

# The competitiveness of the SOUTH AFRICAN SUNFLOWER VALUE CHAIN

*The South African sunflower industry recently came under the spotlight. Whereas the soya bean and canola industries have posted rapid increases in local production and processing levels in recent years, the sunflower industry has been characterised by volatile production levels with virtually no real growth.*

At the same time domestic demand for oilcake and vegetable oil has increased by approximately 40% over the past decade and the imports of seed, oil and cake have gradually been increasing to meet the rising domestic demand levels.

With more than double the amount of crushing capacity available (approximately 1,8 million tons) as the amount of sunflower seed that is produced locally (five-year average equals 650 000 tons), the question arises why the local industry cannot fill the gap of imports and increase the local level of production and processing of sunflower seed.

## Competitiveness of the industry

This question automatically raises the issue of competitiveness of the industry. Based on existing crushing capacity as well as the average oilcake imports of roughly 75 000 tons and vegetable oil imports of 80 000 tons, South Africa could expand production by approximately 150 000 hectares, or

increase national yields from 1,3t/ha to 1,67t/ha to make up for this deficit in oilcake requirements.

This study did not follow the typical academic approach of calculating comparative and competitive advantages of an industry, but rather followed a pragmatic market orientated approach where key underlying fundamentals and market realities at the various nodes in the value chain are assessed.

When the competitiveness of an industry is considered, it is important to take a holistic approach since it is not only the competitiveness of sunflowers relative to other cash crops at farm level that counts, but also the competitiveness of the complete value chain relative to the global market. The sunflower seed price is derived from the cake and oil prices.

## Import parity prices

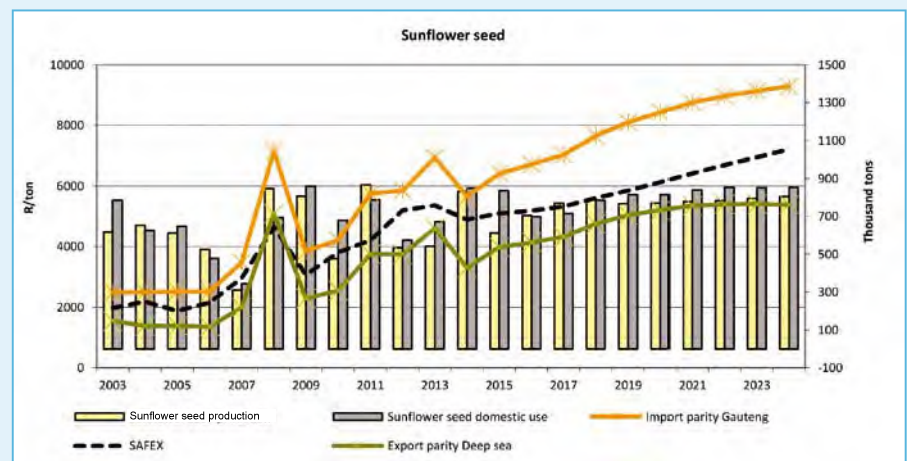
Since South Africa is a net importer of these commodities, their prices are mainly determined by the import parity prices. The competition that the local industry is facing from imported

seed, oil and cake is to some extent softened by the *ad valorem* import tariff (9,4% on seed, 6,6% on cake and 10% on oil) that is charged on the FOB (Free on Board) prices of the imported products.

Figure 1 illustrates how the local sunflower seed price (Safex) on average has traded between import and export parity levels over the past decade, basically driven by the derived price for cake and oil. It is also expected to continue trading in this relationship over the outlook period.

When a closer look is taken at the monthly price cycles, it becomes clear that in most of the years sunflower seed prices traded below the derived price for oil and cake during harvest times. Towards the end of the marketing year, however, seed prices tended to trade more in line with the derived price. Crushing plants typically attempt to secure their feedstock during the harvesting period and thereby seek to increase revenue. Producers could benefit from a more equal pricing strategy throughout the marketing season.

Figure 1: The South African sunflower seed complex.



(Source: BFAP sector model, 2014)

There is a fine balance between the price at which the South African farmer can sustainably produce a ton of sunflower and the price that crushing plants can afford to pay for the seed and still be able to compete with imported oil and cake.

### Farmgate prices

To illustrate this point the farmgate prices in Argentina, a major exporter of sunflower products, was compared to the South African farmgate prices. In rand terms the average farmgate price in Argentina for the period 2010 to 2012 equalled R2 153/ton compared to the South African average farmgate price of R3 747/ton over the same period of time.

This does not automatically imply that the South African crushing plants cannot compete due to higher feedstock prices. Local processing plants can sell the oil and cake at higher price levels (import parity prices) than their Argentinian counterparts. It does, however, imply that if the industry wants to achieve real growth, local producers will have to be able to produce a ton of sunflower at lower costs (increase yields and/or reduce production costs) in order to compete with their Argentinian counterparts.

The question of competitiveness actually becomes more complex at the processing level, because the local processors do not only compete against imported sunflower oil *per se*, but rather the total vegetable oil complex, which includes palm, soya and canola oil. *Figure 2* illustrates the total value of vegetable oil imports into the country since 2001. The imports of palm oil have increased to such extent, that they now make up the largest share of all vegetable oil imports.

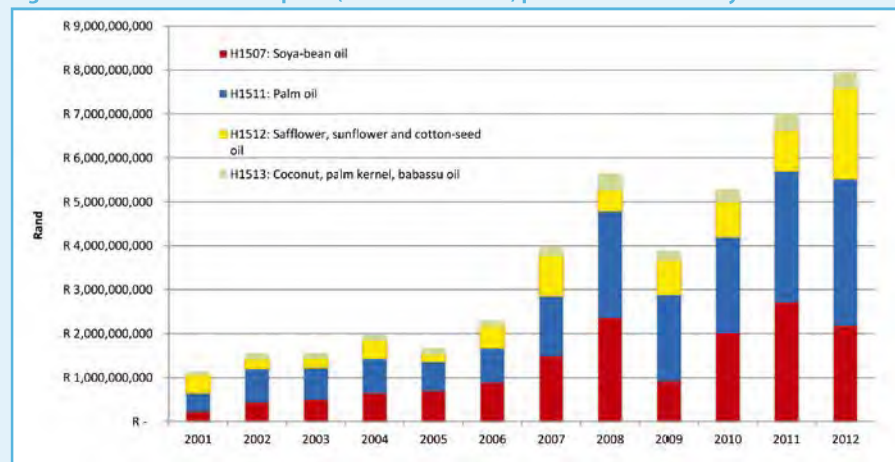
### Higher yields per hectare

Palm oil has replaced sunflower and soya oil in the commercial market such as the take-away industry. It does, however, not pose a threat in the household consumption market. The challenge that the sunflower industry (and the other oilseed crops) has with

palm oil is that palm is producing much higher yields per hectare at much lower costs than any other oilseed and can thus be produced sustainably at very low prices.

## PALM OIL HAS REPLACED SUNFLOWER AND SOYA OIL IN THE COMMERCIAL MARKET

Figure 2: Total value of oil imports (refined and crude) per oilseed commodity.



(Source: ITC, 2013)

In terms of pricing of sunflower seed, the study did point to the importance of ensuring the correct norm is used for the oil content of the delivered seed. Sunflower hybrids that combine genetics for high oil content and hulling characteristics are generally preferred by processors. In South Africa, premiums are not necessarily realised for a higher oil yield as is the case in countries such as the US where a 2% premium is paid for every 1% of oil content exceeding the US norm of 40%.

South Africa has no formal specification for a "norm" oil content to be delivered. The *Agricultural Products Standards Act, 1990* (Act 119 of 1990) states that FH1 grade sunflower seed delivered should be seed of a "high oil yield", thus not specifying what a high oil yield is. The industry's established norm is generally that all sunflower delivered on Safex should be above a 36% oil yield and preferably at a 38% norm. The 38% norm was also used by ITAC (2006:12) in their anti-dumping investigation of refined sunflower oil from Argentina and Brazil.

Interestingly, the SAGL (2013) reported a national sampled mean of 41,4% moisture free oil content and

17,56% seed protein content across their 121 samples of FH1 graded sunflower. The grading and pricing of sunflowers is a tricky debate since processors argue that the value of the additional oil is already captured in the Safex price. Over the past four years the Safex price traded on average 4% below the derived price calculated on an oil content of 39,5%.

### Status of an ideal crop

As mentioned earlier, it is critical for the industry to achieve higher yields. From *Figure 1* it is striking to note that over the outlook period only marginal growth is anticipated in the sunflower seed industry. This increase is based on small improvements in average yields over time. Over the years sunflowers have received the status of an ideal crop to grow under conditions of low-input farming and marginal cropping conditions.

Sunflowers' ability to produce relative consistent yields under adverse weather conditions and their overall characteristics of drought tolerance makes it an attractive crop for farmers in dryland production regions. Sunflowers can also produce a crop on marginal soils with very little or no additional fertiliser. In

1999 the sunflower area reached its peak when 828 000ha (Figure 3) were planted and the average yield for the complete crop came to 1,4t/ha.

At that time, South African yields were comfortably on par with the average yields obtained by the four largest sunflower producers and exporters in the world (Ukraine, Russia, EU-28, Argentina). However, as years passed, the area under production declined and South African yields did not follow the same increasing trend as was the case in the rest of the world. In fact, the five-year average yield for the top four producing countries equals 1,6t/ha compared to 1,2t/ha in South Africa.

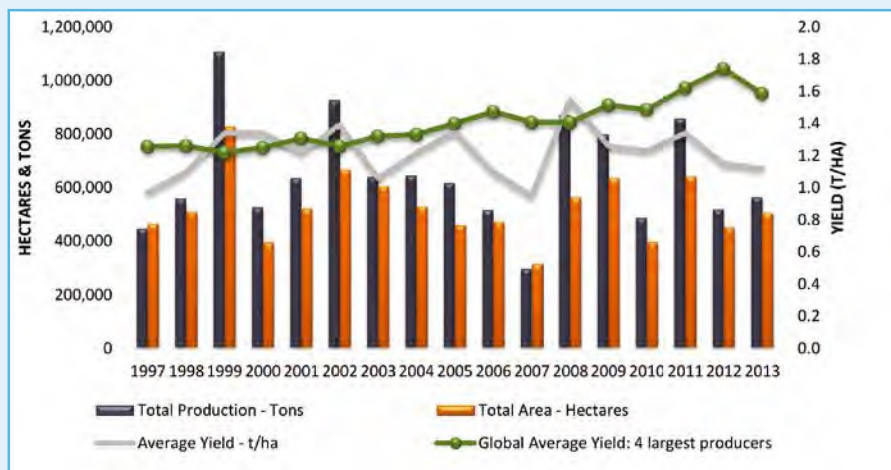
Since its peak in 1999 the area planted has followed a declining trend, with greater reductions in the North West province compared to the other production regions. The reasons for these reductions differed from one region to the next and included the adoption of new bio-tech maize cultivars with better yields, practical producer constraints, e.g. negative sentiments to the crop based on historic incidents such as poor emergence, sclerotinia, lodging, bird damage and the possible exclusion of marginal land under crop cultivation.

#### A “catch crop”

However, one underlying factor stood out in all production regions why farmers are reluctant to expand the area under sunflower production, namely that under ideal growing conditions or irrigation, sunflowers do not provide the same upward potential as crops such as maize and soya beans. As a consequence, many producers see the crop as a “catch crop” and preference is not given to the timing of production, i.e. optimal planting date and climatic conditions (soils might be too warm/lack of moisture, etc.).

The adverse effects of the wrong planting dates have been trailed and propagated to producers and those who have adapted to guidelines of optimal cropping practises have achieved improvement in yields. It seems as if sunflower hybrids that are

Figure 3: Productivity of the South African sunflower industry.



(Sources: SAGIS, 2014 and Oilworld, 2014)

currently available in the local market do have the genetic potential to produce higher yields that are more in line with the international trends.

**UNDER IDEAL GROWING CONDITIONS OR IRRIGATION, SUNFLOWERS DO NOT PROVIDE THE SAME UPWARD POTENTIAL AS CROPS SUCH AS MAIZE AND SOYA BEANS.**

This fact is underlined by the average yields obtained in the ARC-GCI yield trials across various provinces. Naturally, yield trial data will always produce higher yields on small plots compared to actual full scale production. It does, however, illustrate the yield gap that exists between the potential of the plant and the actual yields that are obtained in the field. Furthermore, the introduction of advanced Clearfield Plus sunflower breeds offers a major benefit in the management of weeds and opens the opportunity for growing sunflowers in no-till or minimum till farming systems.

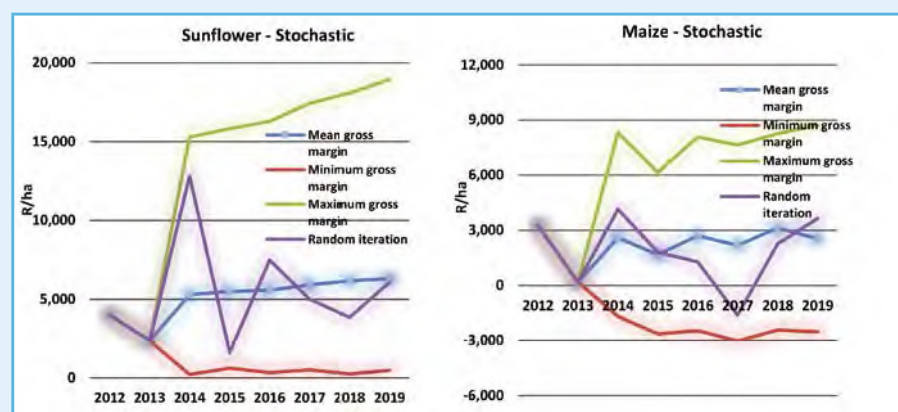
Drawing any final conclusions merely on yields is an oversimplification of a complex production system. Therefore, BFAP applied a financial simulation model (Finsim) to generate a stochastic outlook for the gross margins of a prototype maize and sunflower farm in the North-West province (Figure 4). The outlook was generated by imposing the actual historic variations in yield, costs and prices of a specific farm on to the outlook that was generated by the BFAP sector level model.

#### Positive gross margin

It has to be mentioned that this 1 200ha crop farm in the North-West cannot be regarded as a typical farm, as actual yields that were recorded over the survey period (2010 to 2013) exceeded the average yields of the region. This, however, stresses the point that if sunflowers are treated as a cash crop in its own right, it becomes a profitable enterprise to consider.

The results indicate that the sunflowers proved to have a higher average gross margin than maize over the long run and more importantly, whereas the potential minimum gross margin for maize turned out to be negative, the potential minimum gross margin for sunflower remained positive throughout the outlook period.

Figure 4: Stochastic evaluation of gross margins on sunflower versus maize production in the North-West.



(Source: BFAP, 2013)

To conclude, the South African sunflower industry seems to be delicately balanced. Without a structural break in the average yields that are achieved by producers, it is unlikely that producers will be incentivised to expand production in order for the local industry to fill the gap in the market that is currently

taken up by imported products.

As it stands, it is not in the interest of the local crushing plants to produce a surplus of cake or oil, since prices of these products will decline by approximately 25% if a surplus is produced. Prices will move from import parity to export parity levels. Under this scenario, crushers will pass

on the drop in prices to producers and if yields do not rise sharply to make up for the loss in income due to lower prices, producers will simply have to reduce the area under production of sunflowers in order to push prices higher.

Lastly, there are niche options that can be developed like the high-oleic markets that have been expanding in Europe, but it will take a concerted effort to develop these markets. It is important to note that a number of issues related to the competitiveness of the sunflower value chain were not discussed in this article. For example, the nature of the value chain between the processors and the retailers where probably the toughest price negotiations are taking place.

The article shows highlights of a study by the Bureau for Food and Agricultural Policy (BFAP), funded by the Oilseed Advisory Committee (OAC). 🌱

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