead to sustainability and enhanced international competitiveness. In 1995 the Agricultural Markets Division (AMD) was created, as a division of the South African Futures Exchange SAFEX, which dealt in financial products and was commonly referred to as “SAFEX”.

The concept of derivative markets was new to producers. Owing to a lack of knowledge and experience, contract volumes traded started slow in the initial years. However, owing to a major effort by SAFEX and its brokers, participation in the derivative market grew at a fast pace. One reason was that prices were allowed to fluctuate and SAFEX could provide some stability. Producers could sell their crops directly on SAFEX without the agency of a broker. If the correct instruments were used at the correct time by producers or processors, it could greatly limit the risk they were exposed to.

This, however, required expert knowledge and, more importantly, complete and accurate information on all the factors influencing supply and demand. Supply and demand in turn determines the price for a specific commodity. Many believe that this requirement for information is why many producers experienced an entry barrier to trade on SAFEX. Government should aim to improve this (Scheepers, 2005).

The increase in knowledge largely improves the market's efficiency (Van Der Vyfer, 1994). The increase in knowledge leads to more participants in the markets, as well as in volumes being traded. This ensures that the markets can be efficient as a price

determinant mechanism. The more buyers and sellers in the market, the more accurate the SAFEX price will be reflected in the spot market price. This is a measure of efficiency (Scheepers, 2005). (The instruments that are traded on SAFEX and the users of them will be explained later on.)

2.2 SOUTH AFRICAN FUTURES EXCHANGE

A derivative contract is defined by John C.Hull (2002) as a contract whose value depends on, or derives from, the value of an underlying asset, reference rate or index.

Markets all over the world have moved away from government-based to “free market”-based economies. South Africa has also done this by the liberalisation of the Marketing Boards. The Agricultural Markets Division (AMD) came to be in January of 1995. The premises were located in Houghton (SAFEX, 2012).

In the first half of 2001, members of SAFEX accepted a buyout by the Johannesburg Stock Exchange (JSE). It now became a division of the JSE. In August 2001 the name changed to the Agriculture Products Division (APD).

Commodities traded on SAFEX are listed as contracts. Each commodity contract has its own specifications. These include quantity and quality, to name only a few. The five futures months – reference to when the contract expires – are March, May, July, September and December. All market participants, irrespective of whether they buy or sell, have to pay an initial margin when the deal is struck. This is to guard against defaulting by either of the two parties. The initial margin is usually between 5% and 6% of the total value of the commodity and is payable immediately overnight through electronic transfer. A variation margin is also required. This mechanism is applied to transfer the daily profit and loss from the transaction between different parties without having to call the parties for these amounts (Stacey, 1988:18). This means an active account needs to be kept by the clearing member and managed by the broker, to accommodate daily price movements.

SAFEX also sets a limit as to how much the price can move, up or down, on any given day. From time to time, the market is hit by some major news event, upon which the market price then overreacts. This offers an opportunity for the market to cool down from one day to the next. Price limits also ensure a safe guard against default risk. Maximum daily price movements are uniquely set for each contract

The local contracts currently traded on SAFEX are listed in Table 2.1 (Feb 2012).

Table 2.1: Contract specifications on SAFEX

Underlying commodity	Code	Size (tons)	Initial Margin
White maize	WMAZ	100	R11 000
Yellow maize	YMAZ	100	R11 000
Wheat	WEAT	50	R7 000
Cape Wheat	CAPE	50	R7 000
Sunflower seed	SUNS	50	R1 100
Soybean	SOYA	25	R5 000
Sorghum	SORG	100	R11 000

Source: SAFEX, 2013

There are three major types of participants on a derivative market (Hull, 2002:7). They are hedgers, speculators and arbitrageurs. The instruments that are used by these three groups of market participants are described in the next section.

2.2.1 Hedgers

Botha (2005) defines hedging as a process where long or short positions are established to decrease the risks exposed to as a result of unfavourable price movements. The long position involves buying an asset and the short position, selling it. The asset is a future contract of a commodity, e.g. white maize. The hedgers are the producers and/or the processors of the commodities. The main aim is to decrease price risk and not to speculate (Botha, 2005).

2.2.2 Arbitrageurs

These traders lock in risk-free profit by buying different instruments in two or more markets at the same time (Hull, 2002:12). They identify small price imperfections in the markets and take advantage of them, usually between the cash and futures

market. If the price of a certain instrument is different in two markets in the short term, the arbitrageur will buy in at the lower price market and sell at the higher price market at the same time. This will give the arbitrageur a risk-free profit. This imbalance is usually because of a lack of information by all parties which leads prices in the cash and futures markets to differ. Scheepers (2005) has established that the derivative market is efficient and so prices should not differ, but also concluded that the market needs to be more transparent and more information be made available to all parties. Thus, asymmetrical imperfect information leads to opportunities for arbitrageurs to make a profit on SAFEX.

2.2.3 Speculators

Speculators take a position in the market, hoping that the price will increase or decrease in their favour (Botha, 2005). If prices move in the direction they predicted, they make a profit. This profit is most uncertain, as the market is difficult to predict. The derivative market is an attractive way to make profit since one only needs a small amount of capital to benefit from price movements. According to Kurten (2002:5), speculators provide an important role in the derivative market owing to the fact that they provide liquidity. The buying and selling of contracts on a regular basis means that the market receives liquidity. They also keep transaction costs low.

It needs to be said that speculators also influence the participation of producers on SAFEX. Producers fear that, because of their expertise and experience, speculators can influence the price of the commodities negatively and acquire profit at the expense of the producers.

2.3 INSTRUMENTS TRADED ON SAFEX TO HEDGE RISK

There are eight different types of marketing channels available to producers to market their grain. Of these eight types (Cass, 2009), two provide (use of futures and options) channels that producers can trade on SAFEX to limit their risk and still be profitable. According to Scheepers (2005), there are many strategies that producers can follow on SAFEX, not only to fix their prices, but also to make profits, depending on the producers' risk profiles and financial positions. These channels and strategies

will be discussed in brief and they are important to interpret and understand the results of the survey later on. The instruments will be described and explained.

2.3.1 Futures contracts

Contracts on SAFEX are derivative in nature: They are contracts between two parties where the price is derived from an underlying asset (grain and oilseed commodities on SAFEX). The contract expires at a predetermined date in the future. The quantity and quality of the underlying commodity is specified. If the contract expires before closure, the short position holder has to make physical delivery. This could also be done at any time during the expiration month. If a contract is to be closed, the opposite position is taken on a similar contract traded on SAFEX.

There are two positions for futures contracts on SAFEX, a short and a long position.

- **Short position**

This is the position a seller of the commodity takes. On SAFEX it is typically the producer. The seller takes this position to hedge against a downturn of prices in the coming marketing season (SAFEX, 2012). Depending on the actual price at expiration, the producer offsets losses on the spot market by using profits in the futures market to neutralise one another. However a speculator will also take this position if he expects prices to go down in the future.

- **Long position**

This is typically the strategy of a buyer of maize, e.g. a miller. The buyer hedges against a possible price increase in the market. A speculator will take a long position to accrue a profit if prices increase.

2.3.2 Options

There are also “options” instruments available on SAFEX. An option is a contract for an underlying commodity that gives the owner the right, but not the obligation, to exercise the option if he or she wants to, or if it is profitable to do so (Hull, 2002:160).

This is different from a future or forward contract where the parties enter into a binding agreement. There are four types of participants in the option markets. They are buyers of calls, sellers of calls, buyers of puts and sellers of puts (Botha, 2005).

- **Long put option**

Is to take a position to sell an underlying commodity. However, it gives the holder the right, but not the obligation, to sell the underlying contract at a certain price for a fixed period of time (SAFEX, 2012). A producer will buy a put option to protect against adverse price movements.

- **Long call option**

Is to buy the underlying commodity. It gives the holder the right, but not the obligation, to buy the underlying contract at a certain price for a fixed period of time (SAFEX, 2012). This is typically used by millers.

All options are sold by an option writer. This is done at a premium which is determined by the Black and Scholes model (Black & Scholes, 1973). The variables that influence the premium price are: market price, strike price, interest rate, date of expiration, time to expiration and the market volatility. If the holder of an option does not exercise on the option he will lose his premium (Scheepers, 2005).

2.4 PARTICIPANTS ON SAFEX

These instruments are used in many ways by different parties for different reasons. The first category that will be looked at is producers and the marketing channels available to them. Next, consideration will be given to the SAFEX channel(s) producers use, in light of the study done by Scheepers (2005). The producers' preference to use derivative markets is very important and relevant to this study, thus it will be explained as well.

2.4.1 Producers

Producers are the producers of the commodity. They are the starting point of the agricultural sector. With their knowledge and experience they aim to acquire the

biggest yields possible within their own constraints. The production is in their control, with the weather being one of the main factors providing risk they cannot control. They thus want to secure their highest possible price for their crop. It is not uncommon for producers to use more than one marketing channel to increase profit and spread risk.

A study by Lionel Cass in May 2009 shows the following marketing strategies (Cass, 2009):

- Harvest and store in silo to sell at a later stage when the price has increased
- Enter into pre-harvest forward contracts
- Harvest and store in own silos
- Harvest and store in silo bags
- Hedge yourself on SAFEX (futures and options)
- Sell maize on spot market and buy future contracts
- Use maize as animal feed and sell animals
- Bio-ethanol plants

Each of these strategies has its own advantages and disadvantages. It is not the purpose of this study to determine which channel is the best. This, however, depends on the risk profile of the producer since some channels give bigger profits, but at a greater risk. It should, however, be noted that SAFEX is not the only option available to the producer. However, if producers are no longer trading actively on SAFEX, then the hedging strategies they use need to be understood.

As mentioned above, during the early stages of SAFEX, producers needed to be educated and be assisted to understand the use of the derivative market. Furthermore, to be successful on the market, information of supply and demand is needed. A study published in *Agrekon* in 2008 by Ueckermann and others (Ueckermann *et al.*, 2008) explains the South African grain producer's preference to adopt derivative contracts. They identified some of the factors that influence the producer's preferences and certain conclusions were drawn.

One of the important conclusions they made was that different grain producers are significantly heterogeneous. This needs to be kept in mind when questionnaires are drawn up and interpretations are made in this study. This means that producers will differ in hedging practises, as well as in their reasons to trade on SAFEX.

The study by Ueckermann *et al.* (2008) also concluded that the following factors influenced the producer the most to adopt trading on derivative markets:

- The producer's inability to predict daily grain prices and trends. This is one of the main reasons why many producers do not actively trade on SAFEX. To predict price movements and trends, one needs up to date, accurate information on all the factors that influence supply and demand. Not only is it costly to gather all this information, it is also very time consuming. Expert knowledge to interpret the data is also needed, a skill that producers do not always have. This is the reason why many believe producers do not trade actively on SAFEX, but rather concentrate on production.
- Regional geographic characteristics, such as climate variables, yield expectations, production patterns and other unobserved characteristics that will influence expected supply of the producer.
- Farm size: It was found that producers with large farms have more preference to use derivative markets.

These are some of the factors that were significant to their model's results. The outcome of this study may confirm their findings, as well as add to these factors influencing the producer's preference to trade directly on SAFEX.

The strategies as shown by Scheepers (2005) will briefly be considered, mainly those that producers can adapt, if they trade on SAFEX. The strategy will depend on the risk profile of the producers, as well as their financial position, that is, whether they have funds available.

Again, it is not the purpose of this study to identify the best strategy, but only to show the reader that there are many options that a producer can choose from.

This adds to the complexity of trading directly on SAFEX. The strategy can be to hedge risk, make profit or both. Scheepers (2005) identifies the following (by comparing the mean price and variance of each strategy):

- Firstly, – and this is supported by Cass (2009) – the producer will do no hedging and sell onto the spot market. Scheepers (2005) calculated, in his study by using average prices of 2004/05 season, a mean of R750/t and a variance of 0.21466 for this strategy. The variance is thus how far from the mean price the actual price can vary.
- Secondly, the producer will hedge his or her grain during the planting season by going into forward sales. They will do so by shorting the anticipated crop on SAFEX. Scheepers has shown that the spot price can increase or decrease during the hedging period. As mentioned above, it is then countered by a profit or loss in future market. The variance is now 0.3886 and the mean received price R680/t.
- Another strategy shown by Scheepers (2005) is to hedge the crop the same time as in the abovementioned example, but also to buy a call option. This is to take advantage of the upside potential. This, however, requires money to buy options. Mean of R739/t variance of 0.8979.
- The last strategy is similar to the previous one. The producers will short futures to protect against price declines and buy call options to participate in the upside of a price increase. It differs in the time the call option expires. This strategy focuses on the theory that prices are at their highest before harvesting (Scheepers, 2005). Mean R754/t and variance of 0.1000063.

Thus, these strategies differ from Cass' (2009), since it is not only to hedge the producers' risks, but also to generate profit. Scheepers (2005) has also stated that there are many strategies a producer can use to hedge or to manage his or her

profitability. He goes on to explain that by combining put and call options one can make spreads to receive profit if the market moves in any direction. These options are bought at different strike prices.

This section on producers clearly indicates that they have many marketing channels available to them. They do not need to trade only SAFEX. The word 'SAFEX' may be intimidating to a producer who would rather prefer to focus on production and let a third party handle the interpretation of market information and trading on SAFEX.

In the following section the agribusinesses (ex-cooperatives), traders and agribusinesses' use of SAFEX will be discussed in brief. It should be remembered that all the parties are linked to one another and render services and provide markets to producers.

2.4.2 Agribusinesses (ex-co-operatives)

These businesses are there to make a profit. They make profit by delivering services to the producers, hedging their crops on their behalf, buying and selling on the futures markets and buying and selling in the spot market. The agribusiness derives the prices they offer to producers from SAFEX, but might add a premium, subject the local demand in the area. The SAFEX price is quoted as the price of the commodity at Randfontein (the price reverence point of the South African grain industry) minus the differential (the transport and handling cost to deliver the crop to Randfontein silos). Thus, the further a producer is from Randfontein, the less the producer receives for his or her crop.

Agribusinesses could potentially offer clients a better price through having knowledge of buyers and sellers in the market. Sometimes they buy grain and sell it to a buyer closer to Randfontein. A system of premiums levels the playing field, ensuring that all parties are treated fairly. The agribusiness takes a commission and secures profit for itself.

They also hedge crops on behalf of producers. The producers can thus concentrate on production. Agribusinesses also have their own traders doing hedging and sometimes speculating.

In South Africa agribusinesses also play a vital role in the production of grains by providing inputs to the producers. They provide producers with silo facilities to store their grain at a fee. Agribusinesses are also big buyers of grain which they sell on to make profit. Botha (2005) has stated that 70% of agribusinesses buy grain from their members and of this 70% about 30% of them have the intention to re-sell it again.

According to Botha (2005) in her study, *The use of derivatives by South African Agricultural co-operatives to hedge financial risk*, it was shown that 23 out of the 66 co-ops were exposed to price risk in their grain trading and hedged against it. They do this by taking out futures positions and options. Figure 2.1 below depicts the usage of the different derivative instruments by eight agribusinesses who hedge against price risk on SAFEX (as identified by Botha).

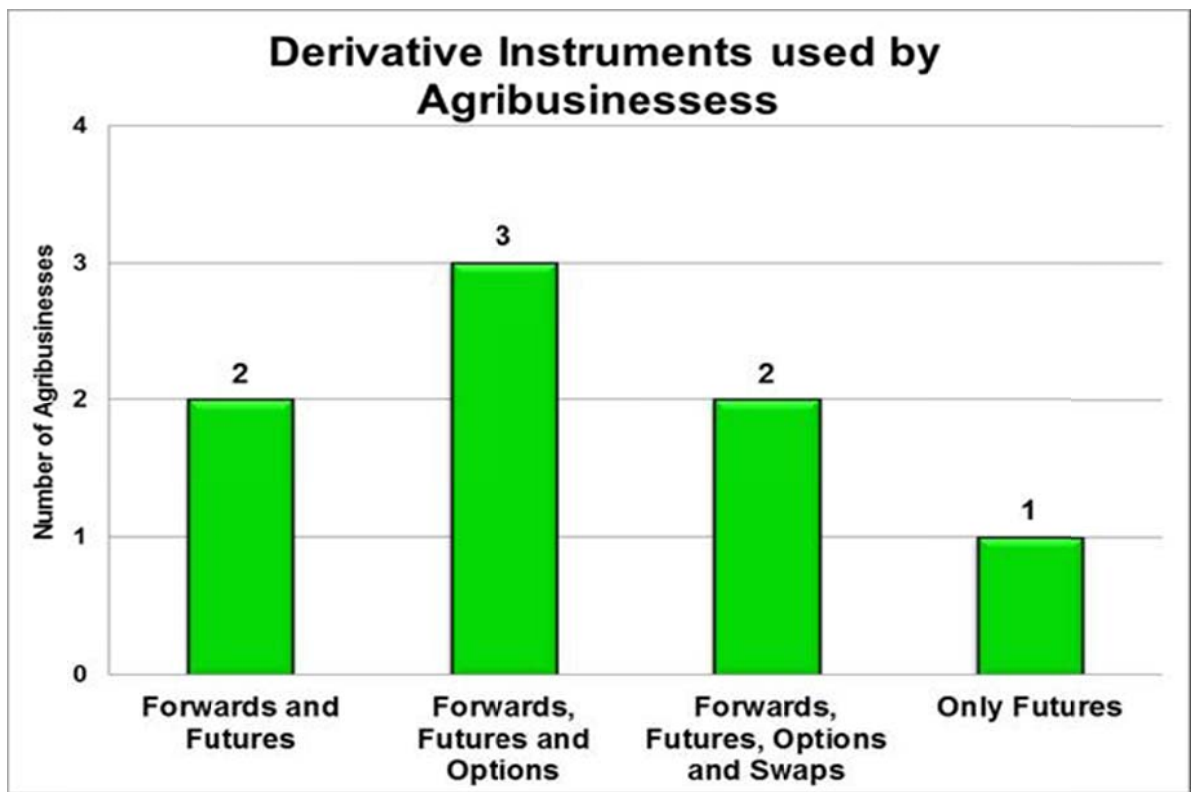


Figure 2.1: Derivative instruments used by agribusinesses to hedge against price risk

Source: Botha, 2005

It can thus be concluded that agribusinesses trade on SAFEX as principals or on behalf of producers. Thus, producers can sell their crops to them or make use of their silos to store crops and sell at a later date. This study will aim to build on these

findings. It will strive to determine what risk management services are offered to producers.

2.4.3 Traders

These are the parties who actively and directly trade on SAFEX. They have the knowledge and expertise to take up a position successfully. They either trade for themselves or on behalf of clients. They are often well-informed to take the right decisions. Each company's strategy determines whether they only hedge, do arbitrage transactions or speculate. In the context of this study, traders typically buy from farmers, hedge their book and then offset it to a processor.

2.4.4 Processors

Unconfirmed feedback indicates that the larger processors are still actively trading on SAFEX. They are in the ideal position to go long on SAFEX, as and when the price is attractive, or if they are concerned prices will increase. Once they have accumulated enough positions and they are getting close to the period that they need the physical grain, they offset their positions with those of traders. The traders would then make the necessary arrangement to deliver the grain.

2.5 CONCLUSION

This study will determine whether producers are still actively trading on SAFEX or whether they have found alternative methods in managing their price risk. The focus will be on the producer. In the literature reviewed the background and history of the South African agricultural market has been examined. It was shown that because of unfavourable weather conditions, as well as the great depression, the Marketing Boards were set in place to help stabilise prices. However, after World War II, pressure was put on the government to use the Boards as price supporting tools. This led to inefficiencies and lack of competitiveness in the farming sector. Based on the recommendations of the Kassier Committee in 1992, the Boards were all abolished within the next few years. Thereafter the market price was determined by supply and demand.

The free market gave rise to many risks. One of these shown by literature is price risk. Producers and buyers of crops needed a way to hedge against the risk that prices may move against them. Hedging on SAFEX seemed to be an option. There are many instruments available to both buyers and sellers of commodities shown by literature, as well as many strategies that can be used by parties to hedge against risk.

One of the studies that were reviewed showed insight into the factors that influence a producer's decision to hedge on SAFEX and should be kept in mind.

This literature review has offered an understanding of the South African agricultural grain sector. This chapter undertook a basic review of how SAFEX works. This knowledge should help the reader in understanding the study methodology and findings to determine whether a producer still actively and directly trade on South African derivative markets to hedge their price risk.

The next chapter presents an overview of the South African agricultural sector, with special emphasis on the Western Cape wheat sector. This is necessary since the Western Cape is used as a case study. The role of SAFEX in the context of the Western Cape is also dealt with.

CHAPTER 3

AN OVERVIEW OF THE SOUTH AFRICAN WHEAT INDUSTRY WITH SPECIAL FOCUS ON THE WESTERN CAPE

3.1 INTRODUCTION

Agriculture forms a vital part of the South African market and economy. It contributes about 2.9% to South Africa's gross domestic production (GDP) and around 7% to formal employment. However, there are also strong linkages into the economy, so that the agro-industrial sector comprises about 12% of GDP (DAFF, 2013). It is important to note that the contribution of the Agricultural, Forestry and Fisheries (AFF) sector to South Africa's economy has declined gradually since 1960, as seen in Figure 3.1. While the general trend is downward, it exhibits a cyclical nature: Upward and downward fluctuations characterise the contribution of the AFF sector to South Africa's real value addition in the short- and medium-term (DAFF, 2009). The largest area of farmland is planted with maize, followed by wheat and, to an extent, sugar-cane and sunflowers.

Agriculture is exposed to many forms of risks, more so since weather plays a major role in the sector. In the following section the types of risks associated with agriculture will be specified. These risks have an effect on the producers and processors in the South African grain market. This is done with the aim to illustrate how SAFEX can be used to manage some of these risks. The grain market will also be explained by referring to the factors that influence the supply and demand for commodities.

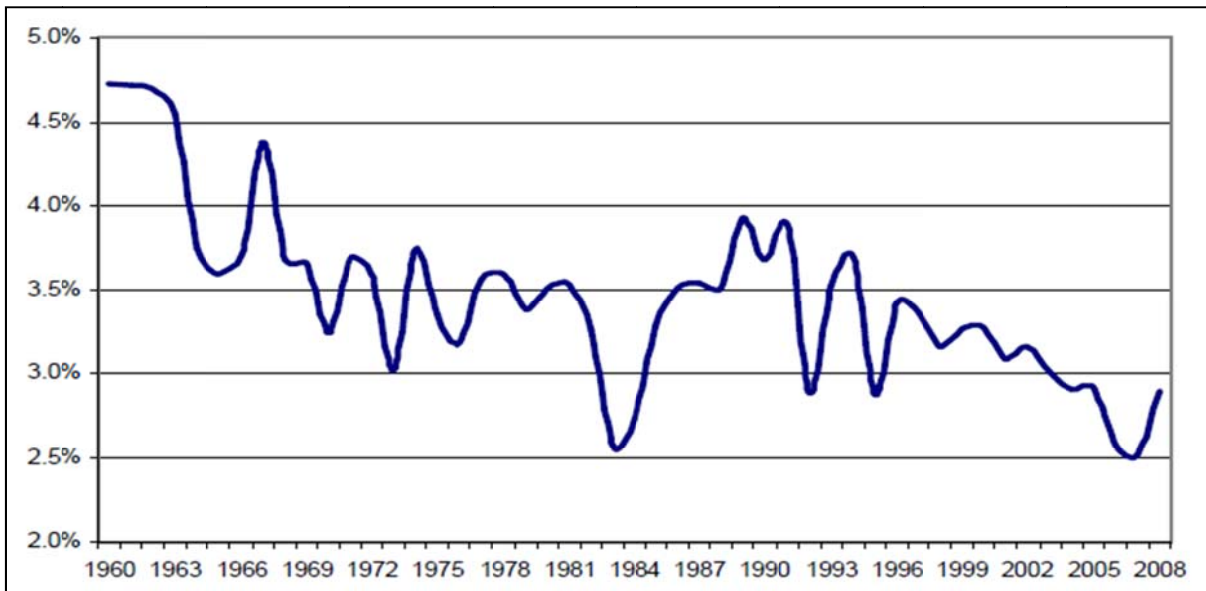


Figure 3.1: Share of real value added by the agriculture, forestry and fisheries sector to total real value added by all sectors in South Africa's economy (at 2000 constant prices)

Source: SARB Online Database, 2013

In May of 2009 The National Agricultural Marketing Council (NAMC) published a report titled *The Functioning of the Agricultural Futures Market for Grains and Oilseeds in the light of Concerns Expressed by GrainSA*. In this report the determinants of the price of maize and sunflower seeds as well as wheat were explained.

This report showed that the determinants of price are (a) the world price of the grain, (b) the exchange rate, (c) stock levels, and (d) the size of the domestic crop.

All these determinants of price have risks factors associated with them. Participants need to know the factors and how these influence the price of the commodity for them to be profitable and efficient.

The core risks in agriculture, as illustrated in Figure 3.2, are as follows:

- **Price risk**

Is the most important and relevant to this study since price fluctuation is the reason why producers are actively trading on SAFEX. Various instruments are available on SAFEX for the producer to hedge against price risk.

However, knowledge and expertise are required to use these instruments correctly.

- **Yield risk**

Is when the yield from a crop is less than expected. This is usually due to unforeseen weather conditions. Yield risk can be managed by the producer by applying technology and by using good, sound production practices (Botha, 2005).

- **Interest and Exchange rate risk**

Producers have always been affected by interest rates. They have various production loans and mortgages. These loans are usually of a significant amount, thus a change in the interest rate will have a big influence on farm business and income. The exchange rate is another risk that influences the agriculture sector. It is one of the major determinants of the price of grains in South Africa. South Africa is part of the 'global village' and import and export prices are determinants of our domestic prices. Both the interest and exchange rates are determined by the macro-economic factors of the monetary and fiscal policies of South Africa.

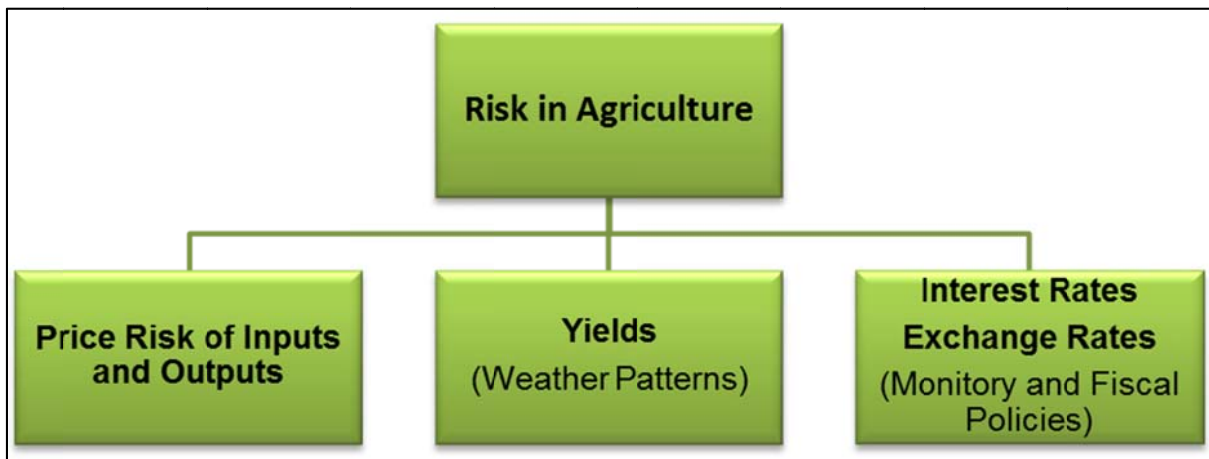


Figure 3.2: Risk in Agriculture

The risks mentioned above influence the profit and decision making process of the producer in South Africa. This study will concentrate on price risk and whether or not producers utilise SAFEX to manage this risk.

3.2 SOUTH AFRICAN WHEAT INDUSTRY

Wheat is produced in all the provinces of South Africa. There are two types of areas where wheat is produced, summer wheat areas and winter wheat areas.

Table 3.1 below sets out a detailed explanation of the wheat production calendar of South Africa, for both winter and summer rainfall areas. It should be noted that the production year for wheat runs from February (x1) to December (x1), whereas the marketing year runs from 1 October (x1) to 31 September (x2). This study uses the marketing year as reference point and not the production year.

Table 3.1: South African wheat production calendar according to the wheat marketing year

Activities	October	November	December	January	February	March	April	May	June	July	August	September
Soil Sampling												
Soil Preparation												
Planting (Winter rainfall)												
Planting (Summer rainfall)												
Fertilisation												
Irrigation (Winter rainfall)												
Irrigation (Summer rainfall)												
Pest Control												
Disease Control												
Weed Control												
Thinning (Winter)												
Thinning (Summer rainfall)												
Leaf Sampling	Before side dressing or 2 months after planting											
Harvest (Winter rainfall)												
Harvest (Summer rainfall)												
Marketing												

Source: DAFF, 2010

Wheat is still the second most important crop after maize for South Africa (Meyer, 2002; DAFF, 2011:3; DAFF, 2012). Bread is a staple food for South African consumers and for this reason almost all of the wheat produced is used for human consumption and only a small percentage is used for animal feed. During 2011/12 human consumption made up 95% of total wheat consumption, with animal feed at 4.2% (SAGIS, 2013). Animal feed uses poor quality wheat which is not suitable for

human consumption. A small number of producers produce durum wheat which is used in pasta. Wheat in South Africa is used mainly for bread, biscuits, breakfast cereals and rusks DAFF (2012:3).

The total wheat production for the 2012/13 marketing year stands at 1 915,310 tons (CEC, 2012). There are between 3 800 – 4 000 commercial farmers who produce wheat (DAFF, 2012:11). The Western Cape plays a vital role in the South African wheat industry, as seen in Table 3.2 below, producing 46% of the total 1 915 million tons of wheat in 2012/13.

Table 3.2: South Africa’s total wheat production and Western Cape wheat production for the 2007 – 2012 period

Period	Western Cape Wheat Production (tons)	South African Total Wheat Production (tons)
2008/09	860 000	2 130 000
2009/10	714 000	1 958 000
2010/11	530 000	1 430 000
2011/12	710 000	2 005 000
2012/13	884 000	1 915 310
Average	739 600	1 887 662

Source: CEC, 2012

Consumption of wheat for the 2011/12 marketing year stands at 3 217 000 tons compared to the 2010/11 number of 2 894 000 tons (SAGIS, 2012). BFAP expects that wheat consumption will increase by 2% up to 2021, owing to growth in the population and an increase in the per capita consumption of wheat (BFAP, 2012).

South Africa is a net importer of wheat since we no longer produce enough to satisfy local demand. The local industry is one of the smallest producers in the world, relative to the size of the South African economy. It is thus very vulnerable to changes in the international prices. In 2006 the import tariff on wheat was replaced by a 2% ad valorem tariff. This, however, was short lived and in 2008 the original import levy system was re-introduced. The price that activates the variable import levy was readjusted from, US \$157/ton to US \$215/ton (BFAP, 2012:18). South Africa also exports a small amount of wheat to African countries, as well as to the Seychelles.

The wheat industry of South Africa will now be discussed in greater detail. This is to illustrate the market for wheat so that the decision making process of the producer is better understood. The main focus will be on the Western Cape since it was used as the survey sample in the study.

The wheat industry will firstly be explained by looking at production and then consumption for the 2011/12 marketing year. The trading of wheat will also be dealt with, both imports and exports, by showing quantities, origin and value. Lastly, the local and international prices will be given. BFAP estimates will be used to project the trends some of these indicators.

3.2.1 Production of wheat in South Africa

Wheat is still one of the main crops produced in South Africa. Wheat is produced in all the provinces of South Africa. It is planted between mid-April and mid-June for winter rainfall areas, and mid-May to the end of July for summer rainfall areas (illustrated in Table 3.1). Figure 3.3 shows a downward trend in areas for wheat production over the last decade. BFAP also predict a 17% decrease in wheat production for the summer rainfall areas and that the total amount of hectares planted will be around 600000 a year for the next 10 years (BFAP, 2012:28).

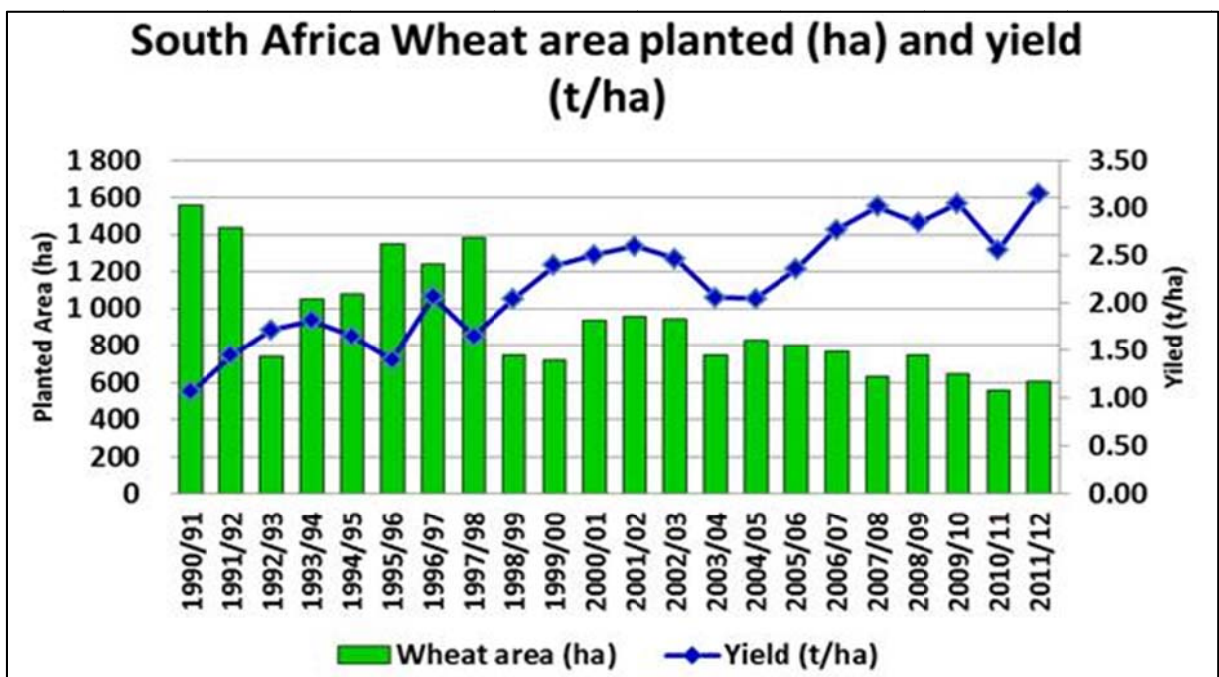


Figure 3.3: Total wheat production in South Africa
Source: CEC, 2013

Even though the wheat cultivation area is on a downward trend, production is still at neutral growth owing to the higher yields with a constant improvement in technology and farming methods as indicated in Figure 3.4. Wheat yields increased from 1,07 t/ha in 1990/91 to the current 3,15 t/ha in 2011/12. The linear trend line of production is just above the 1,9 million tons level as seen in Figure 3.4.

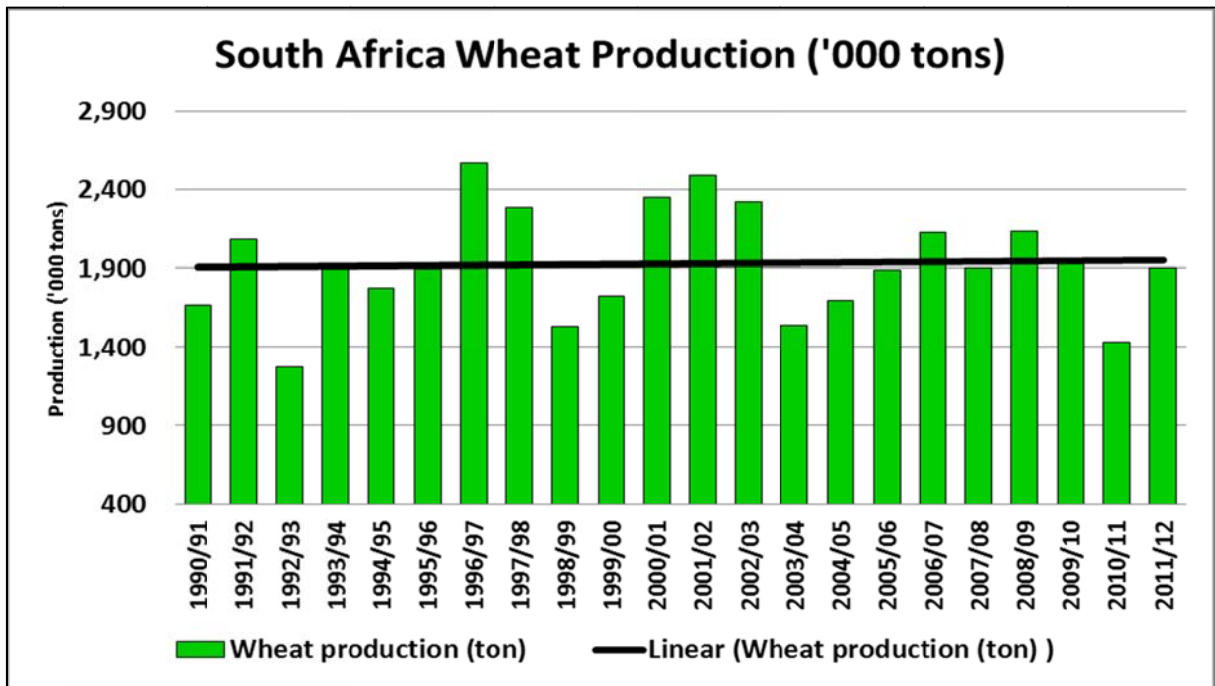


Figure 3.4: South Africa’s wheat production (‘000 tons) from 1990/91 to 2011/12

Source: CEC, 2012

The contribution to the total production by the main wheat producing provinces in both summer and winter rainfall areas (Northern and Western Cape, along with the Free State) is shown in Figure 3.5. These three provinces produce a combined 80% of South Africa’s wheat. Wheat is also produced in other provinces, as stated earlier, but combined only represent around 20% of total wheat production. It is clear that the provinces where the most wheat is produced are Western Cape, Northern Cape and the Free State. The Western Cape has always been the biggest producer of wheat in South Africa, with the exception of the Free State in 2007 when producers allocated more land to wheat owing to a higher price. The figure also shows that the Free State and Northern Cape decreased their production of wheat from 2009/10 to 2010/11. The Western Cape has, however, increased production. This can be because of limited field rotation options in the Western Cape (or lack of practice of it).

The increase in production for the 2012/13 season in the Western Cape followed from an especially good rainfall season with high yields.

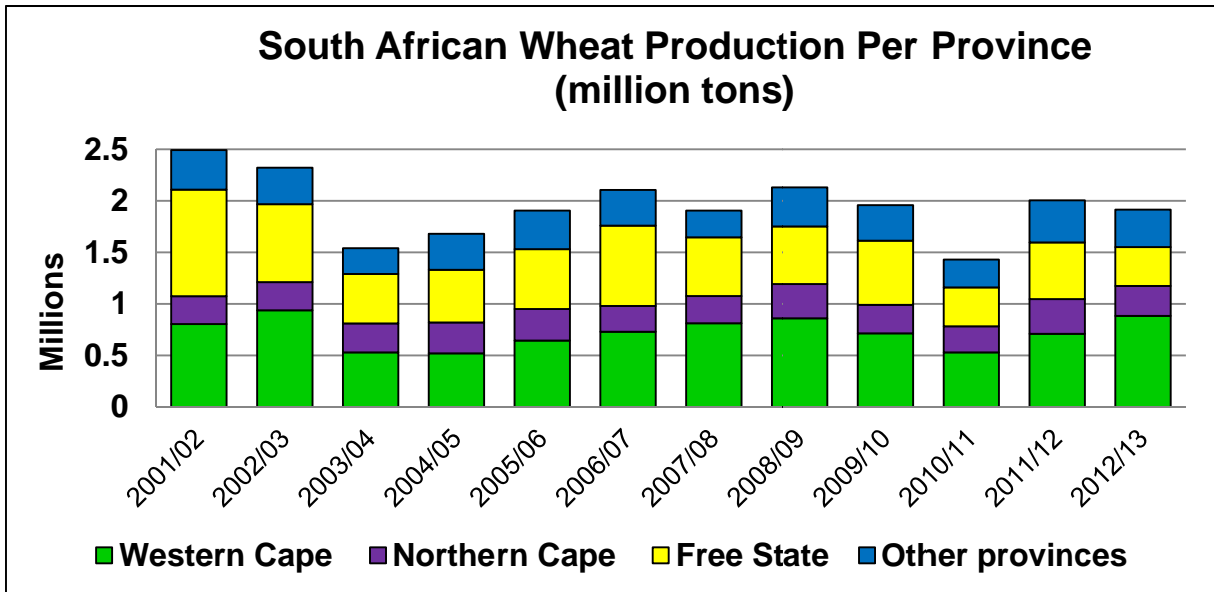


Figure 3.5: The South African wheat production per province in million tons from 2000 - 2012

Source: CEC, 2012

The contribution of each province for the 2012 season is shown in Figure 3.6 below.

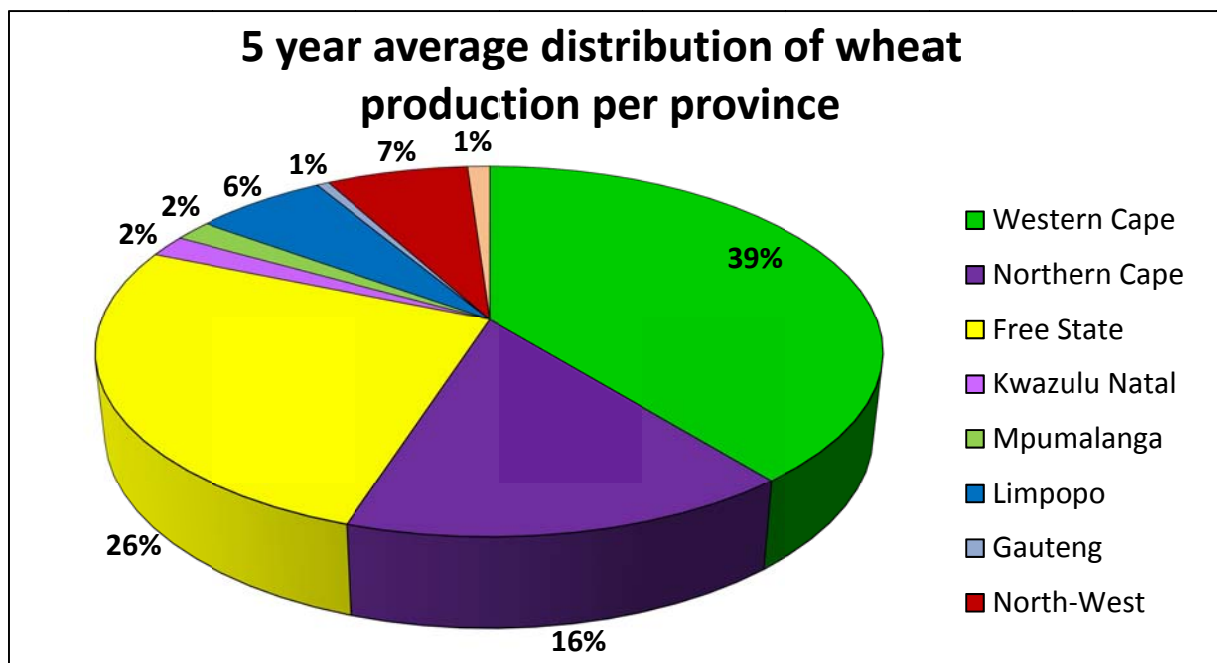


Figure 3.6: The five year average distribution of South Africa's total wheat production per province

Source: CEC, 2012

In Figure 3.6 it is illustrated that in the five year average the Western Cape produced 39% of the total wheat production in South Africa, followed by the Free State at 26% and the Northern Cape at 16% (CEC, 2012). The other provinces together produce the other 20%, with only the North-West worth mentioning at 7%. The five year average yield in the Western Cape stands at 2,36 t/ha, the Free State had an average yield of 2,26 t/ha and the Northern Cape stands at a yield of 5,49 t/ha, under irrigation (CEC, 2012).

3.2.2 Consumption of wheat in South Africa

Wheat in South Africa is produced exclusively for human consumption. Only a small number of tons with quality problems is utilised for animal consumption, as mentioned in previous section. In the 2012/13 marketing year SAGIS estimated other consumption (feed, seed, etc.) at 3,1%. Consumption has steadily increased over a period of many years (from 2000 to 2007), as depicted in Figure 3.7. It is only in the last three years that consumption has stabilised at around 3,0 mil tons, but this could probably be contributed to the recession. BFAP expects consumption to steadily increase over the next decade at 2% per year (BFAP, 2012).

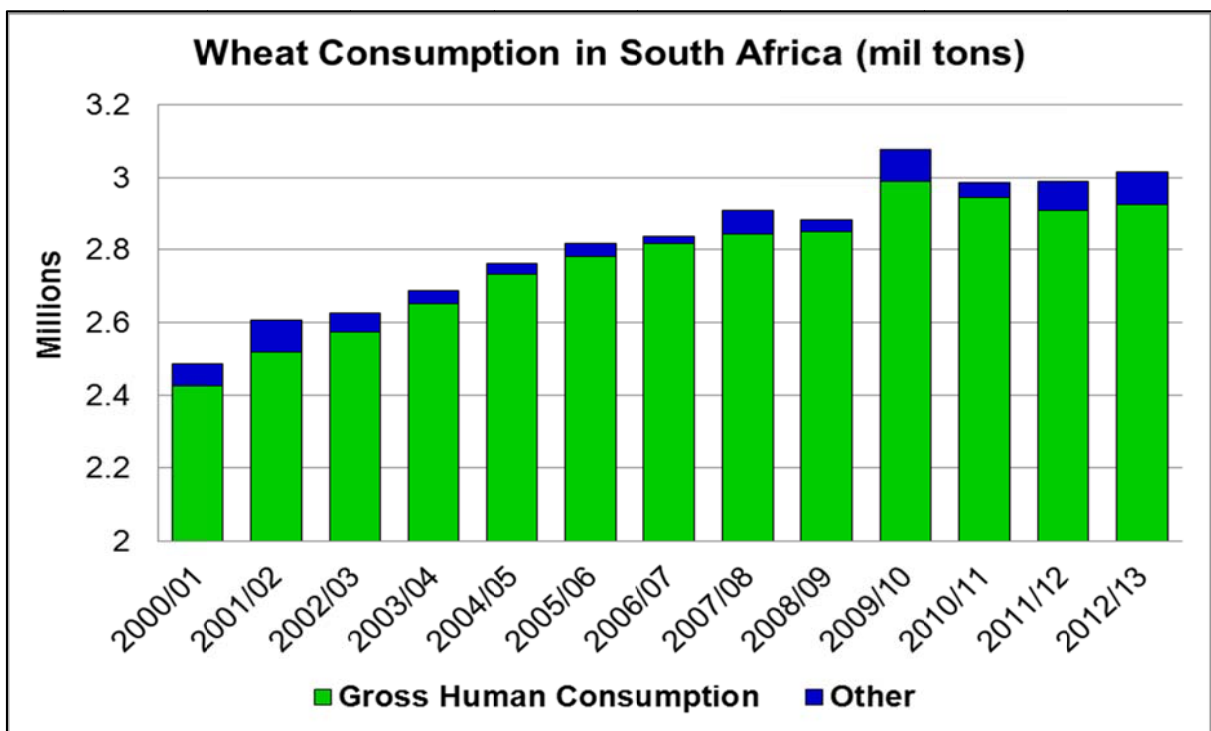


Figure 3.7: Wheat consumption in South Africa.

Source: SAGIS, 2012

3.2.3 Imports and exports

South Africa is a net importer of wheat. The Western Cape produces a local surplus that is currently "exported" to the inland deficit areas. In theory, it should have been well positioned to export internationally, but because of low yields and relative high production costs, this is not the case at all. The only alternative is to send the surplus to the inland areas. South African wheat prices are based on import parity and owing to the deficit, prices are on the high side.

Despite this, and because of generally low productivity in the South African wheat industry, the local price is often not sufficient. Producers are constantly competing with imports that are landed cheaper, drawing down the local price to stay competitive. If not, millers would use imported wheat rather than local wheat, making it difficult for producers to be profitable.

Government involvement gives limited protection against this with a levy set to be activated when the price reaches US \$215/ton. Many feel that this is inadequate to protect farmers from dumping. The South Africa Government is reluctant to support any unnecessary protection since it could easily push up the price of food.

Figure 3.8 depicts the annual deficit in wheat. There are several reasons, and primarily local production circumstances are far from ideal. The result is that the profitability of wheat is less than that of alternative crops such as maize. However, this only applies to the inland areas. It should be noted that some wheat is imported to be exported, but this data is recorded separately.

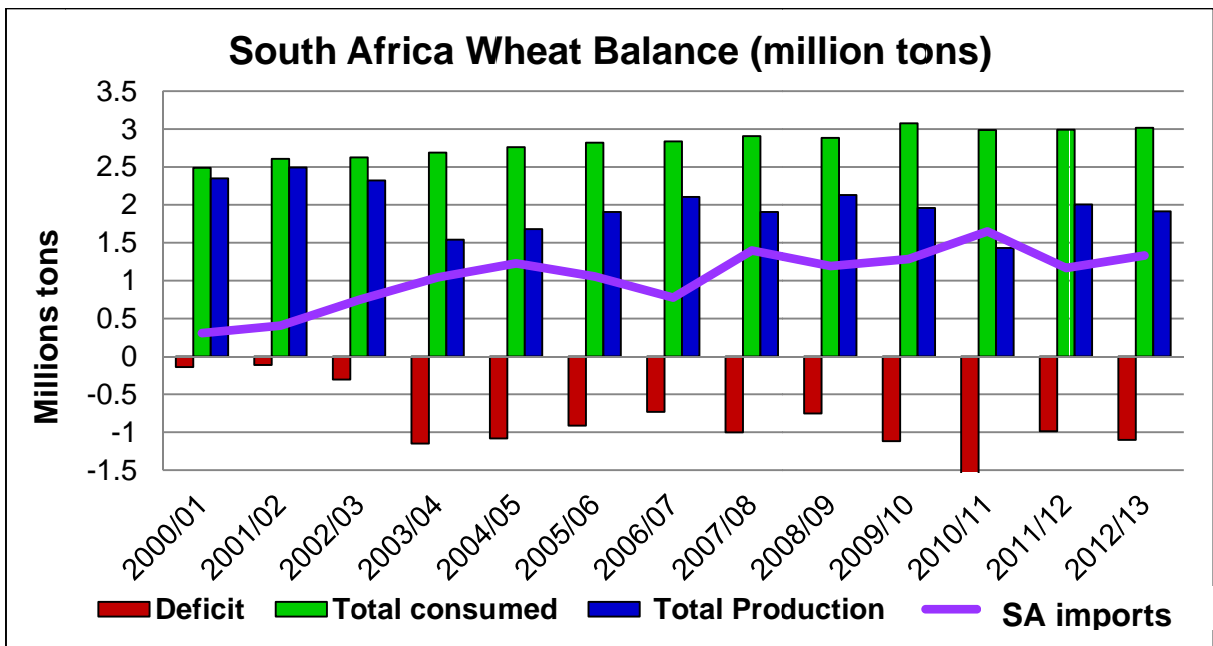


Figure 3.8: South African wheat balance

Source: SAGIS, 2013

The main countries from which wheat has been imported over the past 3 years are Argentina, the United States of America and Australia. In Figure 3.9 is clear that Argentina is the main country at 41%, followed by the USA at 21% and Australia at 15%.

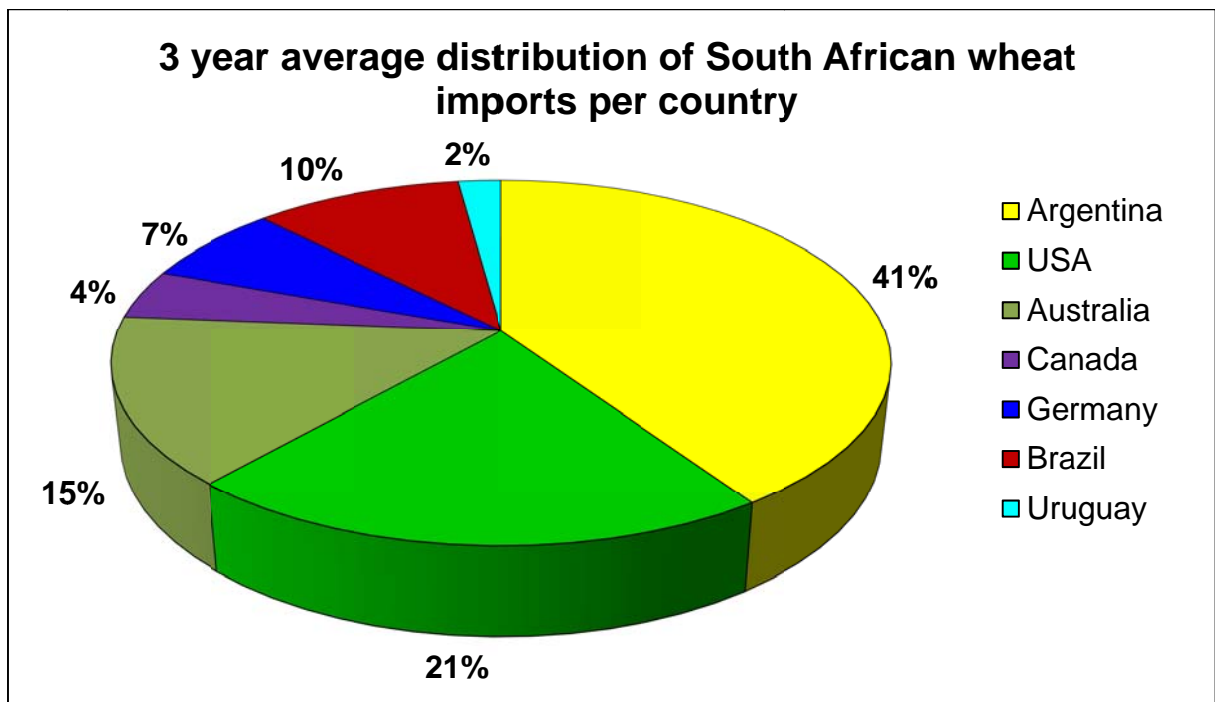


Figure 3.9: The three year average distribution of South African wheat Imports per country

Source: SAGIS, 2012

BFAP expect imports to increase steadily over the next decade (BFAP, 2012). This is because no increase in land planted is expected but the demand for wheat is expected to increase.

South Africa currently exports wheat mostly to other African countries by road, with the exception of Madagascar. The tonnage, however, is low and the wheat is mainly from the summer rainfall production areas. This is shown in Figure 3.10, which indicates that Botswana (37%) and Lesotho (33%) are the two main wheat exporting destinations for South African wheat.

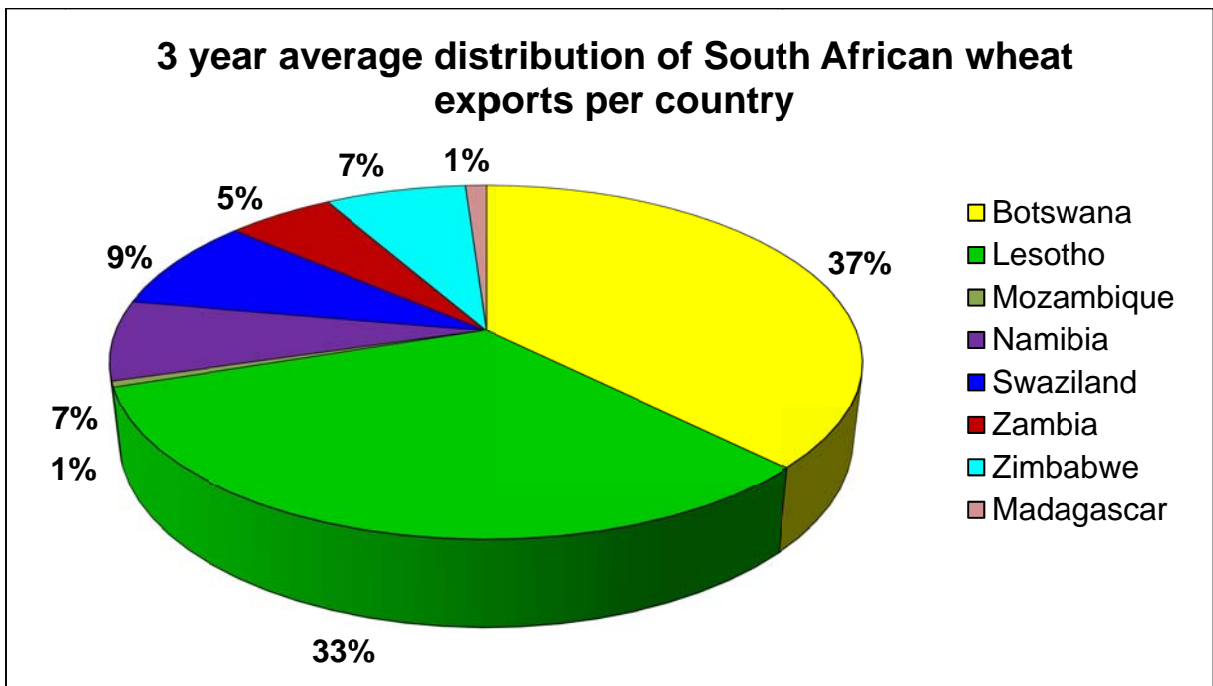


Figure 3.10: The three year average distribution of South African wheat exports per country

Source: SAGIS, 2012

3.2.4 Wheat prices

The graph below reflects the domestic price for the near contract month on SAFEX. The futures price quoted on SAFEX in the month of delivery is the spot price. The import and export parity prices were obtained from SAGIS. The USA No2 HRW (Gulf) index is used as the international price. In Figure 3.11 below it can be seen that the domestic price is close to the import parity price. This is in line with expectations, since South Africa is a net importer.

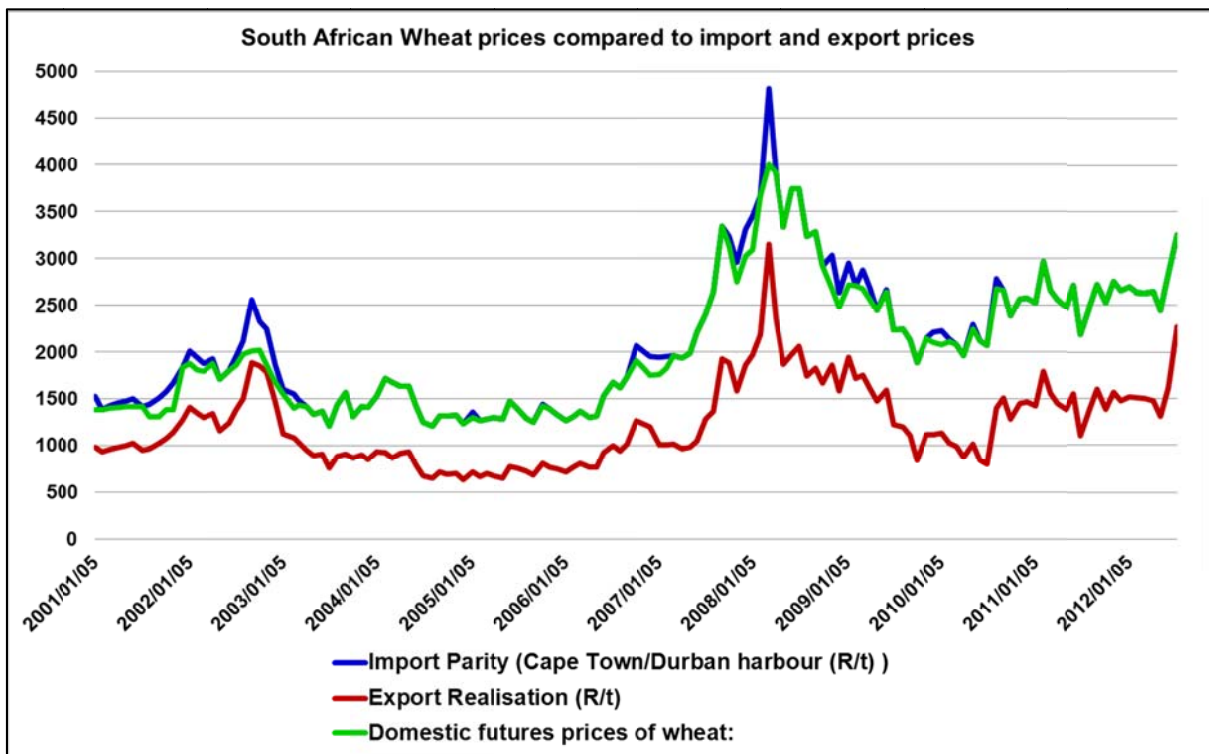


Figure 3.11: South African Wheat prices compared to import and export prices
Source: SAGIS, 2012 and SAFEX, 2012

The increase in 2008 was caused by the global food price crisis. South African prices did not peak to the same extent as the international prices did. The rapid increase in the price in mid-2012 was a result of the drought in the USA. Maize was mostly affected, but all other commodities, including wheat, followed suit.

3.2.5 Wheat grading

South African wheat is said to be of a better quality than most imported wheat. However, there is much debate that the current grading system does not allow this quality to be captured so as to allow producers to acquire the expected premium. Imported wheat may, for example, have the required protein content to be classified as South African B2 grade, but will have an inferior baking quality. Currently there are five wheat grades, namely B1, B2, B3, B4 and a Utility grade.

Wheat is graded mainly on its protein quantity, hectolitre mass, kernel damage and foreign contaminants, these values per grade are summarized in Table 3.3.

Table 3.3: Wheat grading regulations of South Africa

Grade	Minimum Protein (12% moisture basis)	Minimum Hectolitre mass (kg/ha)	Minimum falling number (Seconds)
B1	12	77	33
B2	11	76	220
B3	10	74	220
B4	9	72	200
Utility	8	70	150

Source: DAFF, 2010

3.3 WESTERN CAPE WHEAT INDUSTRY

The wheat production industry in the Western Cape is unique compared to the rest of South Africa. The reason for this is that it is a dryland winter rainfall area. This makes it different from other crop production in those inland provinces that receive summer rainfall or those in irrigation areas. It also produces a regional surplus but, despite being located along the coast, it is not in a position to export economically. Therefore, surplus wheat is marketed in the deficit inland areas.

3.3.1 Agriculture and wheat production in perspective

The Western Cape mainly produces wheat and a distinction needs to be made between the Swartland and the Southern Cape. In the Swartland, wheat production often makes up 80% of gross income with mainly livestock taking up the balance. In the Southern Cape, livestock farming can be as high as 40%, with grain equally split between wheat and barley. Sometimes canola represents up to 20% of gross grain income. Figure 3.12 illustrates the production of wheat in the Western Cape by looking at the hectares planted.

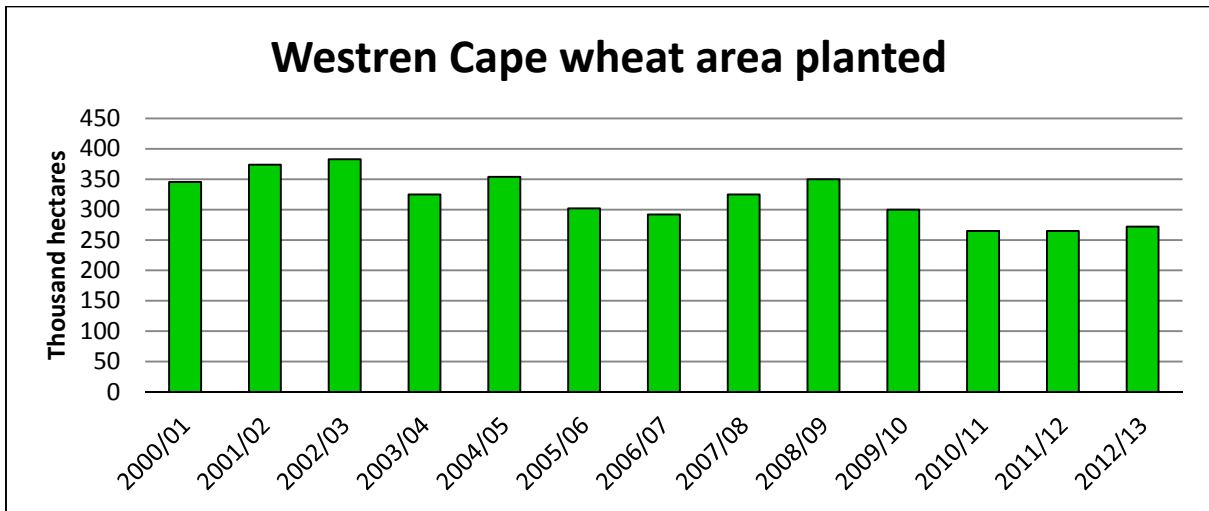


Figure 3.12: Western Cape wheat production

Source: CEC, 2012

The total hectares planted for wheat in the Western Cape has been in a downward trend for the last decade. It does, however, appear that hectares in the last three years have stabilised at around the 600 000 hectare level. Higher grain prices, including wheat, have been a large contributing factor.

Yields over the years have also improved. It must be kept in mind that most wheat in the Western Cape is produced on dryland and, unlike maize and soybean, genetically modified (GM) varieties do not yet exist.

With hectares on the decline and yields improving only marginally, total tons produced in the Western Cape have also declined. The 2012/13 season is an exception, when high wheat prices lead to higher wheat hectares followed by exceptionally favourable growing conditions.

The Western Cape is also the biggest producer of barley and canola in South Africa. In the last five years it produced on average 73% of the national barley crop, with the balance coming mostly from the Northern Cape. Barley in the Western Cape Province is produced exclusively in the Southern Cape.

The Western Cape also produces around 95% of South Africa's canola, with the balance being grown in the Eastern Free State. Renewed interest has been shown in canola over the last few years when the prices of wheat were relatively low while the international prices of oilseeds showed a relative increase compared to grains.

There are also crop rotational benefits. Figure 3.13 depicts the hectares planted in the Western Cape.

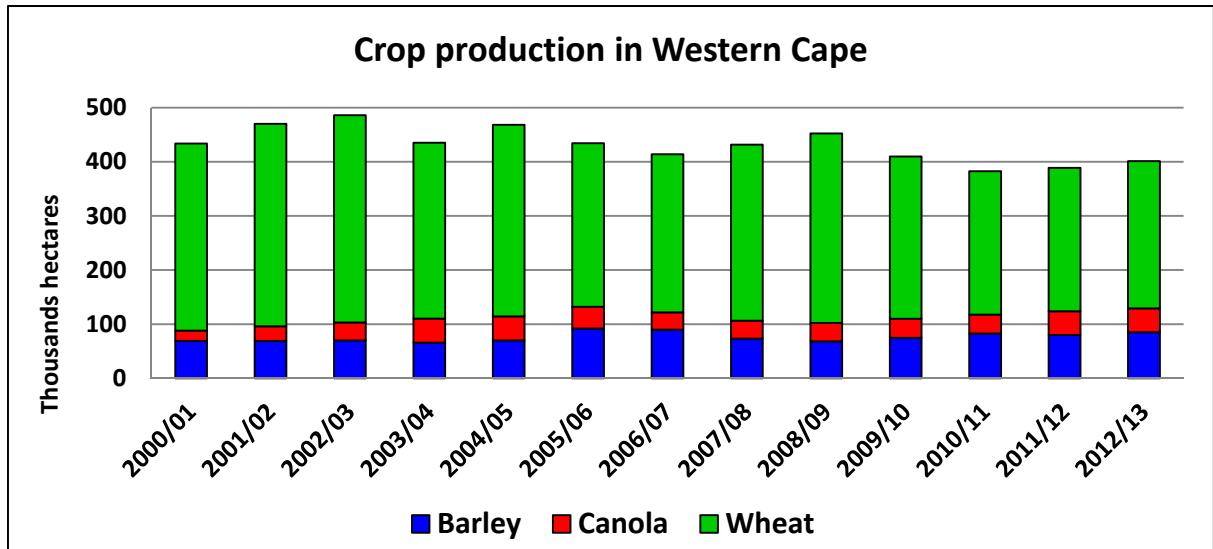


Figure 3.13: Crop production the Western Cape

Source: CEC, 2013

The importance of livestock in the Western Cape is on the increase again. The Western Cape has always had some component of livestock in its agricultural sector. It makes commercial sense for producers to diversify into livestock, which is a more stable industry than the grain industry. Some producers are planting increasingly more livestock pastures on previously wheat producing fields. This is understandable, given the sharp rise in mutton prices since 2011, relative to wheat prices.

Figure 3.14 shows that from the 2004/05 season, the number of hectares allocated for wheat, barley and canola production have decreased and that livestock numbers of sheep and cattle have increased slightly.

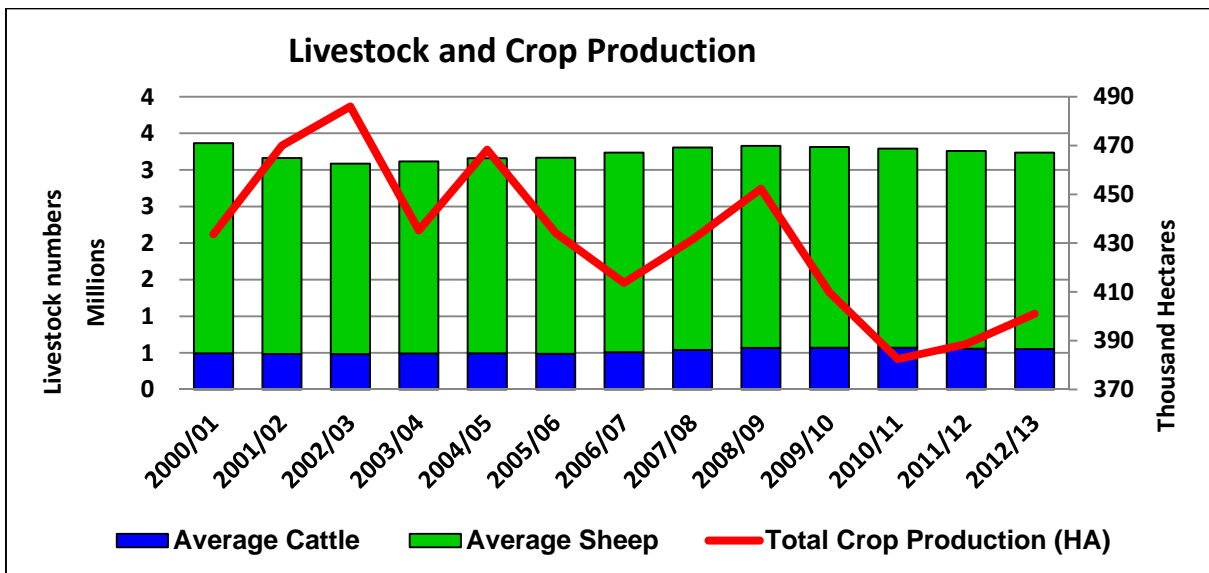


Figure 3.14: Livestock and Crop production in the Western Cape

Source: CEC and DAFF, 2012

3.3.2 Sub-regions of wheat production within the Western Cape

On a regional basis, the Western Cape can be divided into the following production areas, from the Swartland (between Malmesbury in the south, across the Riebeeck Valley to Piketberg in the north) to the Southern Cape (DAFF, 2010:2):

- **West Coast**
 - Bitterfontein
 - Clanwilliam
 - Malmesbury
 - Koringberg
 - Rietpoort
 - Vredendal
 - West Coast

- **Boland**
 - Matroosberg TRC
 - Breërivier
 - Witzenberg
 - Paarl

- **Overberg**
 - Swartland
 - Overberg
 - Swellendam
 - Hermanus
 - Caledon

- **Cape Town**
 - Blaauberg
 - Tygerberg
 - Helderberg
 - Oostenburg
 - South Peninusila
 - West Coast

The map in Figure 3.15 shows plant production/productivity for winter crops in the Western Cape. It should be noted that this is only for dryland crop production which is applicable to this study since virtually all wheat in the WC is produced under dryland conditions. This makes wheat production in the WC very sensitive to rainfall and drought. The production areas of wheat in the Western Cape and average yields are shown on the map. This map is part of a study compiled by Mike Wallace at the Department of Agriculture in the Western Cape, titled *Investigating and mapping yield impacts on wheat production zones in the Western Cape under future climate change*. The results show that an increase in temperature will have a negative impact on the yield in the Western Cape.

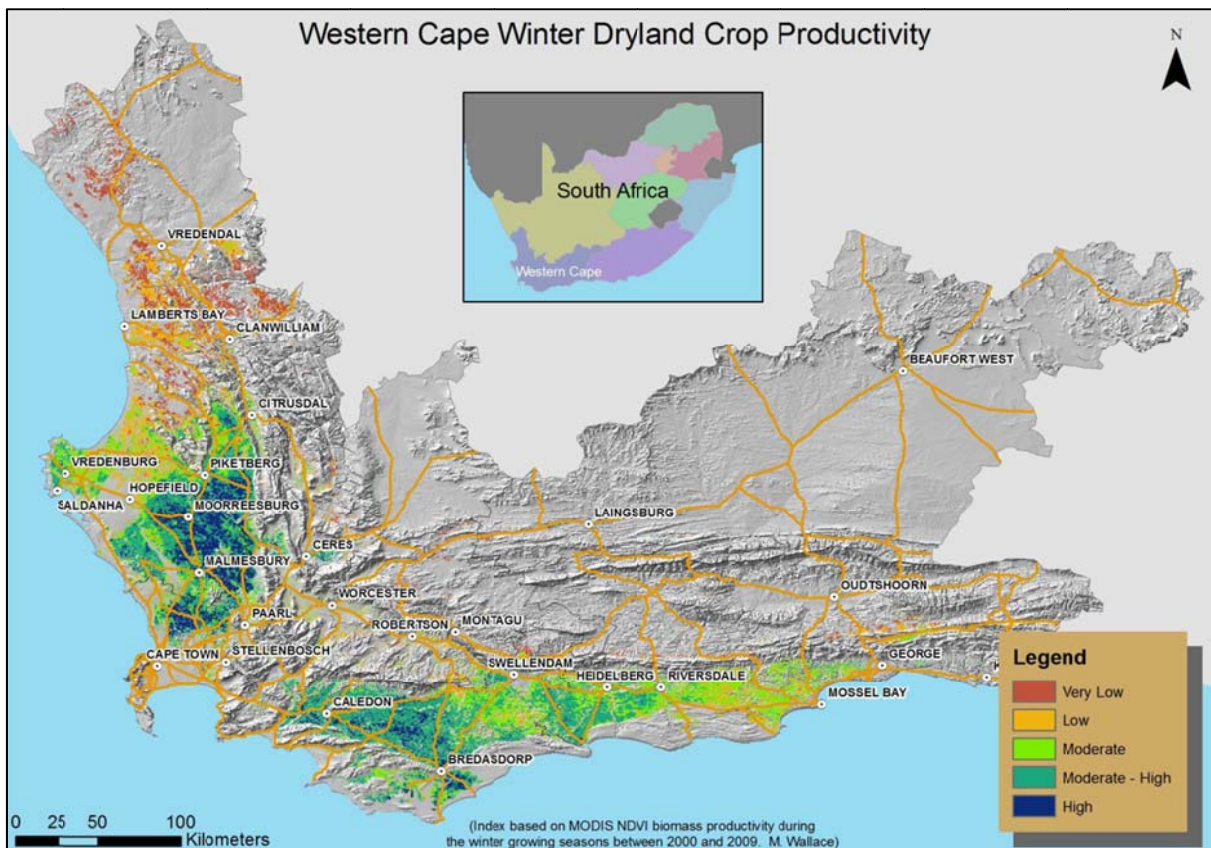


Figure 3.15 Map of dryland crop productivity in the Western Cape

Source: DAFF, Western Cape, 2010

No official data on regional wheat production is collected. Available data are estimates compiled by agribusinesses, private companies and individuals. Du Plessis (2013) estimate regional production and yields (based on the old co-operative areas) on average in a so call 'normal year' as follows:

Table 3.4: Estimate regional production and yields

Region and Ex Co-op area	Tons	Yield (tons/ha)
Swartland	±500 000	
WPK	±160 000	2.8
MKB	180 - 200 000	2.8
PLK	±160 000	2.5
Southern Cape	±200 000	
Overberg incl Bredasdorp	130 - 140 000	2.5
SSK	±50 000	2.4
Tuinroete Agri	±20 000	2.2

Source: Du Plessis, 2013

3.3.3 SAFEX Cape Wheat Contract

The reference price for a SAFEX contract is that set at Randfontein. This means that large location differentials occur for the producers of the Western Cape. The location differential for the 2012/13 marketing season is R420 per ton for Cape based silos (SAFEX, 2012). This means that the price which Western Cape wheat producers receive for their wheat is lower than inland producers where the location differential for most silos varies between R150 – R250 per ton. Since it is not possible to distinguish between wheat that is consumed in and around Cape Town and ‘surplus’ wheat that is marketed in Gauteng, all wheat carries the same price, which is the lower price. Since profitability has in the last few years already been an issue in the wheat industry, a uniform discount system has made it even worse for the Western Cape producers.

In an effort to address this issue, and after many complaints and appeals by producers to SAFEX, they agreed to list a Cape Wheat contract. The contract was re-introduced on 9 May 2012.

The Cape contract had been initially introduced in February 1999 and again in July 2000. The trading volumes for these contracts made up about 3,3% of the total contracts and led to the suspension of the Cape contract. Higher volumes are necessary to ensure the success of the contract. By now the Western Cape producers might be considered to be more familiar with the concept of hedging and will hopefully support the contract, insisting that their wheat or part thereof is offered on the Cape Wheat contract.

The contract differs from the normal contract in the price reference point. The Cape contract reference point is Paarl, not Randfontein as for the national contract. This means that the location differential is smaller on the Cape contract (location differentials varies around R100 per ton) which ensures a better price for the producer. The nominated silos and their location differentials to Paarl are shown in Table 3.5 below.

However the discount in price between the Cape wheat contract and Randfontein wheat contract also need to be considered. It can be said that even thou the basis may be better on the Cape wheat contract that there will still be a discounting in price. This is due to the fact that there is a surplus of wheat in the Western Cape and it needs to be transported to the market in the northern parts of South Africa. For this reason buyers will pay a discounted price (compared to Randfontein contract price) to compensate for the lower basis. If this holds true it is likely that the Cape Wheat Contract will fail again.

Table 3.5: Cape Contract Silos

SILO	LOC DIFF*	SILO	SILO	LOC DIFF*	SILO
	R/TON	OWNER		R/TON	OWNER
Ashton	107	SSK	Krige	108	OAB
Bergrivier	108	MKB	Leliedam	61	MKB
Bredasdorp	144	OAB	Malmesbury	53	CAA
Caledon	94	OAB	Moorreesburg	77	MKB
Ceres *	93	CAA	Moorreesburg	77	BFG
Darling	73	CAA	Moravia	92	MKB
Eendekuil	127	CAA	Napier	121	OAB
Gouda	58	CAA	Piketberg	98	CAA
Graafwater	199	CAA	Pools	111	CAA
Halfmanshof	70	CAA	Porterville	85	CAA
Heidelberg	191	SSK	Protem	155	OAB
Karringmelkrivier	183	SSK	Protem	155	SSK
Klipdale	145	OAB	Riebeeck Wes	54	CAA
Klipheuwel	53	CAA	Rietpoel	128	OAB
Koperfontein	94	MKB	Ruststasie	65	CAA
Koringberg	92	MKB	Swellendam	153	SSK

* Location differential

Source: SAFEX, 2012

All other contract specifications will mirror the national contract.

This study will attempt to determine whether producers understand the concept of the Cape Wheat contract and whether they support it.

3.4 CONCLUSION

The contribution of primary agriculture to the national GDP is 2,9% but jumps to 12% if the agro-industrial sector is included. In the Western Cape, which has a large agricultural sector and limited industrial sector, these percentages are significantly

higher. This Chapter has examined the importance of wheat in the Western Cape Province and, although it is the single most important grain and oilseed crop, its importance is mainly limited to certain subregions in the Swartland where it is still dominant. As far as the Southern Cape is concerned, barley and livestock cumulatively often surpass the importance of wheat. In the Swartland, although livestock is regaining some of its earlier popularity, it is progressing at a slow pace. Thus, it is difficult to comment on the importance of wheat on a provincial basis. In some areas it still contributes up to 90% of the farming activities, but in others the percentage has dropped to below 40% (always referring to pre-dominantly grain and oilseed farms and not including deciduous farms).

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

Agricultural undertakings have today moved away from the model of a conventional family business and are now considered to be commercial enterprises, exposed to many forms of risks. Producers are faced with production and price risks and do not always have the capacity to focus on both. They find themselves in a volatile and unstable free market. It is for this reason that producers and processors of agricultural crops turn to SAFEX as a way to limit exposure to price risk. Whether SAFEX is used to manage price risk or lock in a profit, many commercial producers have access to and knowledge of it. SAFEX is now well known and can be used to effectively manage risk but it appears as though only a limited number of producers actively trade on it.

It is believed that many producers have dormant accounts on SAFEX or have closed their accounts completely. This study will endeavour to confirm this and attempt to find out the reason(s) for this. As a result, it is expected to better understand the current agricultural hedging practices applied by farmers.

Data from wheat producers and traders has been collected by means of survey questionnaires and secondary data. The data collected is primary data on the marketing and risk management of agricultural crops by producers and traders. The questionnaires were non-leading and were conducted with each respondent individually and voluntarily. The aim was to get clarification and answers to the research objectives of this study.

4.2 DESCRIPTION OF INQUIRY STRATEGY AND BROAD RESEARCH DESIGN

Different studies encountered in the literature review were evaluated against one another in order to select the most applicable research design. It was found that a survey is the best research design for this study and the type of data expected. A questionnaire survey was thus used. The data collection method is similar to that done by E. Botha in 2005 study titled *The use of derivatives by South African agricultural co-operatives to hedge financial risks* (Botha, 2005).

It is, however, beyond the scope of this study to provide a description of all the methods used by the various studies in the literature review to collect primary data. For this reason, only the questionnaire survey method will be discussed and explained. Nonetheless, this study will also use certain secondary data. This will be for cross-sectional and analytical purposes and to evaluate the accuracy of the primary data collected.

First, a definition of a questionnaire will be given to help understand its purpose and aim. Then, the advantages and disadvantages of it will be explained. Lastly, a research design for the study will be described with its core characteristics.

This section has given an exposition of the research design and sampling method, as well as why it was chosen for this study on account of the data characteristics.

A questionnaire is defined as a list of well-structured and clear questions that have been selected after careful consideration and testing, with the aim to acquire reliable and true responses from a pre-determined sample group. These responses will be used to find out how a group or sample think, feel or act. The questionnaire is set up to collect needed data for the particular study in mind (Hussey & Hussey, 1997:161).

The advantages of using questionnaires to collect data are provided by Zikmund (1997:244). These include:

- A questionnaire is an effective, low-cost collection method.
- Anonymity is kept, if the respondent wishes it.
- No need to have necessary skills as one does with interviews.
- Less prone to bias, as is the case with an interviewer.
- There is a greater deal of confidentiality.
- The data is easier to collect and analyse.
- Can use a bigger sampling size and cover a larger area.

The advantages show that a questionnaire is the best collection method for the primary data of this study. The respondents (i.e. producers) are many and widely spread over geographical areas of the Western Cape, which makes other collection methods inappropriate and time consuming. The questionnaire can reach producers and businesses over a wider area. This is because the questionnaire can be emailed or faxed.

Self-administered questionnaire were used. These were given to the respondents to complete in their own time. The questionnaire was handed out by a researcher to oversee and guide the respondent through the process and to clarify any uncertainties around the questions. The study used factual questions rather than opinion-related queries. This was done since the aim of using the questionnaire was to collect data concerning the respondents' behaviour, habits and views (Eiselen, Uys & Potgieter, 2005). It must be kept in mind that this study aimed to establish the marketing of crops and the risk management behaviour of the respondents.

There are two types of questions, namely open- and closed-ended questions, according to Eiselen *et al.* (2005). This study will use a mix of both types to ensure all relevant and needed information is obtained from the respondents. Closed questions were mainly used and open-end questions were only used to clarify answers and provide the respondent with the opportunity to give an alternative answer.

The reason for setting up the questionnaire in this way was to gain the advantages of both types of questions. The closed-end questions are not time consuming to complete or to collect. They also do not generate unnecessary information about the respondent. The answers are also self-explanatory and did not require the presence of a skilled interviewer. In open-end questions, the respondent does not always have the necessary skills or knowledge to answer in the appropriate way so as to allow the required information to be gathered. On the other hand, an open or unstructured question helps to gain information about behaviour or opinion without creation bias that might occur from the positioning of the answers, according to Neresh *et al.*

Closed-end questions are usually in multiple-choice or scale format. This study has used both. These types of questions are useful to indicate what level of detail one expects from the respondent. Multiple-choice questions should be set up so that they include all the alternative answers to the question. It is, however, impossible to always include all possible alternative answers. It is for this reason that some questions allowed an open answer alternative. The survey questionnaire was compiled giving ample opportunity for open answers to gather all possible alternative answers.

The overall research design will now be classified. The characteristic of this study was taken into account before the research design was finalised. Thus, the broad research design for this study is:

- **Empirical research**

This study can be classified as an empirical study.

- **Primary and secondary data**

The main focus was to collect primary data from the respondents by means of questionnaires. Secondary data was collected from agribusinesses and traders.

- **Basic research**

This study aims to increase the knowledge and understanding of the behaviour and the decision-making process of the respondents. It is for this

reason that it can be considered as basic research. This study aims to understand the marketing and risk management practices and behaviour of the respondents.

- **Non-descriptive**

The study does not aim to illustrate how decisions are made. It also does not aim to describe the process of marketing decision making, but only to focus on the outcome and to understand the specific outcome and the factors that influence them.

- **Cross-sectional research**

Cross-sectional research was used on the secondary data to study a phenomenon in different points in time. This will be the trading activity on the derivative market over the period of interest.

- **Quantitative data**

This study generates mainly numeric values, with some quantitative descriptions of practices and management practices.

4.3 SAMPLING

Since the units of analysis (i.e. the producers and various users of SAFEX) are dispersed over a large geographical area, it would not only be costly but time consuming to collect data from the whole population. The population of this study is all the wheat producers in South Africa, as well as all the agricultural businesses and traders that are involved in crop production, processing and trading. It is obvious that it would be nearly impossible to collect data on all these units. A sample will therefore be taken. The sample will be described in the following section and the reason for selecting that sample will be given. Lastly, the proposed sample size will be discussed.

4.3.1 The Sample

The sample will be all the producers that are located in the wheat production area of the Western Cape. The producers can, however, produce other crops as well. It is not a requirement that producers had traded on SAFEX in the past. In addition to this, it will include the local agribusinesses (ex-cooperatives) and traders that interact with producers.

The location of the sample is thus the wheat production areas of the Western Cape. This is the Swartland and Overberg areas as explained in the “Wheat overview section” of this study. This area is also widely dispersed. Agribusiness assisted reaching producers. Personal interviews were conducted with agribusinesses and traders.

The time span of this sample is from the start of SAFEX, in November 1997 when wheat was listed on the JSE, up until November 2012.

4.3.2 Reason for this particular sample

These reasons are:

- **Location**

The Western Cape is geographically isolated from the rest of South Africa by the Karoo which separates the summer and winter rainfall production areas. This makes defining the sample boundaries easier and clearer. The Western Cape crop production area and its stakeholders are thus in ways isolated from the rest of South Africa and it is for this reason that it is chosen as the sample for this study. If unnecessary variables are present, this may influence the results negatively. If these can be excluded from the sample, the data will be much more accurate and easier to obtain.

- **Production characteristics**

The Western Cape was chosen for its unique production and geographical characteristics that set it aside from the rest of South Africa’s crop production

areas. The Western Cape is a winter rainfall production area. This means that the producers are producing, harvesting and marketing their crop at somewhat different times in the year than those in the summer rain fall areas. The Western Cape is furthermore the largest wheat production province in South Africa.

The Western Cape mainly produces wheat, and to some degree barley in the Southern Cape, and so there are few other crops that might influence the data and ultimately the results. Moreover, the contribution of other farming enterprises, such as livestock and deciduous fruits, is limited in the wheat production areas.

- **The pricing mechanism**

The pricing mechanism in the Western Cape is different from the other areas since it is a local surplus production area. This is in contrast to the inland areas which are deficit areas. Thus, gross income from wheat is typically less and producers have to pay much closer attention to its pricing structure.

4.3.3 Sample size

The sample size would ideally be all stakeholders involved in the Western Cape wheat industry. However, this it is not practicably possible to cover this large a sample. Accordingly, the sample size was categorised and limited to producers in the Swartland and Overberg areas, and to agribusinesses, traders and organised agriculture dealing with these producers. Processors (millers) were approached but refrained from participating based on the recent Competition Board ruling on collaboration in the wheat industry. Altogether, responses were received from 65 producers and 8 agribusinesses, traders and organised agriculture.

4.4 DATA COLLECTION

As mentioned above, the data for this study was collected by means of a survey questionnaire. This questionnaire consisted of closed-end, multiple-choice questions and open questions where a desired alternative answer was not available to the

respondent. Questionnaires were used to collect the primary data for this study. The secondary data was collected through personal, one-on-one interviews with agribusinesses, traders and organised agriculture.

In the case of primary data, it was recognised that the willingness (or otherwise) of respondents to answer the questionnaire might have hampered the study's data collection process. It was foreseen that not only would it be difficult to locate the respondents, but they might not have wanted to divulge information about their marketing and risk management practices. The researcher sought, therefore, to ensure that enough observations were collected to carry out accurate hypothesis testing using various statistics methods

Similarly, in the case of the secondary data, it was recognised that the organisations involved might not have wanted to provide information about their clients.

The questionnaire that was used in this study is set out in Appendix A. The data was collected by the researcher and the supervisor of the study.

The questionnaire consisted of 30 questions and took around 15 minutes to complete. Respondents gave their answers on their own with no leading guidance from the researcher or supervisor. The researcher would only explain the process and clarify any uncertainties around the desired information the answers aimed to gather.

4.5 DATA ANALYSIS

The study made use of descriptive statistics to interpret and analyse the data obtained from the questionnaires. Descriptive statistics describe the characteristics of the sample and thus the population (Zikmund, 1997:448). The statistics were analysed by comparing graphs and various quantitative results. The qualitative results from the open answers were interpreted in the same descriptive way.

The data was entered into Microsoft Excel™ spreadsheets and saved on a database. Each question was entered into a spreadsheet and each of the answers was

assigned a specific code. Then, graphs and figures were drawn up and interpreted. This method is in concordance with the study done by Botha (2005). The accuracy of the results was tested against the secondary data.

4.6 ASSESSING AND DEMONSTRATING THE QUALITY AND RIGOUR THE PROPOSED RESEARCH DESIGN

The quality of the results needs to be as accurate as possible. The following factors may decrease the quality of the results. The results may be distorted or incorrect owing to bias. This can arise as a result of the influence a researcher might have expressed to lead the respondent, either in the explanation of the process or in the explanation for the study. Respondents themselves may influence each other and so create bias. Lastly, the structure of the questions and multi-choice answers offered may create bias in itself.

The researcher's potential influence was eliminated by developing a pre-determined explanation of the process. This was tested and evaluated in the pilot test. The pilot test also removed all positioning bias of the questions and answers. Respondents were lastly asked not to discuss their answers with each other. The respondents also had to complete the questionnaire on their own, separated from other respondents. The secondary data was validated by comparing it to other findings and databases. The secondary data was also used to validate the findings of the primary data.

4.7 RESEARCH ETHICS

The main ethics problems facing an empirical study are explained by Saunders *et al.* This study might have encountered certain ethics issues, as listed below. The approaches which were developed to resolve these potential issues are also provided.

- **Voluntary participation**

The respondents should not be influenced or pressured in any way to complete the questionnaire. They should also be told that they have the right to withdraw at any point from the survey. This would be done by adding a

question to ask the respondents if they answer voluntary. A consent form would also have to be completed by the respondent. This would give the researcher the right to use the findings only for the purpose of the study and not to give or sell the data to another party.

- **Anonymity**

Any respondent should have the right to stay nameless, if he or she so chooses.

- **Incentives**

No financial or non-financial incentive should be given to the respondents to encourage participation in the study.

- **Copyright and plagiarism**

All secondary data will be used and collected with permission of the relevant organisations and full recognition will be given to them.

- The results will be made available to all respondents involved.

This study complies with the ethics requirements prescribed by the University of Pretoria and has received approval from the ethics committee.

CHAPTER 5

ANALYSIS OF SURVEYED DATA

5.1 INTRODUCTION

In this chapter the data collected will be analysed. The data will be measured against the problem statement and the research objectives. The findings and results deal mostly with each question individually, but some are also grouped together. On a per question basis, the findings from producers are dealt with first, followed by those of the traders and agribusinesses. Inter-regional differentiation between the Southern Cape and Swartland is dealt with when possible or relevant.

5.2 WHEAT PRODUCTION IN THE WESTERN CAPE

Chapter 3.1.1 has already dealt with the importance of agriculture and wheat in the Western Cape Province. The questionnaire therefore commenced by attempting to determine the importance of all row crops (total gross farm income) in the farm's business. This was followed by a question to determine the importance of wheat versus all row crops. The results are shown in Figure 5.1. The respondents had to select a percentage in both cases: <33%, 34–66%, or >67%.

It should be kept in mind that no producers were excluded, whether they planted row crops or not, and whether they were grown wheat or not. However, it is only logical that there would be a bias towards the inclusion of wheat producers in the sample. This does not matter since the primary objective was to determine whether wheat farmers are utilising SAFEX directly, or whether they have stopped or scaled down, and why. It is therefore apt that field workers targeted crop farmers and specifically wheat farmers. It must be noted that the use of SAFEX by barley farmers for cross hedging is a recent development and has not been analysed.

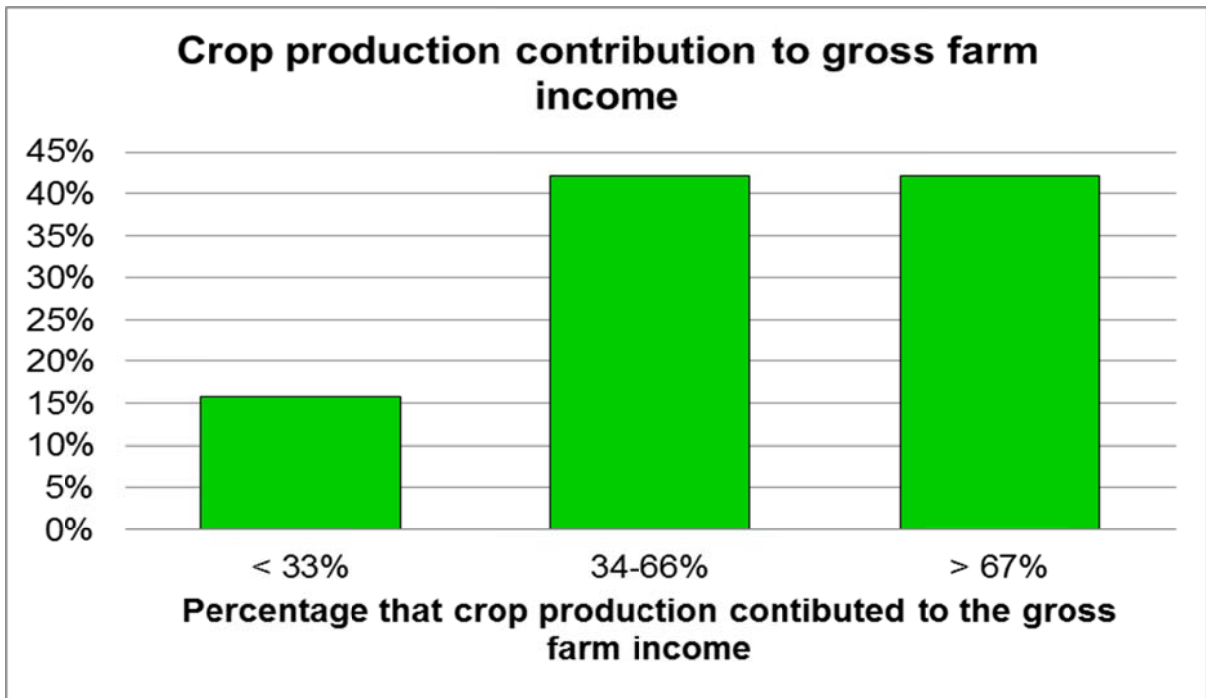


Figure 5.1: Crop production contribution to gross farm income

Source: Own data

Not taking into account inter-regional differences between the Southern Cape and the Swartland, 42% of producers depend on row crops for 67% or more of their income. Only about 15% of producers earn 33% or less of their income from crops. Traders and agribusinesses, however, were more specific and estimated that in the Southern Cape crops make up 40-60% of gross income, and 75-80% in the Swartland.

Next, respondents were asked what percentage of their gross income generated by crops is from wheat production. The results are shown in Figure 5.2 below.

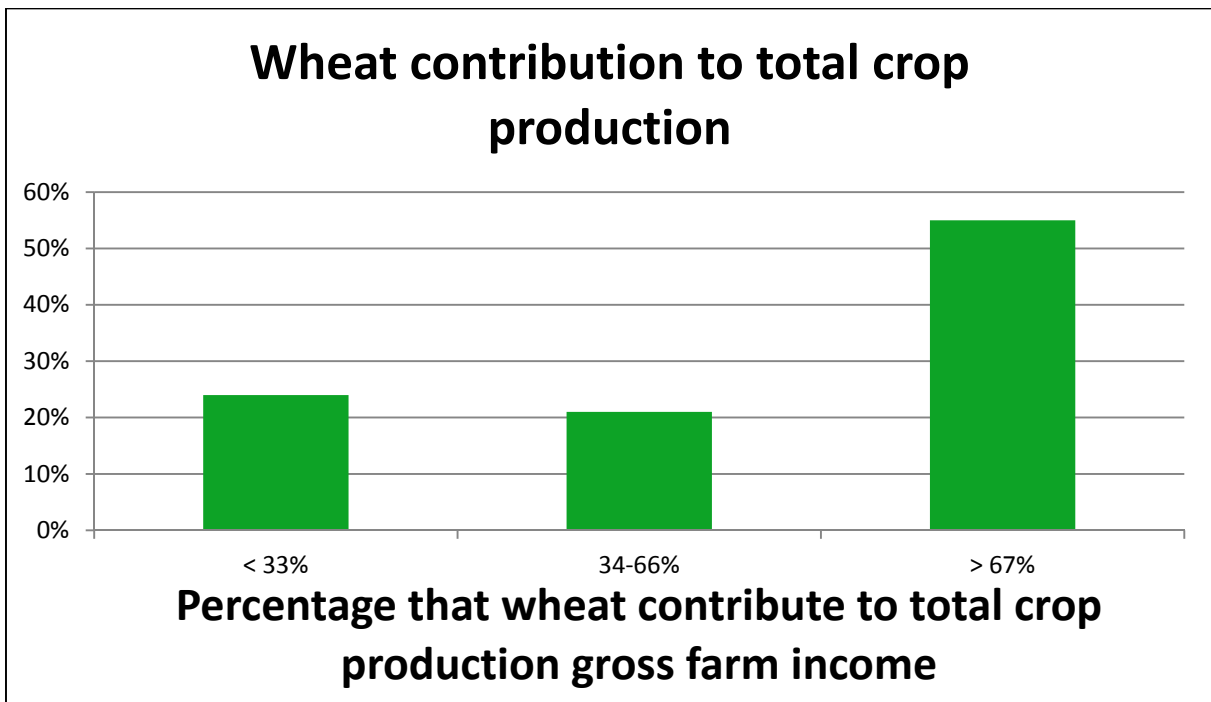


Figure 5.2: Wheat contribution to total crop production

Source: Own data

Of the producers surveyed, 55% indicated that wheat contributes 67% or more of their crop gross income. Traders and agribusinesses were of the opinion that wheat in the Swartland generates 80-90% of total gross income for row crops. However, in the Southern Cape they estimate that wheat only generates 45%, barley about the same and canola the balance. This clearly indicates that if gross income generated from wheat in the Southern Cape only comprises about 27% (45% of 60% for row crops), it is debatable as to how much time and effort producers in the Southern Cape should spend on their risk management strategy for wheat.

In question 3, respondents were asked to indicate the amount of tons they produced from 2004 up until 2011. Figure 3.12 in chapter 3 has already shown that on a longer term basis, wheat hectares planted in the Western Cape is on the decline. However, and although not part of this study, it is generally recognised that the number of farm units are on the decline, while the size is on the increase. The objective of the question was to get an indication whether tons produced per farming operation are on the increase, thereby warranting a more intense risk management strategy. In Figure 5.3 below it can be seen that the respondents' wheat production in total has increased from the 1998-2004 period and has stabilised at around 600 000 tons per year in total for all producers.

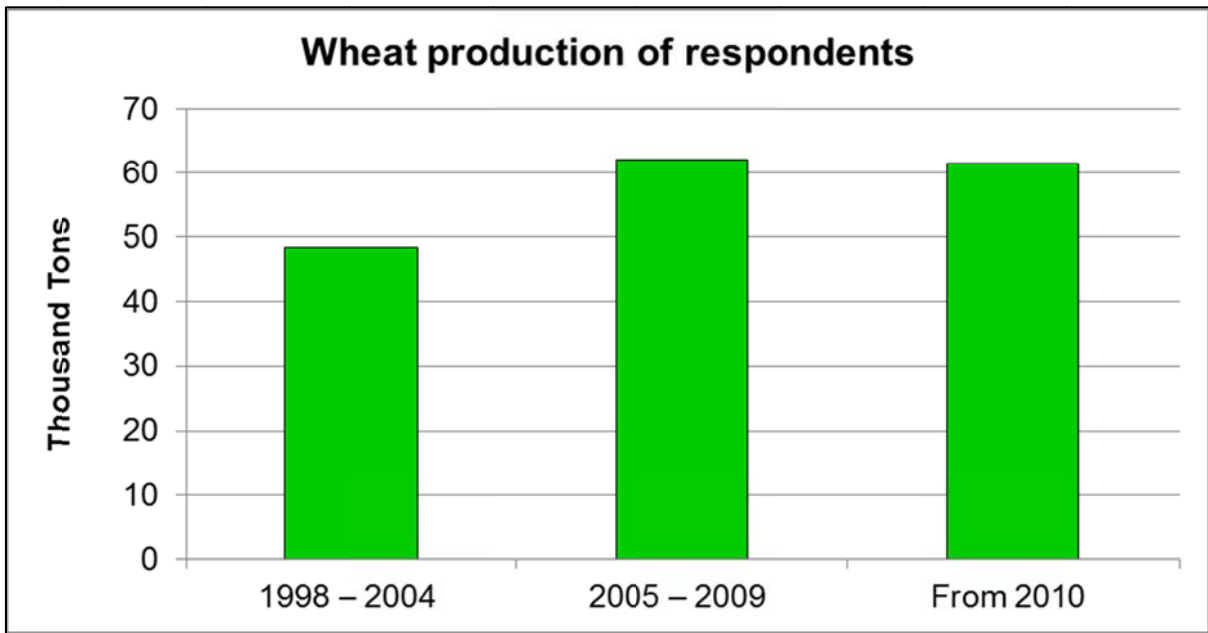


Figure 5.3: Wheat production for all the respondents

Source: Own data

5.3 MARKETING AND PRICING STRATEGY

The following section of the questionnaire dealt with the marketing and pricing strategies of producers. It is important to note that since most producers market the bulk (if not all) of their crop through one trader or agribusiness, it is not a question of whether the producers will sell to the trader, but rather when, hence the term “pricing”. Question 3 attempted to determine the time during the season at which producers would price (sell) their wheat, and what percentage thereof. The reasoning is that if producers are pricing in an unusually narrow time period (e.g. at harvest time), the requirements for a risk management strategy are less important. On the other hand, if they price evenly throughout the whole growing season and thereafter (post harvesting), they will receive the average price for the year and probably also do not need a risk management strategy.

The respondents were asked to indicate the percentage of their wheat they sell during planting, before harvest time, during harvesting and after harvest. Reference to Figure 5.4 will show that the first two strategies reflect a more evenly spread out pricing strategy, with the only difference being that the second strategy commences after planting time. Although the next two strategies are more concentrated in certain time slots, they are not yet severely limited to one exclusive time period, such as harvesting time.

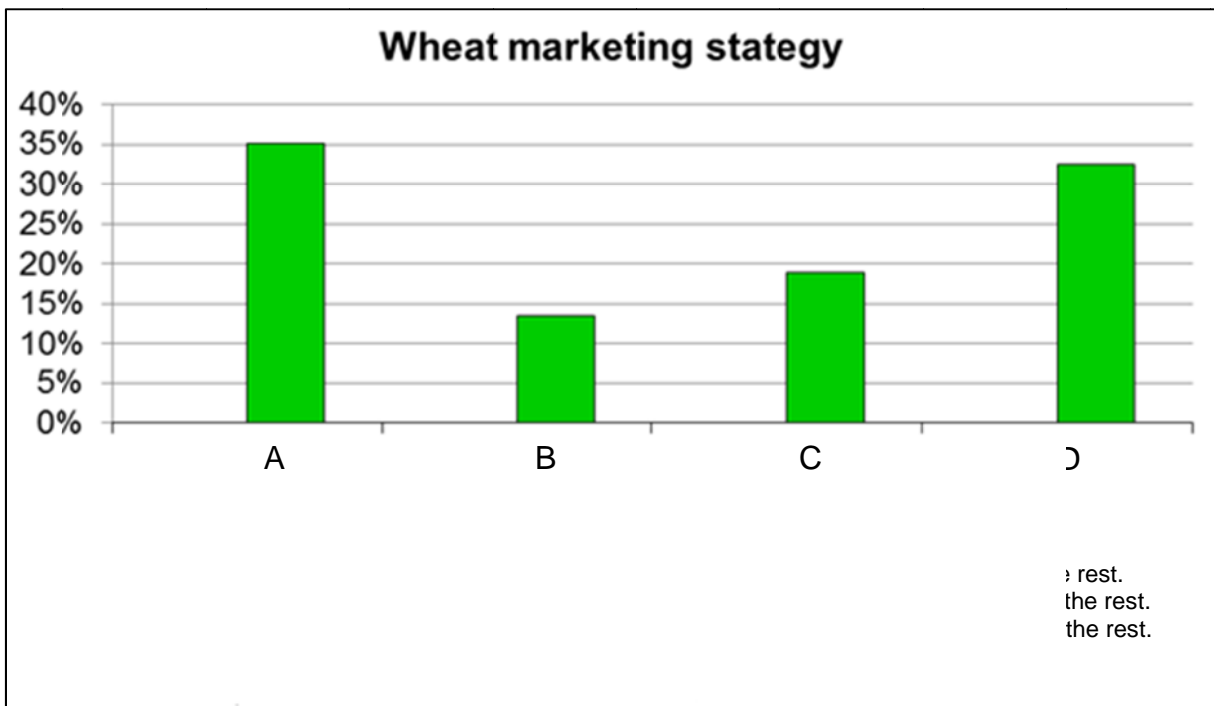


Figure 5.4: Wheat marketing strategy
 Source: Own data

The supposition that can be made is that approximately half of producers (the first two categories combined) do not need a formal SAFEX hedging strategy. Their pricing methods strive to obtain an average seasonal price. They therefore inadvertently hedge themselves in the physical market. The other half are more inclined to focus on certain time periods, hoping to cherry-pick some better prices.

Another conclusion that can be made is that 65% of producers do not price (sell) during the planting season, nor before that, for that matter. This is very much a traditional approach to marketing. If producers know their production cost before planting (which they should do), trend yield data will be at their disposal and the price. There is no reason why a portion of their potential profit could not be locked-in. The unanswered question, however, is how favourable was the price before and during the planting season since 1997 when the wheat contract started to trade? This corresponded to the answers of the traders and agribusinesses that are of the opinion that pricing during the planting season is low. For the balance of the season, including post-harvest, pricing is more spread-out.

Following from above, in question 4 the respondents were asked whether they adapt their marketing strategy from season to season, according to changing market

conditions. The response was overwhelmingly in the positive. A total of 86% said that they do adapt, taking into consideration market influences and factors. Only 14% kept the same strategy as the year before.

The study then aimed to establish what the most important factors are that influence producers' pricing strategies. They had a choice of five factors, as listed in Table 5.1. The respondents were asked to prioritise them. Weights were then allocated to the answers.

Table 5.1: Factors influencing pricing strategy

Factor	Rank
Favourable/ unfavourable growing season	1
Production price above/below production cost	2
Higher expected price	3
Advice from your grain broker	4
Lower expected price	5

Source: Own data

Producers ranked growing conditions as the number one factor in taking a pricing decision (weighted average of 50). The second but almost equally important factor was the production cost (weighted average of 49). If wheat prices were above the production cost, farmers were inclined to price. This could be linked to their earlier tendency not to price before or during planting. However, this still does not tell us if prices at planting time typically were inadequate, as set against production costs. Higher price expectation, meaning they would delay their pricing strategy as they believe prices will increase, received a weighted average of 45. Interestingly, lower price expectations and advice from their traders carried a much lower weight than the other factors.

The response received from brokers compared favourably, with one exception: two prominent brokers with clients all across the Western Cape were of the opinion that producers do listen to the advice of their brokers. This reveals an interesting difference in personal opinion: the producer likes to believe the decision to sell when the price was high was his own, while the broker believes that it was based on his recommendation.

Another observation to take note of was a trader who recommends to his clients to follow the same strategy each year. The motivation behind this is that since the market keeps on changing every year, it serves no purpose to try to imitate a specific strategy which might have worked well the previous year (e.g. high prices at planting time), because in the next year it will be something different. If the producer knows no better, he should stick to his strategy and at least in some years it will work well for him.

In question 5, the results of which are shown in Figure 5.5 below, the research aimed to test whether the respondents acted upon price expectations in the market, in terms of the frequency at which they price. The question was asked whether the producer would change the frequency of his pricing strategy if he had a certain outlook on the market (e.g. as to when he expects the price to increase or decrease). Also, did he read and use analytical reports compiled or supplied to him by his broker or a grain market specialist? If the latter could be confirmed, it does show that the producer follows a more scientific approach to the execution of his price risk management strategy. Respondents could answer yes or no to each statement and the statements were mutually exclusive (each could be answered individually).

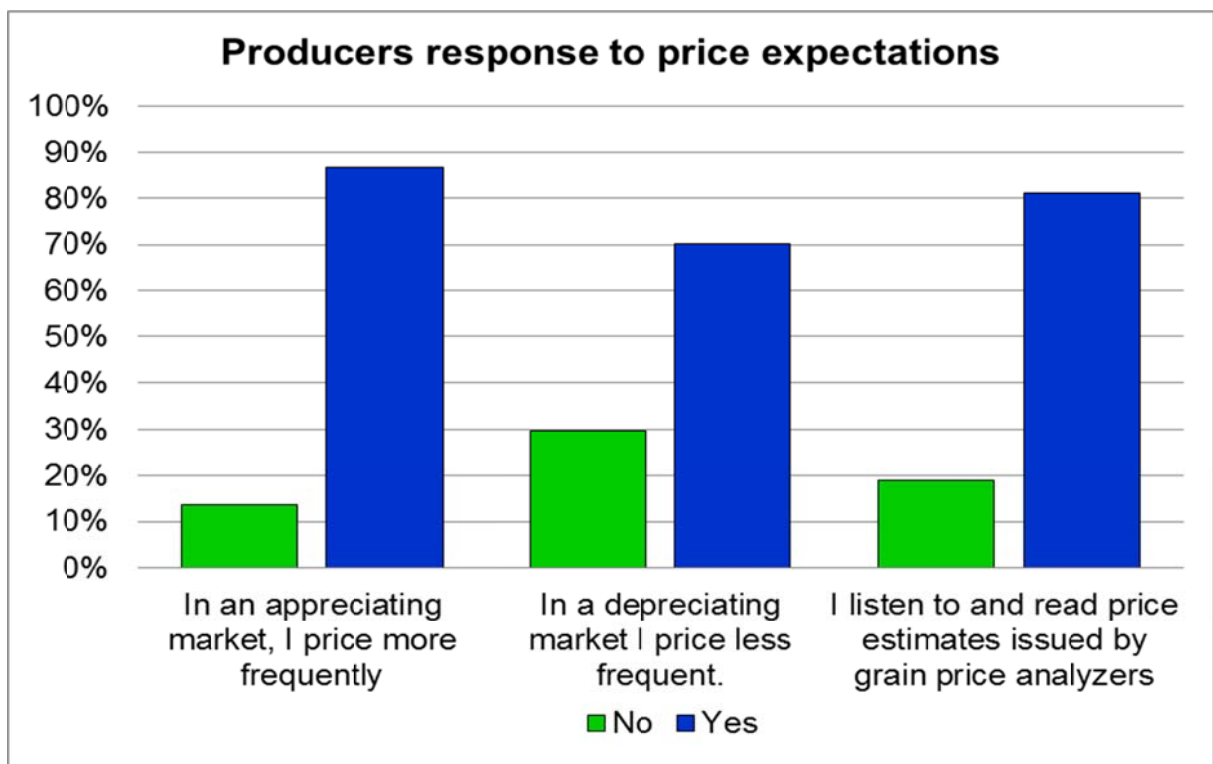


Figure 5.5: Producers' response to price expectations

Source: Own data

The figure shows that producers are much more eager to price in a rising market (86%). Contrary to popular belief, producers do not wait until prices have turned around and then start to price. In fact, 70% of respondents said that they price less in a declining market. On these two questions, grain traders were in agreement. One agribusiness company representative did say that he had observed a tendency for producers to wait until the prices have turned around. Accordingly, there might be an element of truth in the popular belief.

On the question whether producers pay attention to analytic price reports, 80% of producers replied yes. However, traders and agribusinesses differ sharply on this point. They are of the opinion that only 5 to 10% of producers study reports, while the balance mostly trusts their trader. There was a view by one trader that the younger producers have a greater tendency to read reports.

In conclusion, roughly half of the producers inadvertently hedge themselves by spreading their risk evenly throughout most of the year in the physical market. Producers do adjust their marketing strategy, but there seems to be a difference of opinion whether it is on their own accord or on advice of their brokers. Contrary to popular belief, producers do price as prices rise and not only after they have turned at the highs. The comment of one agribusiness in this regard might indicate that it could have been a more frequent practice in the past. Producers, traders and agribusinesses differ sharply on whether or not producers study analytic market reports.

5.4 PRODUCERS HEDGING DIRECTLY ON SAFEX

This section deals with the core of the survey. In the lead-up to this section the survey attempted to first establish the importance of wheat in total farm make-up. This will obviously determine the management attention it deserves. It confirmed that in the Swartland wheat is still very important but less so in the Southern Cape. Secondly, the survey attempted to establish how producers go about in pricing (selling) their wheat. In this regard no uniform conclusion could be reached and diverse strategies exist.

In this section respondents were first asked if they have, or ever have had, a SAFEX account. If respondents indicated that they never did use SAFEX, the follow up questions were not applicable. (An important aspect of this study, however, remains the reason why producers are not using SAFEX).

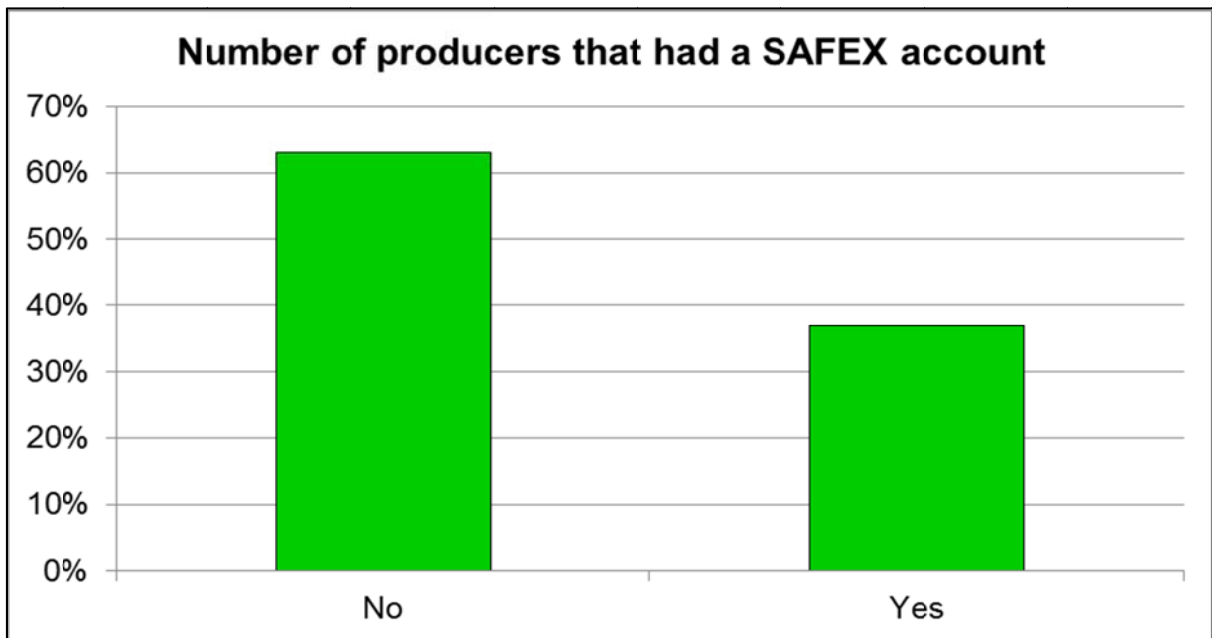


Figure 5.6: Number of producers that had a SAFEX account

Source: Own data

As can be seen in Figure 5.6, 37% of the respondents indicated that they had (or still have) a SAFEX account. Their view was not fully supported by the traders and agribusinesses, if factored in over the Western Cape as a whole. If the view of the producers and those of the traders and agribusinesses are combined, an estimated 10 – 20% had SAFEX account across the grain producing areas of the Western Cape.

The producers that indicated that they did have a SAFEX account were asked follow-up questions to understand their previous activity on SAFEX and to establish the change (if any) in their use of SAFEX.

Of the 37% of respondents that indicated that they did have an account (or still have an inactive one), 93% indicated that they only made use of one broker. Broker loyalty and/or service did not seem to have an effect on producer activity.

The respondents were then asked to indicate when they first opened their SAFEX account. Their response is depicted in Figure 5.7.

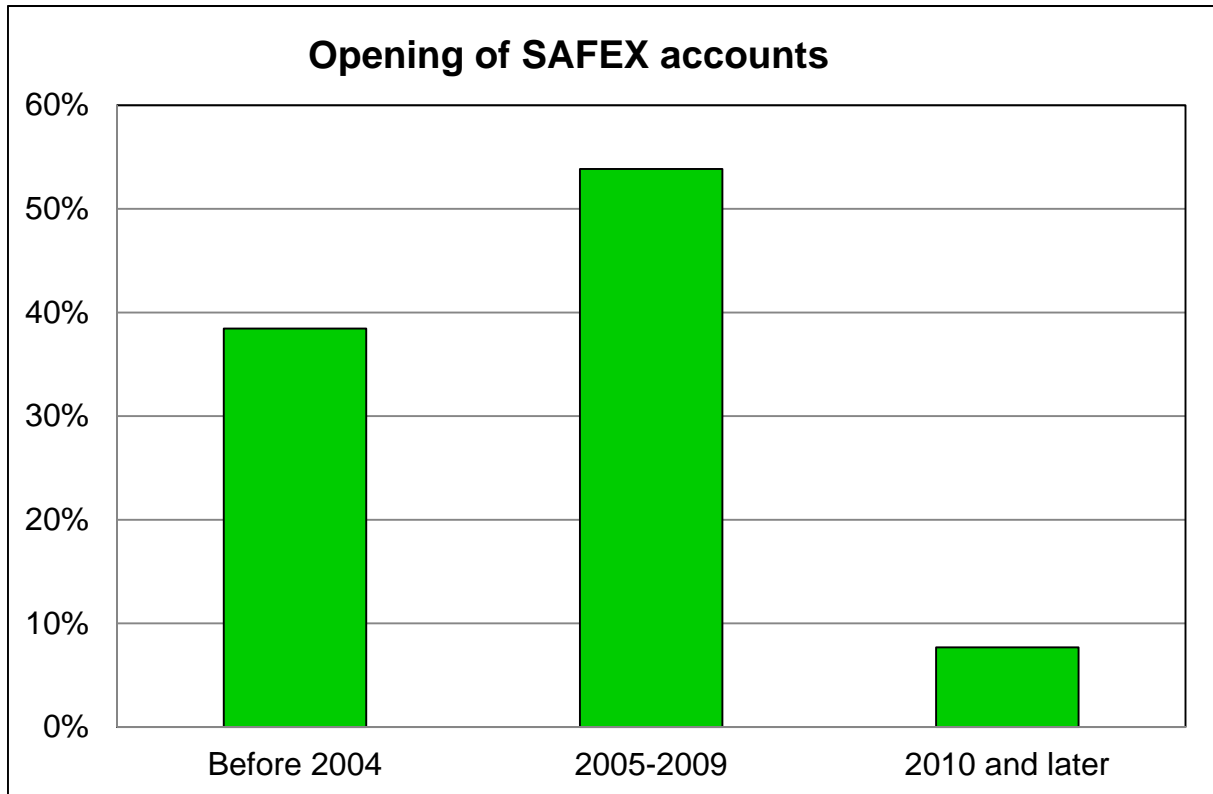


Figure 5.7: Opening of SAFEX accounts

Source: Own data

The period after 1997, when the first wheat contract was listed, was divided into three time categories. Prior to 2004, 38% of SAFEX account holders had opened an account. The number of new participants then grew further in the next five years to 54%. However, since 2010 it has almost come to a standstill – only 8% new account holders were added.

Other factors that might have an influence in the opening of accounts, although outside of the scope of the survey, include:

- The increase in usage of the Internet
- The commodity spike in 2007 (and the subsequent crash) as well as
- The re-launch of the Cape Wheat contract in 2012.

Question 7 attempted to deal with the frequency of using the account. Producers responded poorly to this question but traders and agribusinesses estimated average usage only around 5 – 20 contracts per season.

In the next question (8), the survey endeavoured to determine the trading activity of the 37% of respondents who had indicated that they had opened a SAFEX account. This was done to establish if there had been an increase, decrease or if the active participation had remained the same. Importantly, all of the respondents (100%) who had said they had at one time opened a SAFEX account answered the question. Figure 5.8 depicts the response.

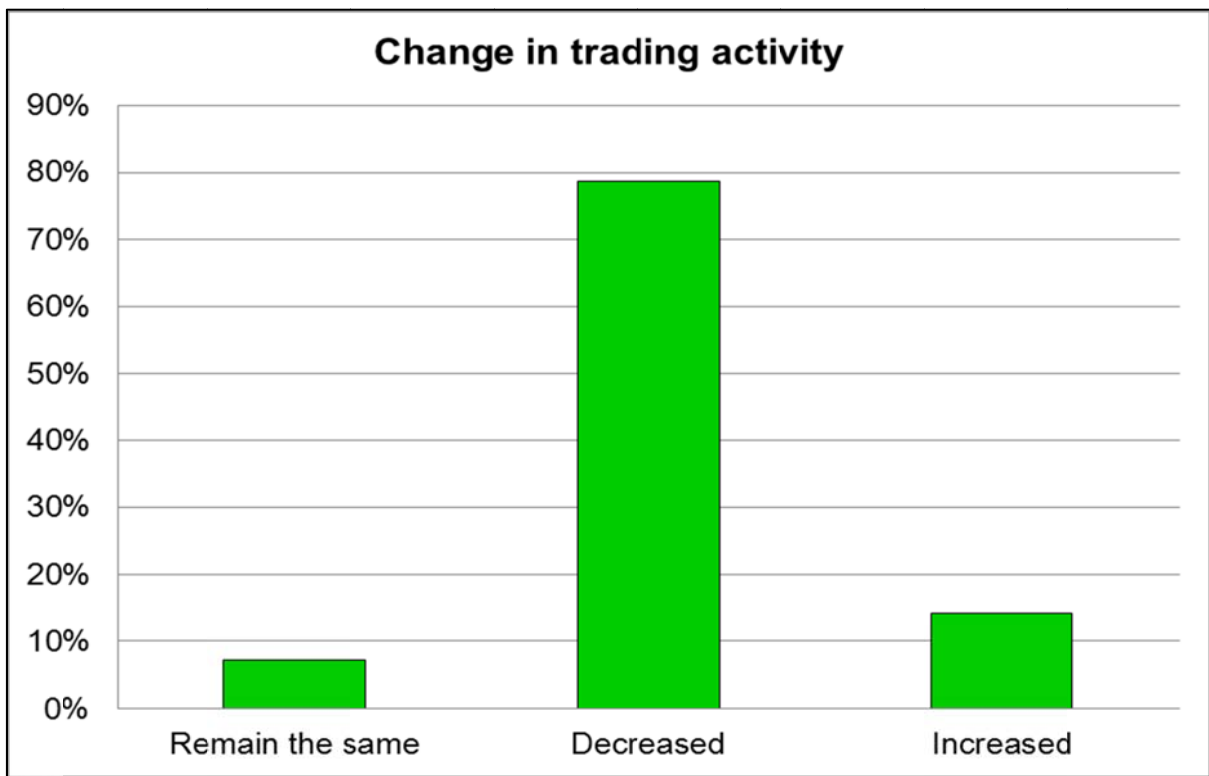


Figure 5.8: Change in trading activity

Source: Own data

Of the once active SAFEX account holders, 79% said their activities had decreased.

It was also important to determine to what extent activity has decreased. Question 9 addressed this issue and the results are depicted in Figure 5.9. The respondents had three choices: a reduction of 50% or less, 50 to 75%, or stopped altogether. This question only applied to those respondents who had said they did have a SAFEX account and that their activities had decreased.

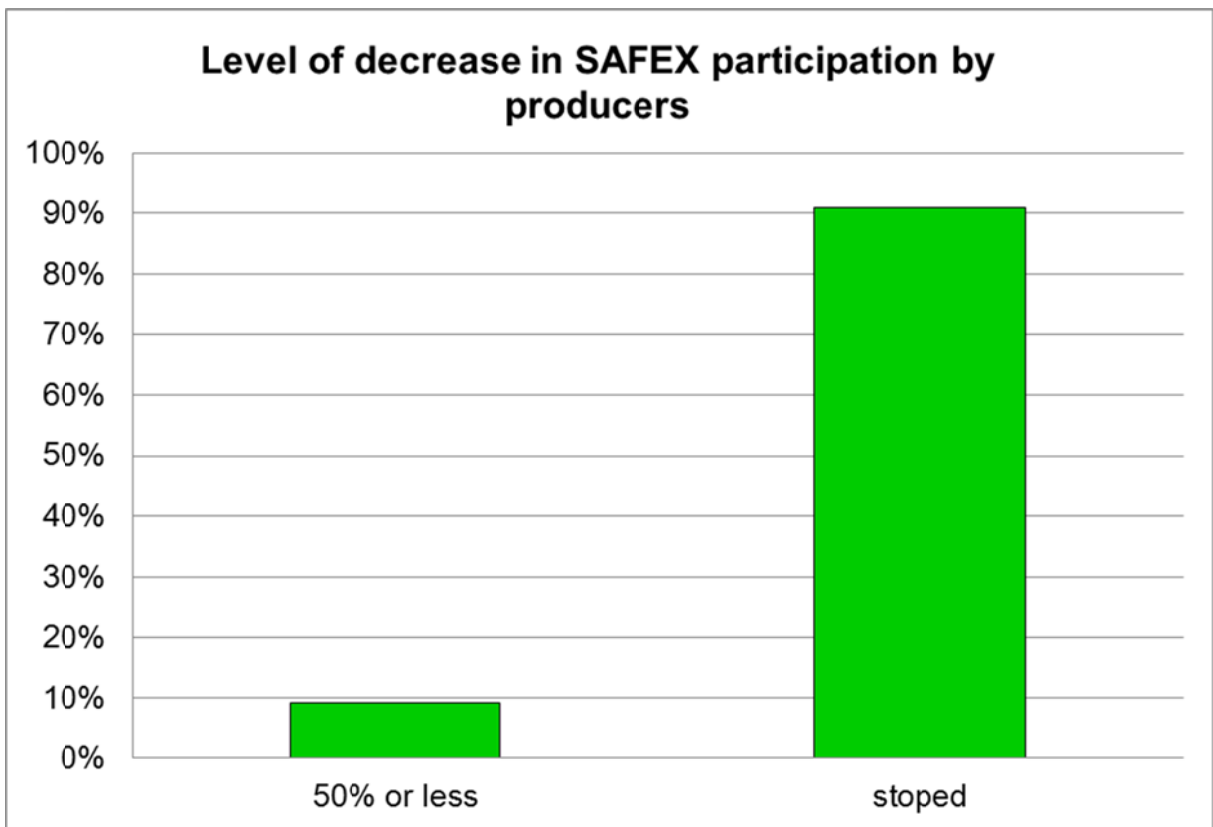


Figure 5.9: Level of decrease in SAFEX participation by producers

Source: Own data

The answer revealed that 91% of respondents had stopped trading altogether.

This view was entirely supported by the estimates of the traders and agribusinesses. A trader and one agribusiness active in the Southern Cape respectively stated that ‘there are only five producers on their books that hedge’ and ‘less than five per cent in total’. Another institutional respondent estimated current producer participation in the Western Cape at 5%, of which almost all are speculative in nature. Another trader and agribusiness active in the Swartland estimated participation (limited to a specific area) at ‘one producer’ and ‘five per cent, of which only one producer hedges’.

Cognisance should be taken of the fact that all traders and agribusinesses stated that they have active SAFEX accounts (see below).

To conclude, the survey determined that:

- Active and direct producer participation in some areas in the Western Cape was as high as 33 – 50%. The average in the Western Cape was calculated at 10 - 20%.
- Active participation, even in the high volume areas, has declined to less than 5%, representing only a handful of producers.
- Of these, by far the majority are simply speculating and not hedging.

5.5 REASONS FOR THE DECLINE IN DIRECT SAFEX PARTICIPATION BY PRODUCERS

Having determined that producer participation, both historically and currently, has experienced a steep decline, the survey now strives to identify the reasons for this trend.

Question 10 asked the respondents to identify the reasons. Answers were interpreted using a weighted average basis. Respondents were provided with 6 reasons for decreased participation on SAFEX. These were the top reasons as identified by the literature review. Respondents ranked the reasons from 1 (most important) to 6 (less important), then weighted averages were assigned. Table 5.2 summarises the outcome as follows.

Table 5.2: Reasons for decrease in SAFEX participation by producers

Reason	Rank
Initial margin (cash) is high	1
The local grain broker provide same service	2
Variation margin (cash) is to high	3
Volatility	4
High skill level and knowledge is required	5
High broker commission	6

Source: Own data

Cash flow requirements are the single biggest reason why producers have reduced (or completely stopped) their participation on SAFEX. The initial and variation margin were the number one and number three most important reasons.

The second reason was that a producer could achieve the same benefits and more through the services offered by the grain traders and agribusinesses, compared to trading directly on SAFEX. Although not included in the survey questionnaire completed by producers, the interviews with traders and agribusinesses identified these services as follows:

- It is unnecessary for producers to open their own accounts when hedging on the accounts of traders.
- The trader would pay the initial margin.
- The trader would pay the variation margin, if applicable.
- The trader offered various types of contracts, including fixed priced, minimum priced, minimum/maximum priced and sell now / price later.
- The trader can offer financing for grain.
- The trader provides option strategies similar to what could be achieved on SAFEX.
- The trader provides the producer with market reports that analyse events and prices trends.
- The trader provides the opportunity for one-on-one discussions/consultations with the trader/agribusiness to determine a strategy.

It should not be forgotten that traders can only offer these service if they do a deal back-to-back on SAFEX. This is part of the reason why all traders and agribusinesses have SAFEX accounts. Other aspects that were highlight by producers as reasons to work rather through traders were the exposure to high price volatility on SAFEX which goes hand-in-hand with short-term cash requirements. Skills required to trade on SAFEX was rated second last, while broker commissions do not seem to be an issue at all, since it was rated last.

The surveyed results among traders and agribusinesses completely matched those of the producers. Without exception, all rated the services offered by them and cash requirements as the two most important reasons by far for producers not participating directly on SAFEX. One trader went as far as stating that a producer 'hates it' to get a margin call.

Question 11 was meant to determine whether producers that actively trade on SAFEX, hedge or speculate. Given the low response rate, the answers are inconclusive. It is, however, worth noting that traders and agribusinesses were of the opinion that the number of producers who truly hedge could be singled out. To be more specific, not one of the traders or agribusiness could identify more than 5 producers in their area or on their books who both had a SAFEX account and hedged on their own or requested the agribusiness to hedge on their behalf. Most of them estimated one or two producers. One agribusiness was of the opinion that some producers still do not understand the difference between the concept of hedging and speculating.

The next question, number 12, was included in the survey with the same objective as the previous one, to establish the reasons why respondents no longer actively trade on SAFEX. However, the previous question was limited to SAFEX participants. In question 12, the stated reasons were modified and posed to all the respondents. This was done to better understand why some respondents never had an account on SAFEX or never made use of SAFEX in their price risk management. The reasons were more broadly formulated for the respondents. It was again done on a weighted average method by ranking from most important to less important. Almost all the respondents answered and their answers are shown in Table 5.3 below.

Table 5.3: Reasons for non-participation on SAFEX by all respondents

Reasons	Rank
The area differential	1
Cash requirements	2
Requires attention the whole time or else you lose	3
It's just a gamble	4
Bad and / or unknowledgeable service / advice from SAFEX broker (s)	5

Source: Own data

Having included the controversial 'area differential' as an option, it was expected that producers might latch onto this. However, the response was much higher than expected. Sixty-five per cent of all respondents said that the area differential was the main reason that deters them from participating on SAFEX for hedging purposes. Cash requirements were once again rated highly and came in second, showing that this is still an important reason.

In question 13, the respondents were asked if they were of the opinion that the SAFEX (Randfontein) wheat price is a reasonable reflection of international and local supply and demand. This question was aimed at whether they thought free and fair price determination take place on SAFEX so as to reflect both international and local factors. It needed to be asked since almost everybody in South Africa, producers and traders alike, still use SAFEX to set prices. Unfortunately, the question was open to interpretation. Although respondents could choose between 5 ratings, 59% chose the ‘worst’ of the ratings, as shown in Figure 5.10.

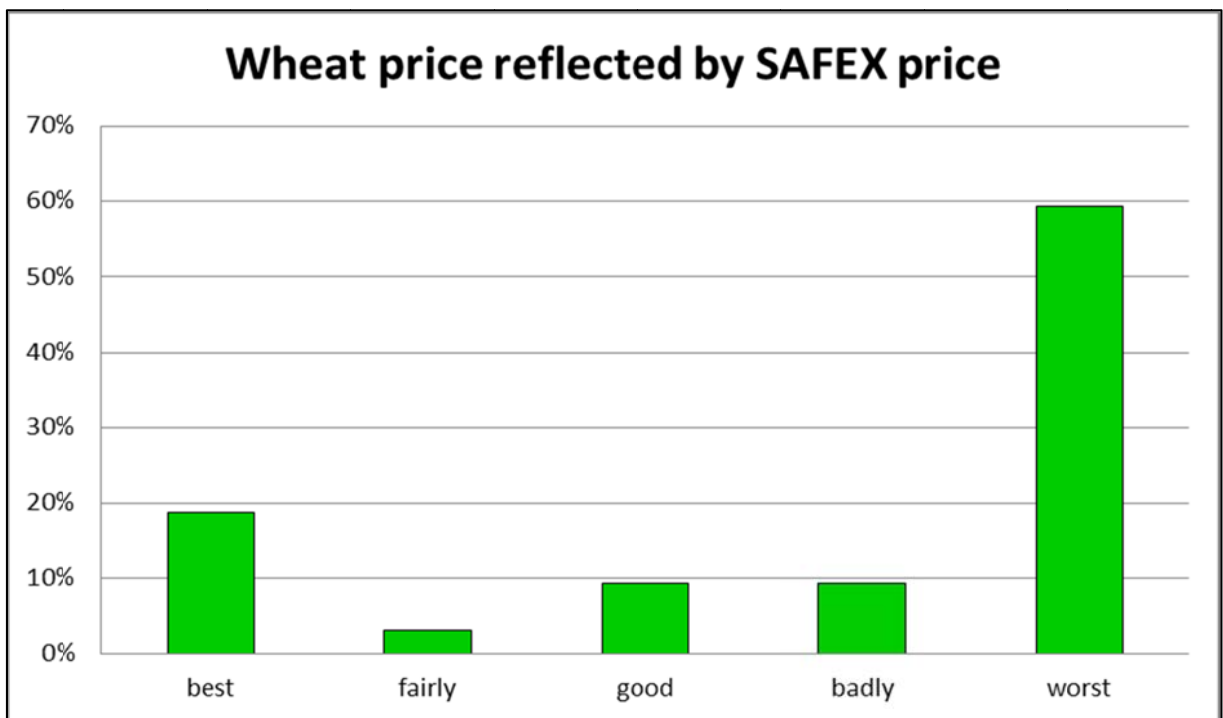


Figure 5.10: Wheat price reflected by SAFEX price

Source: Own data

Regrettably, from Figure 5.10 it can be deduced that, either the location-differential is very negative for the image of SAFEX, or producers still do not grasp the objective of the differential system. A small comfort might be that 32% of producers do see the price as a reasonable reflection of international forces. Most of the traders, except one, believe the SAFEX price represents a fair price determination mechanism and use it extensively to hedge their book.

5.6 SAFEX FUTURES AND OPTIONS

Options are often offered as a better solution to producers as a ‘less risky and easier to understand’ alternative to futures. The survey attempted to determine if any of the answers by the respondents are significantly different from the questions and answers that dealt with futures.

The respondents were asked if they differentiate between futures and options on SAFEX. This was asked to determine if they understood the difference when compiling a strategy. Figure 5.11 below depicts the results of question 14.

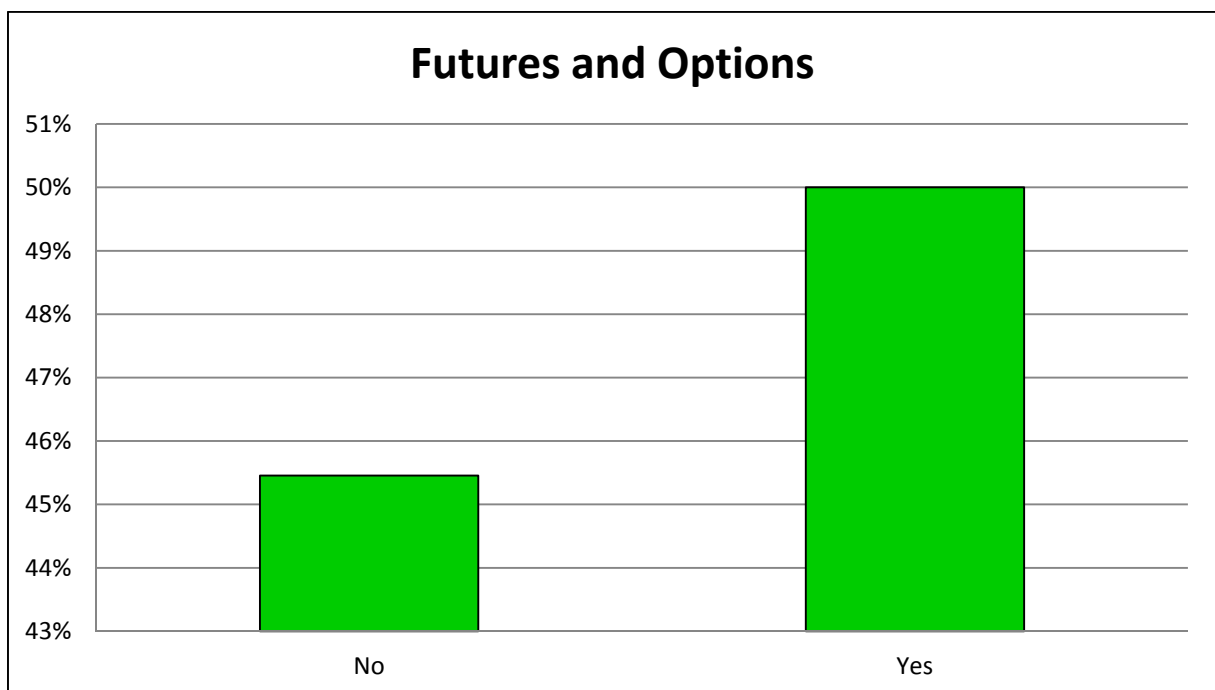


Figure 5.11: Futures and Options

Source: Own data

The answers show a near 50% split. This means that about half of producers do not understand the advantage of options when compiling a strategy. This was supported by the traders and agribusinesses who all said producers mainly use futures since they do not properly understand options.

Next, in question 15, producers were asked if their usage of options had increased. The response was positive, although from a low base. The results are shown in Figure 5.12. Usage grew from 8% pre-2010 to 18% post-2010. This means that

although more producers still prefer futures to hedge, the usage of options is growing. Traders estimate the current percentage much closer to 10%.

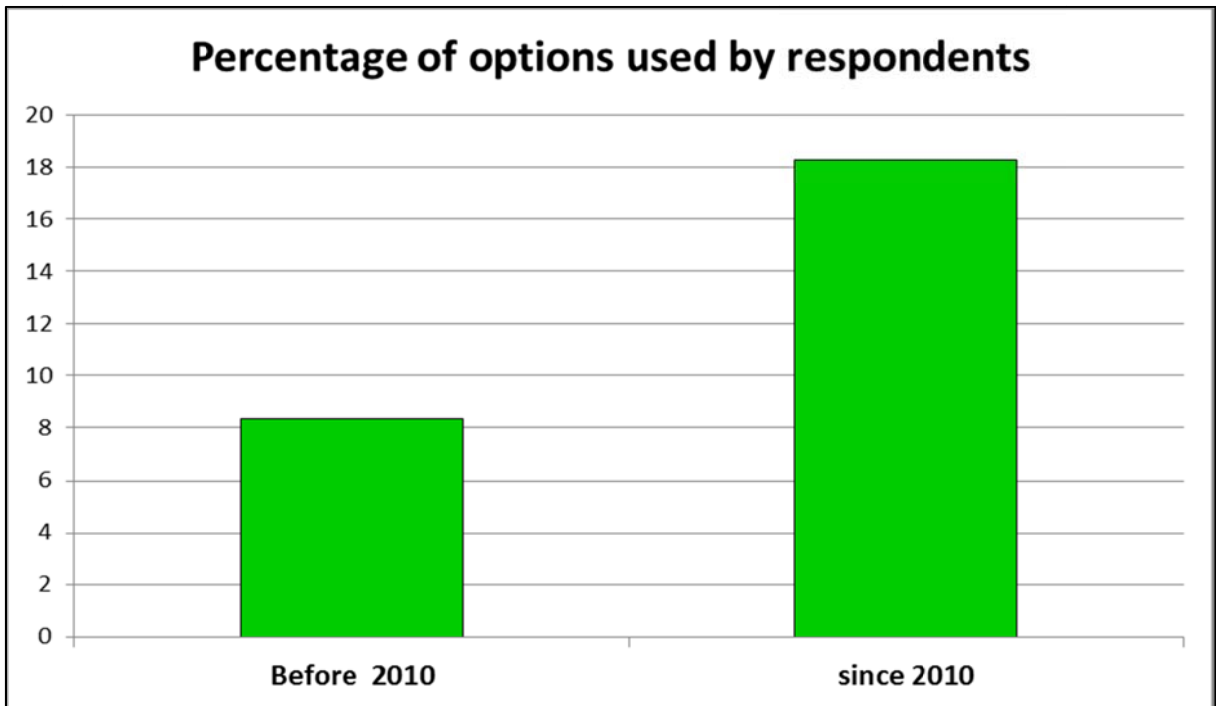


Figure 5.12: Percentage of options used by respondents

Source: Own data

5.7 CAPE WHEAT CONTRACT

The respondents were asked if they considered themselves to be informed on the working of the Cape Wheat contract. Question 12 needs to be kept in mind: when dealing with the reasons for not trading on SAFEX, the location differential was listed as the number one reason. Since the Cape Wheat contract was designed and listed to overcome this problem, it would be expected that a similarly large number of producers should have some knowledge on the workings of the contract. Figure 5.13 depicts the results.

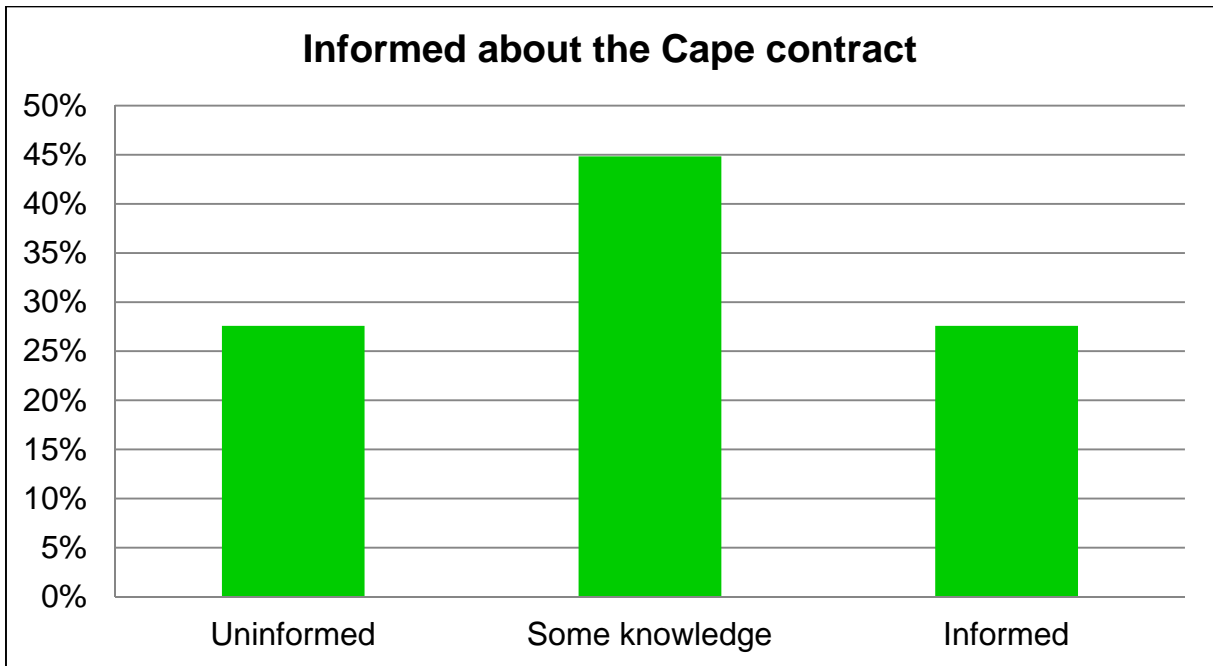


Figure 5.13: Informed about the Cape contract

Source: Own data

The results were positive, a combined total of 73% of producers either had some knowledge (45%) or were informed (28%). These results echoed those of the traders and agribusinesses which considered most producers to have some knowledge. One of the agribusinesses made a valid comment, stating that although the producers have some knowledge, they do not understand the relationship between the Randfontein contract and the Cape Wheat contract. (This is a different debate altogether: if you do understand it, you might consider that there is no need for a Cape Wheat contract – author’s note.)

Next, and much more importantly, producers were asked if they had ever tried to use the contract, directly or through their trader. Only 11% indicated that they had tried to use it, as shown in Figure 5.14.

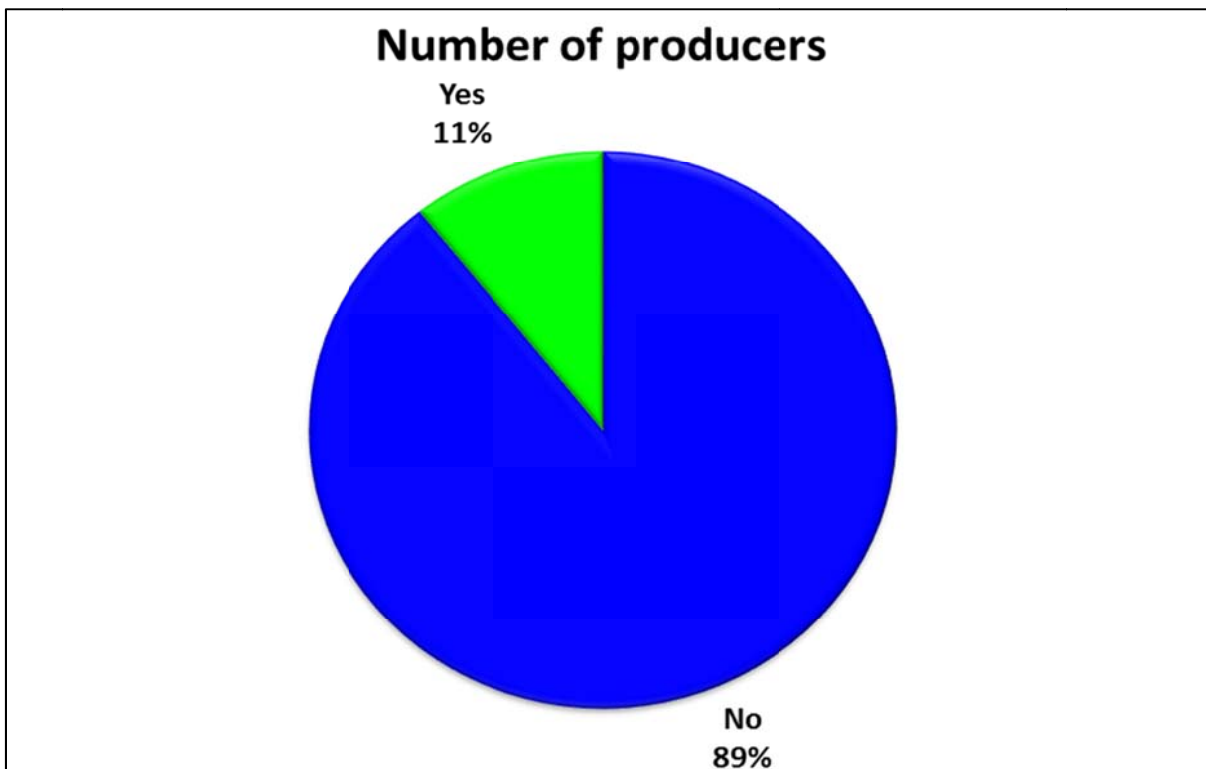


Figure 5.14: Number of producers that aimed in trading their wheat over the Cape wheat contract

Source: Own data

Traders and agribusinesses were not well positioned to comment on this question but did say that hardly any producer insisted on trying to use the contract. They, as traders, did utilise it, however, mostly in the form of spread opportunities, either for their clients or for themselves.

The next question (eighteen) was an open question. Producers were asked about the circumstances under which they would use the Cape Wheat contract. Their answers are summarised as follows:

- **Secure better price (profit)**

Fifty-two per cent of respondents said if they were to receive a better price, they would use the contract.

- **Wheat quality**

Many respondents indicated that the superior quality of Cape wheat is not reflected in the Randfontein-based price. Therefore, the local price is said not to incorporate the higher secondary baking quality benefits of Cape wheat, especially when compared to imported wheat. They expect a premium for

their higher quality wheat, which potentially could be addressed by the Cape Wheat contract.

When the findings on the responses of the producers are analysed, it can be said that although they are informed on the Cape Wheat contract, this is not nearly enough to guarantee the success of the contract. Firstly, since the contract was largely listed at their request, they should endeavour to use it. Secondly, they should not wait for the contract to 'show (bid) them better prices'. This is unlikely to happen: they are the ones that need to submit offers. Lastly, the relationship (spread) between the Randfontein and Cape Wheat contract is all that matters. Traders and agribusinesses understand this and some are utilising it on behalf of their clients and others for themselves. However, a spread could only be traded if there is liquidity in the Cape Wheat contract.

5.8 WHEAT GRADES TRADED ON SAFEX

Determining the most suitable grades to be traded on SAFEX and calculating the discounts between grades have been very contentious issues for a few years. As mentioned above, some feel that the current trading system does not unlock the benefits of the perceived superior quality of South African wheat, including Cape wheat.

In an effort to contribute scientifically to this debate and in line with the overall objectives of the study, the study asked the following questions, which also accommodated an additional open response:

- Which grades would a producer like to see trading against the SAFEX wheat contract? (Question 19)
- How do they view the current discounts between grades? (Question 20)

Figure 5.15 depicts the results on the grades traded.

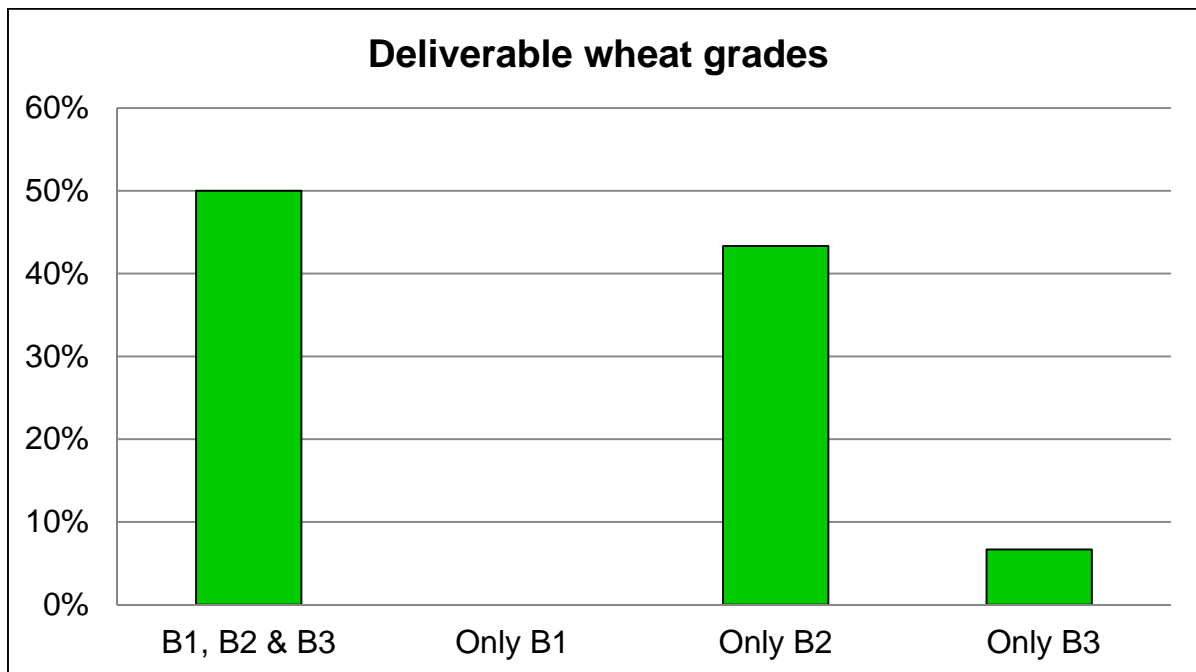


Figure 5.15: SAFEX deliverable wheat grades

Source: Own data

Roughly half of the respondents indicated that they are satisfied with the current system, which in a way is understandable, given the inherent fear of change. The surprise was that 43% of respondents indicated that they would prefer only B2 to trade. In the open part of the question, most of those producers who said they prefer B1, B2 and B3 also said they would like to add B4 to the contract.

When the traders and agribusinesses were questioned on the grades, they all had strong opinions. Three important views were almost unanimously expressed by them:

- They did not believe change in the reference grade on SAFEX from B1 to B2 would make any difference, since it is purely a mathematical calculation. A change to B2 will have to be done in conjunction with other changes to have any real impact.
- That said, without exception all thought that B4 should be added. This was stated, notwithstanding the practice by agribusinesses to upgrade B4s in their storage facilities. The appeal for including B4s comes from a need to manage

basis risk on the B4 grade. If agribusinesses know the basis is set, they could purchase any volume of B4s on contract from the producer, knowing they could hedge it on SAFEX. They could also deliver such B4s if they do not find a physical buyer.

- For very much the same reasons as wanting to include B1s, they are against using B2 as the SAFEX reference price while delisting B1. (Meaning that B1 should find its true value in the market on a supply and demand basis.) They would not be able to manage the basis risk if B1s were to trade freely in the market. They also believe that with only one dominant buyer in the Cape, the producer and/or trader is going to be offered even less for a B1 than the current grade differential. (Author's note, this particular buyer was approached to complete a questionnaire but did not provide a response.)

The response to the question about the relative price difference between grades was overwhelmingly in favour of smaller differences (Figure 5.15).

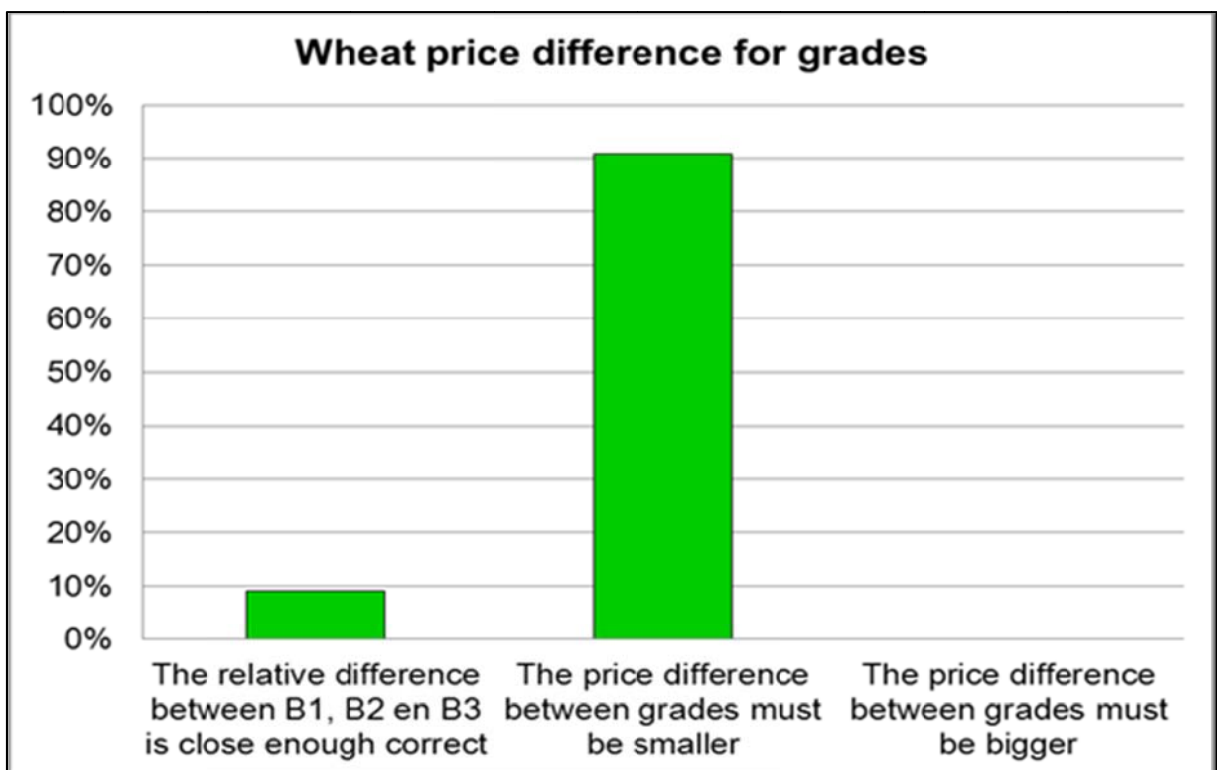


Figure 5.16: Wheat price difference for grades

Source: Own data

Unfortunately, and in hindsight, it might be that the question was not properly composed or it might have been misinterpreted. If B1 is the SAFEX reference price and the B1 price stays the same relative to the price of imported wheat, all producers would like the grade differentials to be less. It is obvious that they will then receive more for the lower quality grades.

However, if a 'new' pricing structure is envisaged where B2 is the SAFEX reference and the grade differentials are wider (possibly overly wide, for the sake of argument), this would greatly benefit the producer who produces a higher percentage of B1s, as opposed to B3s. If the opposite is true (where grade discounts are 'too small'), there would be less incentive for producers to strive for quality (B1s) and more incentive for volume (which is not necessarily bad). However, it is no doubt a fact that buyers will offer less for the same B2 SAFEX referenced wheat since they know they will get less quality wheat in their package. The general producer will more than likely be worse off, while the producers who strive for quality will have to negotiate this on a separate premium contract.

5.9 WHEAT MARKETING CHANNELS AND METHODS

In the next section the survey analysed the marketing channels used by the respondents. The survey endeavoured to assess what percentage of respondents still utilised the traditional method of selling to their agribusiness (ex-coop) or whether they used a broker. Did they use more than one outlet, meaning the agribusiness and a broker? Also, what percentage sold directly to a miller?

Caution should be taken when interpreting this question. In some areas, like the Southern Cape, Agri-Overberg does not participate directly in grain marketing and there are no large millers located nearby. This means that the respondent has no choice but to market through a broker. In other areas like the Moorreesburg area, agribusinesses, such as MKB, only started very recently to offer grain trading services to their members/shareholders. It is only in the 'old WPK' area where producers have been indulged with the full spectrum of choices since inception of the free market . At one time there were about a dozen brokers operating in this area,

with more than one agribusiness (Senwes and Agri) also offering broking services and three large wheat mills in the area purchasing direct from producers.

The scores were added up and are shown in Figure 5.17.

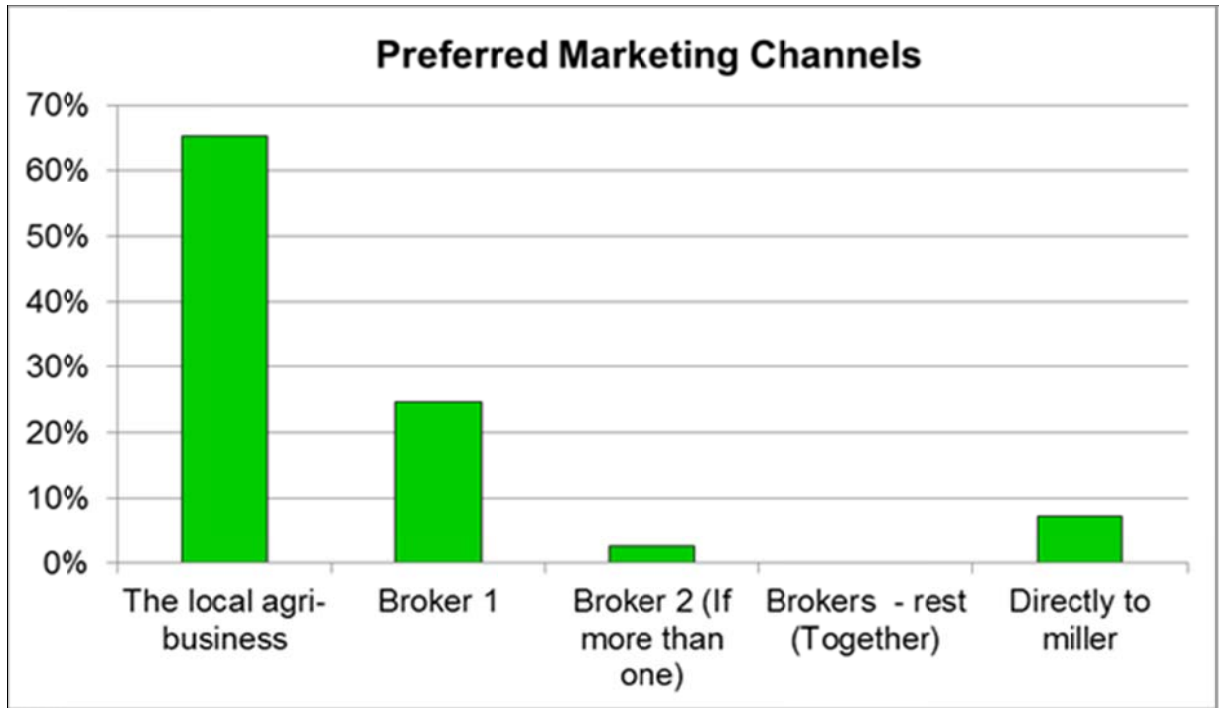


Figure 5.17: Preferred marketing channels

Source: Own data

Against this background, the producers' responses were combined with that of the surveyed grain traders and agribusinesses. It is apparent that grain trading over the years has developed and is based on a business relationship of trust between producers and their grain traders. Roughly 65% of producers only use one grain trader (including the agribusinesses) while about 20% will use a second grain trader (including the agribusinesses), but will only market a small percentage of their crop through the second grain trader. Around 7% market direct to a miller, whether in small or large quantities. It seems that there is general mistrust of millers, while relationships with grain traders and/or agribusinesses are currently viewed much more favourably.

Next, in question 22, respondents were asked where they delivered their wheat. Against the background of the previous question, the response was overwhelmingly in favour of their nearest silo. Farm loading by grain traders made up a surprisingly

small percentage. This is despite a trend by producers to upgrade on-farm loading, blending and storage facilities. The results are shown in Figure 5.18.

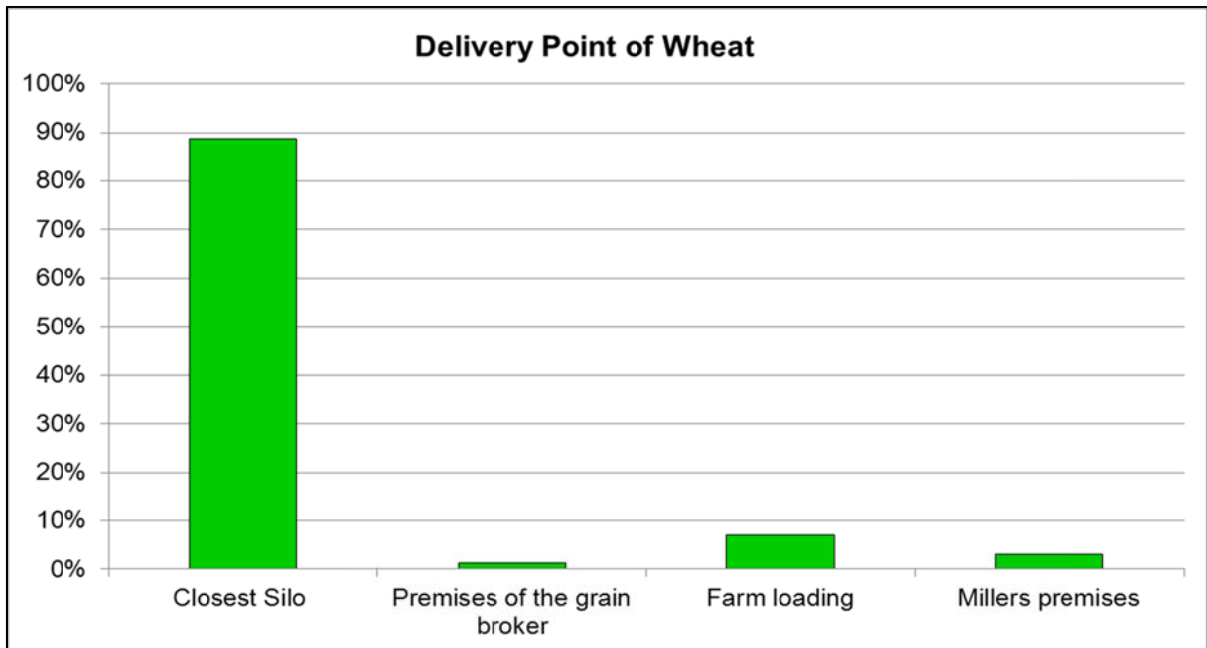


Figure 5.18: Delivery point of wheat

Source: Own data

Interestingly, one respondent said that he sold his entire wheat crop to a local miller but nevertheless delivered to the nearest silo, since the miller does not have enough on-site storage capacity. Although not part of the survey, it is a known fact that agribusinesses offer attractive propositions to secure turnover through their silos. The response by traders and agribusinesses echoed that of the producers: they agreed that most producers still deliver to their nearest silo; farm loading is still very low, but could grow; and only a very small percentage goes directly to the millers.

The percentage of grain loaded on the farm for inland clients seems to be insignificant, judged on the feedback of producers. This is somewhat surprising since this should be by far the most cost-effective way to market wheat inland. In any event, this practice seems to have manifested only in the Swartland.

Question 24, dealing with the respondents' preferred pricing methods, was considered important, given the objectives of the survey. In essence, the answer could be divided into 'fixed tons and price' and 'the rest' of the choices, meaning 'the

rest' of the methods all catered for flexible options. One of the main advantages of trading direct on SAFEX is the flexibility it offers the client.

The results are shown in Figure 5.19 below. The respondents clearly indicated that they prefer fixed tonnage coupled with a fixed price as a sales contract. Seventy-six per cent of respondents said that they market their entire wheat crop in this manner.

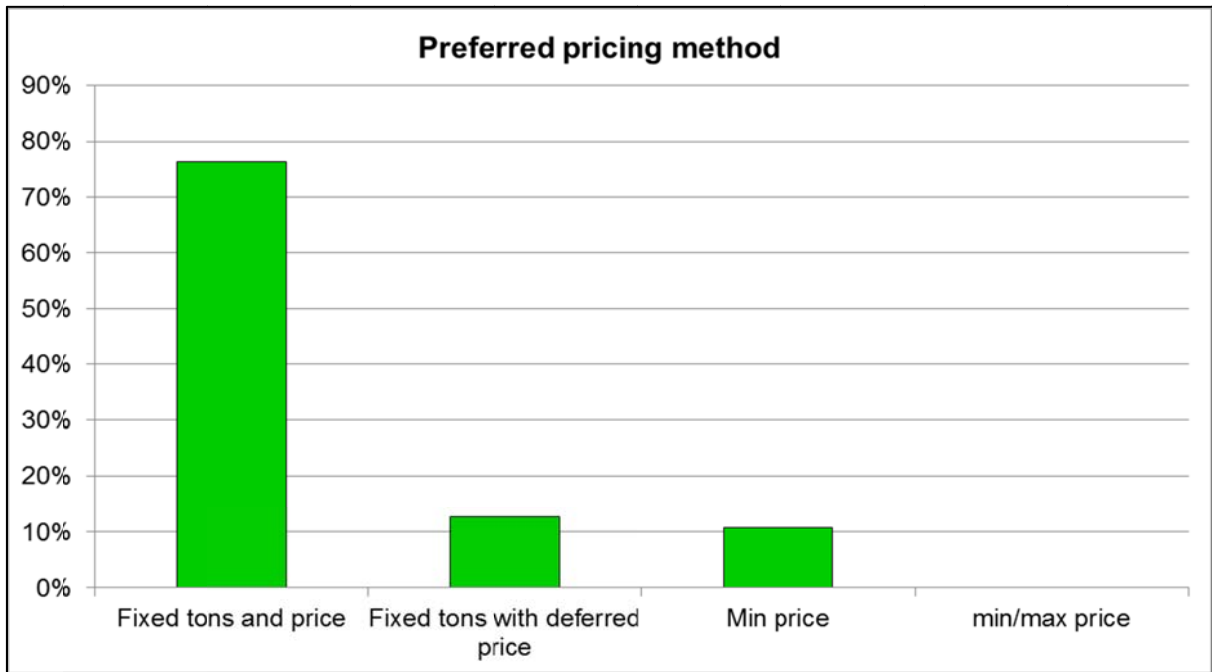


Figure 5.19: Preferred pricing method

Source: Own data

Deferred pricing was the second most popular method (13%), followed by a minimum price method. None of the respondents indicated that they used minimum/maximum pricing.

The response by traders and agribusinesses was in line with that of the producers. They estimated that roughly 80% of their clients use the 'fixed tons and price' contract option. They did add that some producer clients will utilise the minimum price option if they believe price could decline. All of the traders, with the exception of maybe one, continually offer all the different pricing options throughout the season.

In conclusion, a personal business relationship seems to have developed between producers and their preferred broker. This means that the majority by far of producers market their entire crop through one broker (including agribusinesses),

with a relatively small percentage using a second broker. Most respondents still use the silo infrastructure of the ex-cooperatives, but this is changing, although it seems at a slower rate than what is often perceived. On the important issue of contracting and pricing of tons, by far the majority of producers are satisfied to contract tons and fix the price in smaller batches throughout the season (as can be seen in conjunction with question 3). In sum, this means that the need for producers to trade directly on SAFEX to manage their price risks is significantly reduced.

5.10 AGRIBUSINESSES AND BROKERS

The next three questions dealt with the respondents' views towards traders and agribusinesses. Question 25 might be singled out as the most important question asked in the survey: Do producers believe brokers offer all of the marketing options that could be achieved by trading direct on SAFEX? With the benefit of already having analysed the response to the previous questions, the answer to question 25 could be expected. However, the response was overwhelming: 97% of respondents said brokers offer all of the marketing options they were interested in (Figure 5.20). (It should be noted that if the knowledge of a producer about SAFEX is limited, there might be a higher tendency for him or her to give a positive reply to this question.)

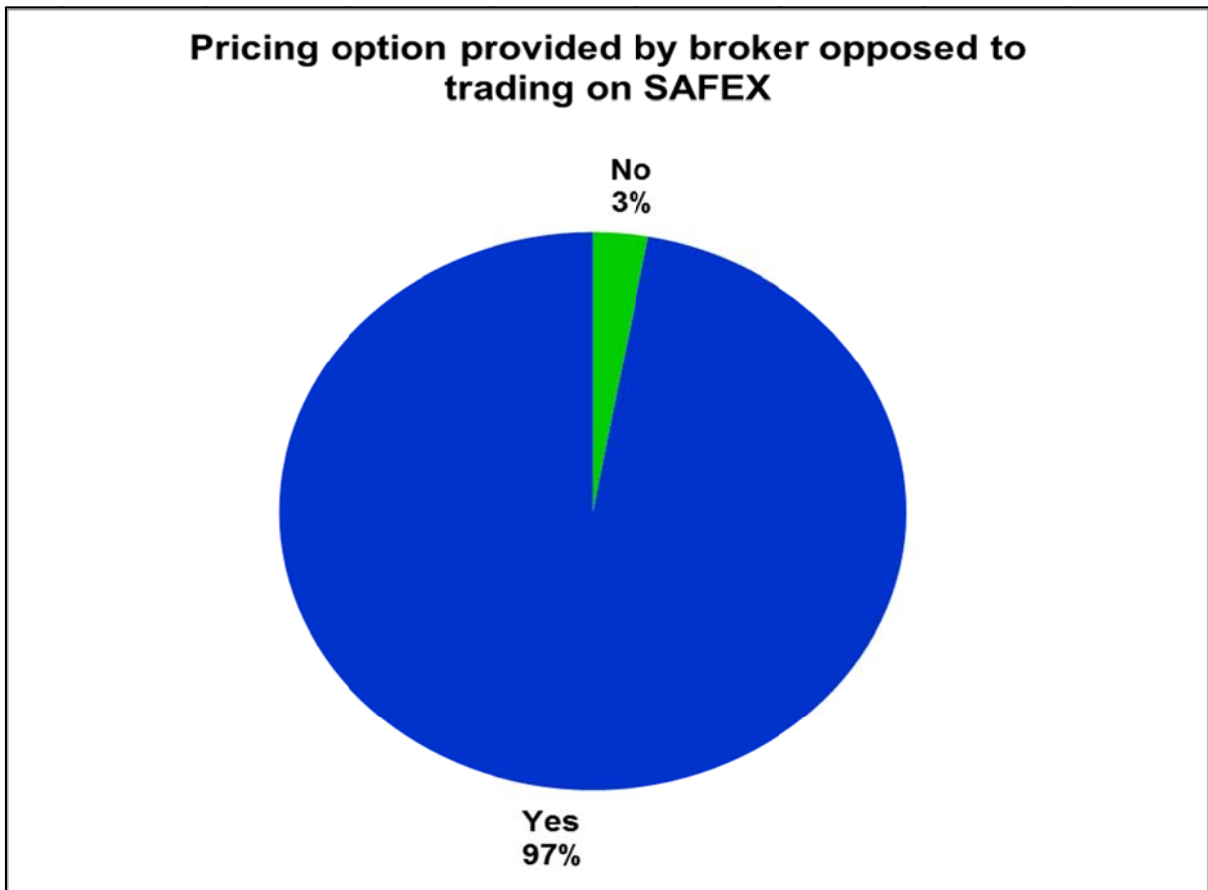


Figure 5.20: Pricing option provided by broker opposed to trading on SAFEX

Source: Own data

Nonetheless, the overwhelmingly positive response again confirms that respondents no longer have any need to trade direct on SAFEX.

Having established that brokers offer all the services required by the respondents, the survey now attempts to determine what these services are and how the respondents rank them. Figure 5.21 depicts the top reasons for using a broker.

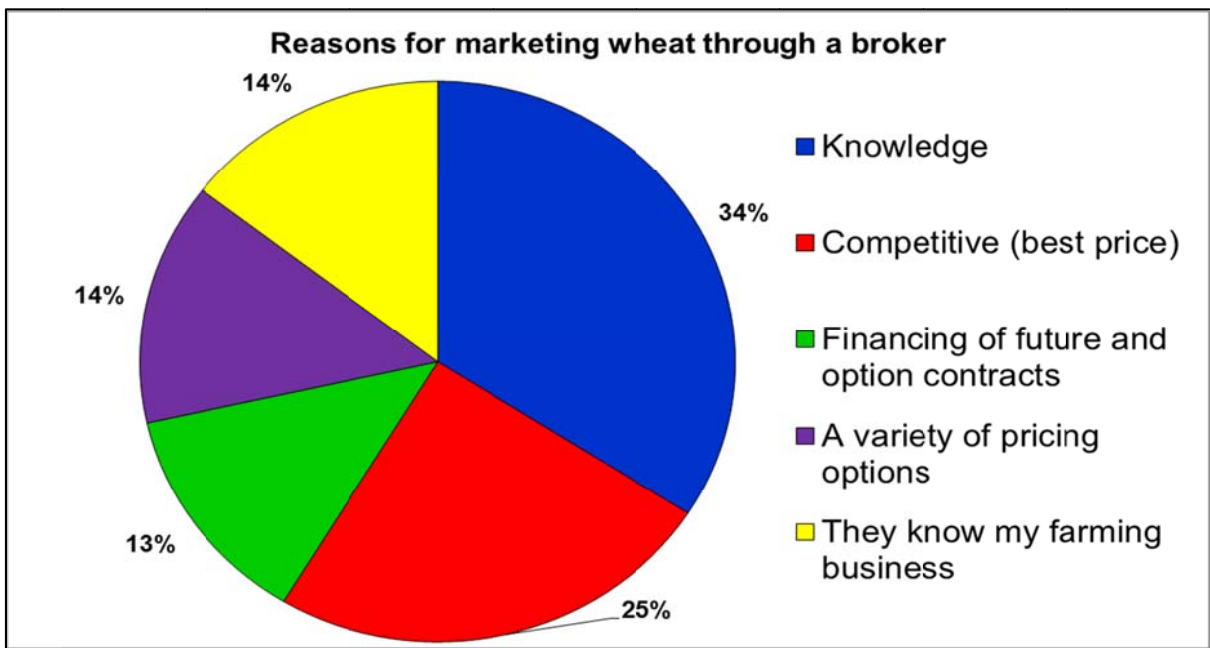


Figure 5.21: Reason for marketing wheat through a broker

Source: Own data

Knowledge offered by the broker is the top reason ranked by the producer respondents, followed by the offering of competitive prices. However, in the next question the respondents were specifically asked: The more brokers, the better? In this case, their response was evenly split, as shown in Figure 5.22, although they would like to see broker competition, there are also limits to it.

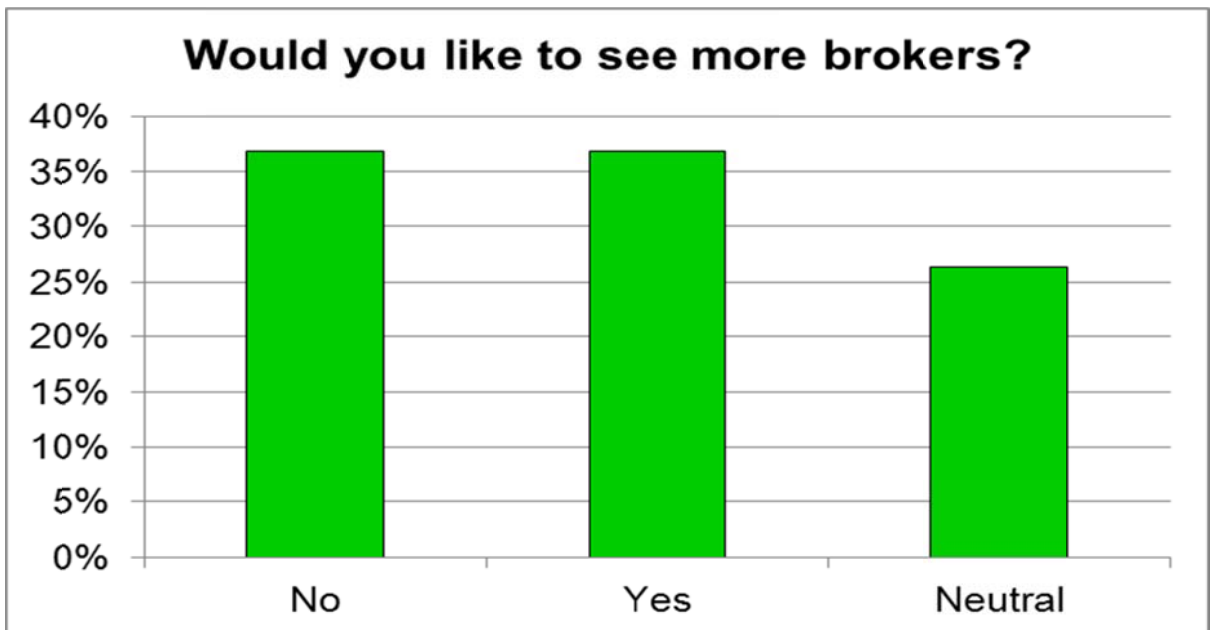


Figure 5.22: Is broker competition preferable

Source: Own data

Although the traders and agribusinesses did not participate in the last three questions, they were asked why producers made use of them and what their views were on the number of brokers. On the first question, they all agreed that financing was one of the main reasons. (Their answers were not compared or ranked to other options.) A different view on this might be somewhat disappointing, but it should be kept in mind that a producer is less likely to admit that he or she does not have or is not willing to commit the finances to participate in SAFEX. On second question, two respondents said that too many brokers and opinions confuse producers in their decision making process.

The view by producers regarding brokers (traders and agribusinesses) can be summarised as follows: Wheat marketing is a specialised function and producers value the services offered by brokers. The respondents believe that the service offered by brokers is sufficient, thus not warranting them to participate directly on SAFEX. As to the top reason for using a broker, producer respondents ranked 'broker knowledge', but brokers themselves ranked 'financing'.

5.11 SILO CERTIFICATE AUCTIONS

Although silo certificates have been in existence since the inception of SAFEX and the wheat contract, there has been the view that the premium some certificates obtain at selected silos should become transparent and part of the system. Until recently these have always been traded on an informal basis. SAFEX therefore extended their trading system at the beginning of 2013 to accommodate the trading of certificates, linked to a specific silo and grade, on the SAFEX trading screen. This should theoretically put the owner of a silo certificate in a position to obtain the best possible premium from the highest bidder.

As part of the survey, the respondents were asked how knowledgeable they were regarding this new development. It must be noted that at the time of the survey SAFEX staff had already carried out a promotional tour educating interested producers. The question was included in the survey since a positive response would mean that secondary participation through their brokers is still important, notwithstanding a lack of direct participation by the producer. Secondly, the trading

of SAFEX silo certificates in the Western Cape has specific potential to ‘unlock’ the perceived true value of Cape wheat.

Sixty-five per cent of respondents said that they were either informed or reasonably informed on silo certificate trading, as depicted in Figure 5.23, below.

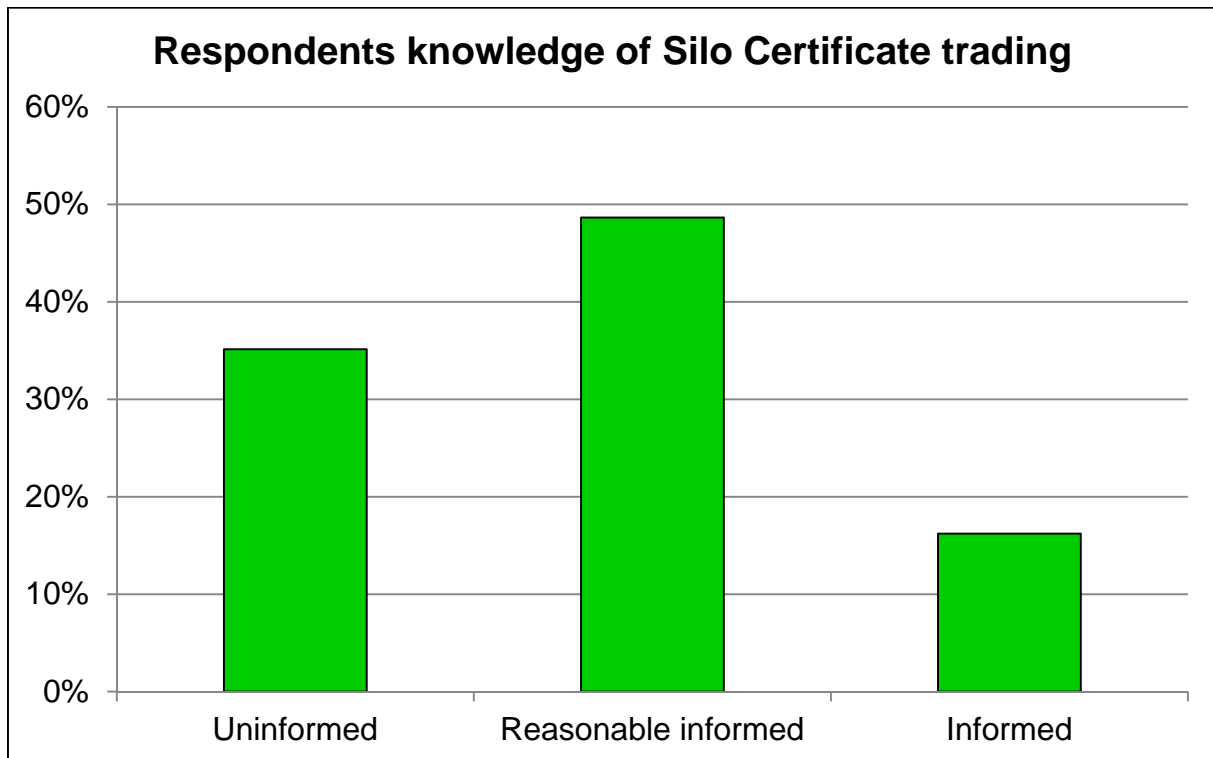


Figure 5.23: Respondents knowledge of silo certificate trading

Source: Own data

The response by the brokers was mostly neutral to cautious. However, their reasons seem to be valid: they believe it is mostly brokers and millers that are in possession of certificates, and not producers. Therefore, a certificate will seldom be utilised by the producer. Furthermore, a significant percentage of brokers' income derives from silo certificate trading, buying from the producer at a low as possible premium and selling to the miller at a high as possible premium. They are unlikely to support a transparent mechanism, until they can see some benefits. Trading of silo certificates might pose direct competition to the brokers as producers can now secure their own premium by trading directly on SAFEX. They would, though, still need a broker to execute their trade.

The respondents were also asked if they required additional information, to which 56% said yes.

5.12 WHEAT PRICE AND PREMIUMS

In the last section two questions were asked: Do you believe the price of Cape wheat in your area is fair relative to other Cape wheat, and inland wheat.

Both questions were aimed at determining the knowledge of basis trading at producer level. Unfortunately, because of an existing negative bias against the Cape location differential, the survey already expected a 'no' response, in particular to the second question.

In the case of the first question, 68% of respondents replied 'no', and in the second question, 80% replied 'no'. The answer to the first question, particularly, is regrettable. It can only tell us that, despite now having a local contract (the CAPE contract), the purpose of location differentials (or basis trading) is not yet understood. Could this be linked to direct participation in SAFEX? The answer most certainly is yes: without properly understanding the intricacies of SAFEX trading, respondents are more likely to leave it for their brokers.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSION

Since the inception of SAFEX, a large percentage of producers, particularly of maize and wheat, have opened SAFEX accounts through brokers. It was not unusual for many of them to have more than one account with different brokers. Collectively, they have had a very important impact on the market.

Fifteen years after the launch of the wheat contract (1998), this is no longer the case. Industry sources have it that many, if not most, producers have either closed their accounts, have an inactive account, or have scaled down their trading activities. This leads to the conclusion that direct participation by producers on the JSE/SAFEX Commodity Exchange is declining. The questions that arise from this observation are whether:

- Producers are distancing themselves from SAFEX;
- This might be the other way around; or
- The industry has matured and developed into a new paradigm.

This research had the objectives:

- To determine the estimated percentage of producers that had traded directly on SAFEX during the initial years and to compare the data to present numbers. Based on the outcome of the primary data collected, to determine if there is indeed a trend.
- If correct, to determine what the reasons for this could be. Has there been a shift in hedging practices? Are brokers offering additional services which make it unnecessary for producers to operate directly on the exchange?

The Western Cape wheat producers were selected as target group for the following four main reasons:

- The Western Cape is geographically isolated from the rest of the wheat production areas. Producers are less influenced by external factors that might influence the data.
- The Western Cape is the largest wheat production province in South Africa.
- The Western Cape produces mainly wheat and the contribution of other farming enterprises, such as livestock and deciduous fruits, is limited in the wheat production areas.
- The gross income from wheat in the Western Cape, relative to overall farming income and in comparison to inland farms, is important and requires producers to pay much closer attention to marketing options.

It was first important to establish whether or not wheat plays an important role in the Western Cape grain production areas. Survey results ascertained that overall (in the Southern Cape and Swartland), 42% of producers depend on grain crops for 67% of their income. If differentiated, crops make up 40 – 60% of gross income in the Southern Cape and 75-80% in the Swartland. When it comes to wheat only, 55% of producers said that wheat contributes 67% of gross income derived from grains. In the Swartland it was estimated that wheat contributes 80 – 90%. No doubt, income derived through wheat production is still very important throughout the Western Cape, and in certain areas it is absolutely crucial.

Having established the importance of wheat, the survey endeavoured to determine how and when producers 'price' (sell) wheat. Two aspects were important: theoretically, if producers sell all year-round they do not need a hedging strategy, since they will receive the average price anyway. Likewise, if they only sell at harvest time, they will receive the market price at that time, irrespective of market trends over the year. Research determined that 44% of producers sell year-round and hardly require a hedging strategy. This partly explains their lack in interest to participate directly on SAFEX. (Note, subject to their exact timing, the author does not agree with this strategy.)

Next, the survey aimed to establish what the most important factors are that influence producers' pricing strategies. Producers ranked growing conditions as the number one factor in taking a pricing decision (weighted average of 50). The second, but almost equally important, factor was the production cost (weighted average of 49). If wheat prices were above the production cost, farmers were inclined to price. Furthermore, producers do adjust their marketing strategy but there seems to be a difference of opinion whether it is on their own accord or on advice of their brokers. Contrary to popular belief, producers do price as prices rise and not only after they have turned at the highs.

The following questions dealt with the core of the survey: whether or not the respondents did participate directly on SAFEX, and if this is no longer the case, for what reasons. Thirty-seven per cent of the producer respondents indicated that they had (or still have) a SAFEX account. Of the 37% of respondents that indicated that they did have an account, 93% indicated that they made use of only one broker. Lack of broker loyalty or unsatisfactory service did not seem to have an effect on producer activity.

The respondents were then asked to indicate when they first opened their SAFEX account. The period after 1997, when the first wheat contract was listed, was divided into three time categories. Prior to 2004, 38% of SAFEX account holders opened an account. The number of new participants then grew further in the next five years to 54%. However, since 2010 growth almost came to a standstill – only 8% new account holders were added.

As explained above, the survey not only depended on producer data, but cross-referenced with brokers (traders and agribusinesses). Based on overall feedback, the analysis determined that on average in the Western Cape, 10 – 20% of (wheat) producers had SAFEX accounts, while in selected areas it was as high as 37 – 50%.

It was also important to determine to what extent activity has decreased, if at all. This question only applied to those respondents that said they did had a SAFEX account and their activities had decreased. The answer revealed that 91% of respondents stopped trading altogether.

Having now established that a fairly large number of producers had accounts on which most had ceased their activities, the question is why? Cash flow requirements are the single biggest reason why producers have reduced (or completely stopped) their participation on SAFEX. The initial and variation margin were the number one and three most important reasons. The second reason was that a producer could achieve the same benefits and more through the services offered by the grain traders and agribusinesses, compared to trading directly on SAFEX. (These services were discussed in the full text.)

It should not be forgotten that traders can only offer these service if they do back-on-back deals on SAFEX. This is part of the reason why all traders and agribusinesses have SAFEX accounts. Another aspect that was highlighted by producers as a reason to rather work through traders was the exposure to high price volatility on SAFEX, which goes hand-in-hand with short term cash requirements. Skills required to trade on SAFEX were rated second last, while broker commissions do not seem to be an issue at all, since it was rated last.

The surveyed results among traders and agribusinesses completely matched those of the producers. Without exception, all rated the services offered by them and cash requirements as the two most important reasons by far for producers not participating directly on SAFEX.

A number of other questions were included in the survey to cross-reference the results and to better understand the way in which the Western Cape wheat producers view SAFEX. Feedback received from one particular question indicated that 65% of all respondents said that the area differential was the main reason that deters them from participating on SAFEX. On a question about the use of options, the brokers were of the opinion that producers do not use options because they do not properly understand them. In a related question, producers were asked if their usage of options increased. The response was positive, although from a low base.

On the controversial Cape wheat contract, a combined total of 73% of producers either had 'some knowledge' (45%) or were 'informed' (28%). These results echoed

those of the traders and agribusinesses which considered most producers to have some knowledge. However, one of the agribusinesses made a valid comment stating that although the producers have 'some knowledge', they do not understand the relationship (movement in absolute price levels) between the Randfontein contract and the Cape wheat contract. (This is a different debate altogether: if you do understand it, you might consider that there is no need for a Cape wheat contract – author's note.) Only 11% indicated that they had tried to use the contract, directly or through their trader when asked.

Further questions were asked about grades, marketing channels and pricing. With regard to the latter, the respondents clearly indicated that they prefer fixed tons coupled with a fixed price as a forward sales contract. Seventy-six per cent of respondents said that they market their entire wheat crop in this manner.

The survey concluded with what might be singled out as one of the most important questions (given what has been determined up to this point): Do producers believe brokers offer all of the marketing options that could be achieved by trading direct on SAFEX? Having the benefit of already analysed the response to the earlier questions, the answer might have been expected. However, the response was overwhelming: 97% of respondents said brokers offer all of the marketing options they were interested in.

It can therefore be said that the decline in direct SAFEX participation by Cape wheat producers is the direct result of the all-inclusive services offered by traders and agribusinesses. The producers sign a forward contract with their broker while the brokers would offset their risk on SAFEX. It should be emphasised that brokers will not be able to offer the variety of marketing choices to the producers if they were not able to offset it on SAFEX. There is an element of caution though. Given the importance of wheat in the Western Cape, and particularly in the Swartland, producers should not relinquish their responsibility to acquire or maintain a minimum amount of knowledge on the functioning of SAFEX. Irrespective of whether producers deal directly on SAFEX or through their brokers, knowledge now and in the future will hold the key to their marketing performance and should not be replaced by using a broker.

Two final issues were dealt with, the first was the upcoming (at the time of the survey) silo certificate auctions, on which 65% of producers said they are 'reasonably informed' or 'informed', but 56% also said that they require more information. The second concerned the relative price relationships between the producer's price and that of wheat elsewhere. It was the response in particular to price comparisons in the Western Cape which showed that additional elucidation might be required among producers. The latter will greatly enhance the chances of a successful Cape wheat contract.

It was, however, out of the scope of this study to draw a conclusion on how the hedging practises of the producer effected his financial position. The financial position of the producers is influence by the effective management of price risk. Thus it is expected that if the producers manage his risk better that his financial position will improve.

6.2 RECOMMENDATIONS

- The survey has to a large degree proved how little is known on the behaviour of producers towards SAFEX. It is recommended that scientific surveys be conducted more regularly, whether on a regional or national basis. Many of the issues addressed were dealt with superficially and require a more in-depth analysis.
- Taking in consideration the similarities of the grain producing regions in the northern part of South Africa (specifically the maize producing areas). It is recommended that similar surveys be done on the producers in those regions.
- The survey conducted among the brokers (traders and agribusinesses) yielded surprisingly very positive results. By this it is meant they were co-operative and very knowledgeable on the industry and their clients. They should be included regularly in future research.
- The need for training among producers is underestimated. Training, though, should differentiate between the different needs that exist. It would be a mistake to group producers and their needs into one category. No institution should be excluded from this responsibility: these include SAFEX, traders, agribusinesses and educational facilities, such as universities and colleges.

REFERENCES

Bureau of Food and Agricultural Policy (BFAP). 2012. *BFAP Baseline Agricultural Outlook 2012-2021*. [Online] Available from: UPeTD: <http://www.up.ac.za/thesis/available/etd09222005./00dissertation.pdf> [Accessed: 2012-08-6].

Black, F. & Scholes, M. 1973. The pricing of options and Corporate Liability. *Journal of Political Economy*, 81(May-June):637-659.

Botha, E. 2005. *The use of derivatives by South African agricultural co-operatives to hedge financial risks*. [Online] Available from: UPeTD: <http://www.netd.ac.za/?action=view&identifier=oai:umkn-dsp01.unisa.ac.za:10500/578> [Accessed: 2012-03-29].

Cass, L.J. 2009. Maize marketing strategies : the trade-off between risk and profit for a Mpumalanga maize farm. Unpublished master thesis. Pretoria: University of Pretoria. Available from: UPeTD: <http://www.netd.ac.za/?action=view&identifier=oaiUP:etd-08122009-213046> [Accessed: 2012-03-29].

Crop Estimates Committee (CEC). 2012. *Area Planted and Fourth Production-Winter crops 2012*. Available from: Forecast.[http://www.sagis.org.za/Flatpages/CEC%20Nov%202012%20\(a\).pdf](http://www.sagis.org.za/Flatpages/CEC%20Nov%202012%20(a).pdf). [Accessed: 2012-12-05].

CME Group. n.d. Introduction. [Online] Available from: <http://www.cmegroup.com/> [Accessed: 2012-03-29].

DAFF. 2009. *Climate change risks and opportunities for the South African Economy*. Department of Agriculture, Forestry and Fisheries. Available from: http://www.climateriskandopportunity.co.za/downloads/A1_Agriculture_Forestry_&_Fisheries_200912.pdf [Accessed: 2013-02-13].

Department of Agriculture, Forestry and Fisheries (DAFF). 2012. *Abstract of Agricultural Statistics 2012..* Available from: <http://www.daff.gov.za/docs/statsinfo/Ab2012.pdf> [Accessed: 2012-08-6].

Department of Agriculture, Forestry and Fisheries (DAFF). 2013. *South African Government Information on Agriculture*. Department of Agriculture, Forestry and Fisheries. [Online] Available from: <http://www.cmegroup.com/> [Accessed: 2013-02-13].

Department of Agriculture, Forestry and Fisheries (DAFF). 2011. *Trends in the Agricultural Sector 2011*. Department of Agriculture, Forestry and Fisheries. [Online] Available from: <http://www.daff.gov.za/docs/statsinfo/Trends2011.pdf> [Accessed: 2012-08-6].

Department of Agriculture, Forestry and Fisheries (DAFF). 2011. *Wheat Market chain profile 2011*. Department of Agriculture, Forestry and Fisheries. [Online] Available from: <http://www.daff.gov.za/docs/AMCP/WheatMVCP2011.pdf> [Accessed: 2012-08-6].

Department of Agriculture, Forestry and Fisheries (DAFF). 2010. *Wheat Production guideline*. Department of Agriculture, Forestry and Fisheries. [Online] Available from: www.daff.gov.za/docs/Brochures/prodGuideWheat.pdf [Accessed: 2012-08-6].

Du Plessis, C. 2013. Own calculations. 8 January 2013. Malmesbury.

Eiselen, R., Uys, T. & Potgieter 2005. *Analysing survey data using Spss13: A workbook*. Johannesburg: University of Johannesburg.

Gerrard, C.D., Ansong, G. & Posehn, G.D. 1993. *Agricultural Pricing Policy in Eastern Africa*. The World Bank.

Hull, J.C. 2002. *Fundamentals of futures and option Markets*. 4th ed. USA: Prentice Hall.

Hussey, J. & Hussey, R. 1997. *Business Research: A practical guide for Undergraduate and Postgraduate students*. USA: MacMillan Business.

Hwenga, E. 2011. *Analysis of the coffee crisis in Zambia : financial distress and commodity price*. [Online] Available from: UPeTD: <http://www.netd.ac.za/?action=view&identifier=oai:http://researchspace.ukzn.ac.za:10413/2420>
[Accessed: 2012-03-29].

JAICAF. 2008. *The maize in Zambia and Malawi*. Japan Association for International Collaboration of Agricultural Forestry. [Online] Available from: <http://www.jaicaf.or.jp/publications/Zambia.pdf> [Accessed: 2012-03-29].

JSE. 2012 *Commodity Derivatives Market History*. Johannesburg Stock Exchange. [Online] Available from: <http://www.jse.co.za/Markets/Commodity-Derivatives-Market/Commodity-Derivatives-market-history.aspx>. [Accessed: 2012-12-18].

JSE. n.d. *Exchange Traded Agricultural Derivatives In South Africa*. Johannesburg Stock Exchange. [Online] Available from: http://www.jse.co.za/Libraries/Brochures/Agricultural_Commodities.sflb.ashx [Accessed: 2012-03-29].

JSE. 2013. *Grain Contract Specifications*. Johannesburg Stock Exchange. [Online] Available from: http://www.jse.co.za/Libraries/SAFEX_AP_-_Products_-_Grain_Contract_Specifications_-_English/Grain_Contract_Specifications _English.sflb.ashx. [Accessed: 2013-05-10].

Kurten, A.A. 2002. *Introduction to derivatives: A South African prespective*. RSA: Predon Yamane South Africa.

McDonald, S. 2008. *Costs and benefits of higher tariffs on wheat imports to South Africa*. [Online] Available from: Agrekon : <http://ageconsearch.umn.edu/bitstream/6031/2/47010019.pdf> [Accessed: 2012-08-23].

Meyer, F. 2002. *Modelling the market outlook and policy alternatives for the Wheat Sector in South Africa*. [Online] Available from: UPeTD:<http://www.up.ac.za/thesis/available/etd09222005./00dissertation.pdf> [Accessed: 2012-08-6].

NAMC. 2009. *The Functioning of the Agricultural Futures Market for Grains and Oilseeds in the light of Concerns Expressed by GrainSA*. National Agricultural Marketing Council. [Online] Available from: http://www.namc.co.za/dnn/LinkClick.aspx?fileticket=faZG_5ArQA8%3D&tabid=72 [Accessed: 2012-08-20].

Richardson, J.W. 2007. Bio-ethanol Production from Wheat in the Winter Rainfall Region of South Africa: A Quantitative Risk Analysis. *International Food and Agribusiness Management Review*. [Online] Available from: http://ageconsearch.umn.edu/bitstream/8192//1/20071011_Formatted_BP.pdf [Accessed: 2012-08-23].

Rossouw, W. 2009. An analytical research into the price risk management of the soft commodities futures markets. Available from: UPeTD:<http://www.netd.ac.za/?action=view&identifier=oai:umkn-dsp01.unisa.ac.za:10500/1930> [Accessed: 2012-03-29].

SAGIS. 2013. *Wheat Month table*. South African Grain Information Service. [ONLINE] Available from: http://www.sagis.org.za/db/Wheat/eng/DATAVIEWER2_eng.ASP. [Accessed:2013-05-10]

South African Reserve Bank (SARB). 2013 *Economic and Financial data for SA*. [ONLINE] Available from: <http://www.resbank.co.za/webindicators/EconFinDataForSA.aspx>. [Accessed:2013-05-10].

Scheepers, D. 2005. Application and portfolio Theory in the South African Agriculture Derivatives Market Southern African Development Community (SADC). About SADC. [Online] Available from: <http://www.sadc.int/english/about-sadc/> [Accessed: 2012-03-29].

Stacey, B. 1988. *The viability of a South African Future market*. Johannesburg: University of Witwatersrand.

Sturgess, C. 2013. Personal interview with André van der Vyver. 12 March 2013. Sandton.

Ueckermann, E.M, Blignaut, J.N, Gupta, R. and Raubenheimer, J. 2008. Modelling South African grain producers' preference to adopt derivative contracts using discrete choice models. *Agrekon*, 47(2):231-235.

Van Der Vyver, A. 1994. Viewpoint: Future for agricultural commodities-is the Time ripe for South Africa? *Agrekon*, 33(1):50-55.

Zikmund, W.G. 1997. *Business Research Methods*. 5th ed. Oklahoma: The Dryden Press Harcourt Brace college Publishers.

ANNEXURE A: QUESTIONNAIRE

September 2012

Western Cape - Wheat Producers

Wheat Marketing and Hedging on JSE/SAFEX

A project undertaken by the Department of Agricultural Economics, Extension and Rural Development of the University Pretoria

Project supervised by Dr André van der Vyver.

Tel 012 4603752. andre.vandervyver@up.ac.za

1 Which percentage that crop production contributed to the gross farm income?

(Crop production includes Wheat, Barley, canola & pastures.)

< 33%		34-66%		> 67%	
-------	--	--------	--	-------	--

2 Which percentage of the crop production gross farm income does Wheat contribute?

< 33%		34-66%		> 67%	
-------	--	--------	--	-------	--

Name the closest silo to you.

--

How many tons of wheat do you produce on average per year, given normal weather conditions?

(estimations is also expectable e.g. 500 – 600 tons)

From 1998 – 2004 about		Tons
From 2005 – 2009 about		Tons
From 2010 (excluding this year)		Tons

3 Which of the following statements describe your wheat marketing strategy the best?

(Harvest time is considered to be mid-Oct to Des; Post harvest time is considered Jan and later)

During planting - <25%, before harvest time 25 - 50%, during harvesting- another 25%, after harvest, the rest.	
During planting - none, during growing season- 33%, during harvesting - 34 - 66%, after harvest, the rest.	
During planting- none, during growing season - 50%, during harvesting - 51 - 80%, %, after harvest, the rest..	
During planting- none, during growing season - 50 during harvesting - 51 - 100%.	

4 It is said that producers change their marketing stagey from year to year .Do you do the same??

Yes		No	
-----	--	----	--

If yes,list the factors that you consider to be the most important in changing your strategy.

(number 1 the most important)

Favorable/ un-favorable growing season	
Production price above/below production cost	
Advice from your grain broker	
Higher expected price	
Lower expected price	

5 Which of the following statements is applicable to you?:

In a appreciating market, I price more frequently.	Yes		No	
In a depreciating market I price less frequent.	Yes		No	
I listen to and read price estimates issued by grain price analyzers	Yes		No	

6 Do you now or ever have an account at SAFEX?

(a SAFEX account is considered to be a formal account in the farming businesses name(with a code) At a register SAFEX broker.)

Yes		No		If yes, at how many Brokers? (gesamentlik)	
-----	--	----	--	---	--

7 If yes, when did you first open the account?

(Wheat started to trade on SAFEX in 1997)

Before 2004		2005-2009		2010 and later	
-------------	--	-----------	--	----------------	--

From question 8 to 20 consider FUTURES and OPTIONS as the same(Thus do not differentiate)

8 (If yes) In the first 3 years you had an account, which statement describe how active you traded on SAFEX the best?

NB: a contract= 50 tons and a SAFEX contract that has been opened and closed, counts as 2.Option contract are included.

Weekly		How many contracts?	< 5		>10	
Monthly		How many contracts?	< 10		>10	
Per season		How many contracts?	< 10		>10	

9 Complete the following - My Trading on SAFEX (by means of my own account) have

Decreased		Remain the same		Increased	
Decreased with	50% or less		75%		Feitelik gestaak

10 What is the reason for this?

(mark only if applicable and according to importance)

Volatility	
Initial margin (cash) is to high	
Variation margin (cash) is to high	
High broker commission	
High skill level and knowledge is required	
The local grain broker provide same service	

11 Differentiate between 'hedging' and 'speculating'.

Which percentage of your SAFEX trading can be considered as hedging?

In the first 3 year my account was opened	
After 3 years	

12 What about SAFEX puts you the most off (thus decreases you participation)

(mark only if applicable and according to importance) (1 –most negative)

Cash requirements	
The area differential	
It's just gambling	
Requires attention the whole time or else you loose	
Bad and/or unknowledgeable service/advice from the SAFEX broker (s)	

13 Are you from opinion that the SAFEX (Randfontein) wheat price is a reasonable reflection of the international and Local supply and demand? Provide mark out of 5, 1-best 5-worst.

1	2	3	4	5
---	---	---	---	---

14 During your SAFEX participation, do you differentiate between futures and options?

Yes		No	
-----	--	----	--

15 (If yes) Which percentage of your trades are options?

Before 2010		Since 2010	
-------------	--	------------	--

16 Do you consider yourself to be informed about the working of the Cape wheat contracts?

(with relation on how it influence your marketing decision)

Uninformed		Some knowledge		Informed	
------------	--	----------------	--	----------	--

- 17 Did you by means of your own SAFEX account, of indirect via a broker, aimed to trade Your wheat over a Cape SAFEX contract?

Yes		No		If yes - Min		Frequently	
-----	--	----	--	--------------	--	------------	--

- 18 Under which circumstances will you make use of Cape contracts?

--

- 19 If it was your decision, which grades would you associate to the SAFEX wheat contract?

B1, B2 & B3		Only B1		Only B2		Only B3		Other:	
-------------	--	---------	--	---------	--	---------	--	--------	--

- 20 Grade deference –choose one of the following:

The relative difference between B1, B2 en B3 is close enough correct	
The price difference between grades must be smaller	
The price difference between grades must be bigger	
Other:	

Marketing Practices

- 21 Indicate the percentage of wheat you market in the following channels

(This is with you the contract is made and not where it is delivered to)

The local agri-business	
Broker 1	
Broker 2 (If more than one)	
Brokers - rest (Together)	
Directly to miller	
Total	100%

22 Indicate where the wheat is delivered to.

Closest Silo (ex co-op)	
Premises of the grain broker	
Farm loading	
Millers premises	
Total	100%

23 If applicable, in the instance of farm loading, Which percentage do you estimate goes directly to domestic market?

24 Over the run of season, by the close of the wheat contracts, which pricing method do you use?

Pre-determine tons and price	
Pre-determine tons with pricing later	
Minimum price	
Minimum / maximum price	
Total	100%

25 Are you of opinion that the local grain broker (including agri-business) provides you with all the pricing options available instead of trading directly on SAFEX?

Yes		No	
-----	--	----	--

If No, Which pricing option do you wish to see?

26 What would you consider is the biggest advantage to market you wheat through your agri-business?

(mark only if applicable , 1 most important)

Knowledge	
Competitive (best price)	
Financing of future and option contracts	
A variety of pricing options	
They know my farming business	

27 Are you from opinion that the more brokers the better? Would you recon that more completion will give rise to, better price, service and marketing options?

(Alternatively does more brokers create more confusion?)

Yes		No		Neutral	
-----	--	----	--	---------	--

SAFEX Wheat silo certificates will probably be traded by September 2012 on SAFEX.

The purpose is twofold:

First, as a transparent cash trading mechanism.

Secondly, to exclude premiums at silos.

28 Do you already know about the establishment of Silo certificate trading?

Uninformed		Reasonable informed		Informed	
------------	--	---------------------	--	----------	--

Do you require more information?

Yes		No	
-----	--	----	--

The following questions are in reference to the farm gate price.

29 With regard to wheat premiums in local area thus at silos or farm,

Do you believe the wheat is correctly price relative to the Cape wheat price (thus wheat at other silos)?

Yes		No		If no, how much do you think the min premium is (R/ton)	
-----	--	----	--	---	--

30 With regard to the wheat premium at your local silos, do you believe it is price realistically to the wheat inland?

Yes		No		If no, how much do you think the min premium is (R/ton)	
-----	--	----	--	---	--

Thank you for your participation

Name (Voluntarily):