



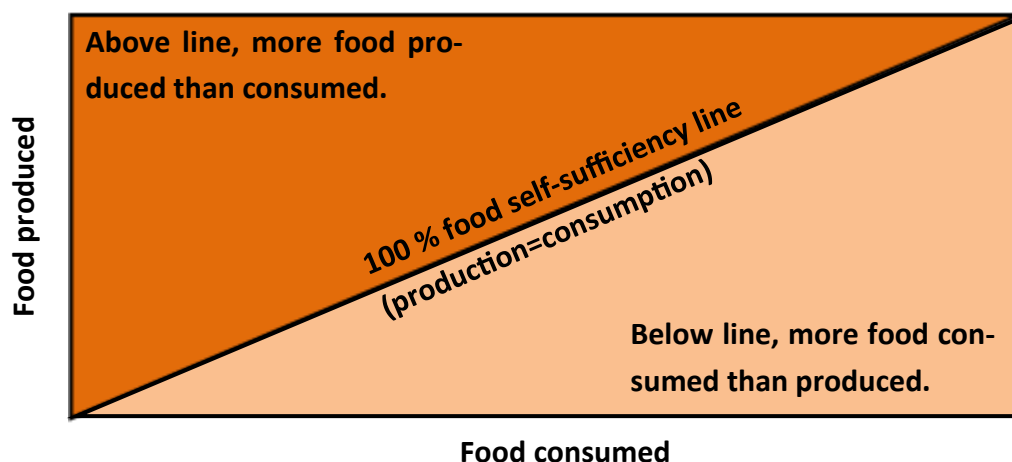
SELF-SUFFICIENCY INDEX

Directorate: Statistics & Economic Analysis

This is a bi-annual information leaflet by the Directorate: Statistics and Economic Analysis. The aim of the publication is to inform decision makers on the extent to which South Africa is food secure. The production of sufficient volumes of agricultural commodities forms an important part of food security in South Africa. Thus, selected commodities has been identified that will be addressed in this volume, namely soybeans and sunflower seed. Future issues will focus on other commodities like maize and wheat, as well as red meat.

What is a Self-sufficiency Index?

The concept of food self-sufficiency is generally taken to mean the extent to which a country can satisfy its food needs from its own domestic production. This understanding is illustrated in the diagram below, whereas the diagonal line indicates 100% food self-sufficiency, i.e. where food production is equal to food consumption.



The key point is that if a country is food self-sufficient, it produces an amount of food that is equal to or greater than the amount of food that it consumes. The self-sufficiency index (SSI), expresses food production as a ratio of consumption.

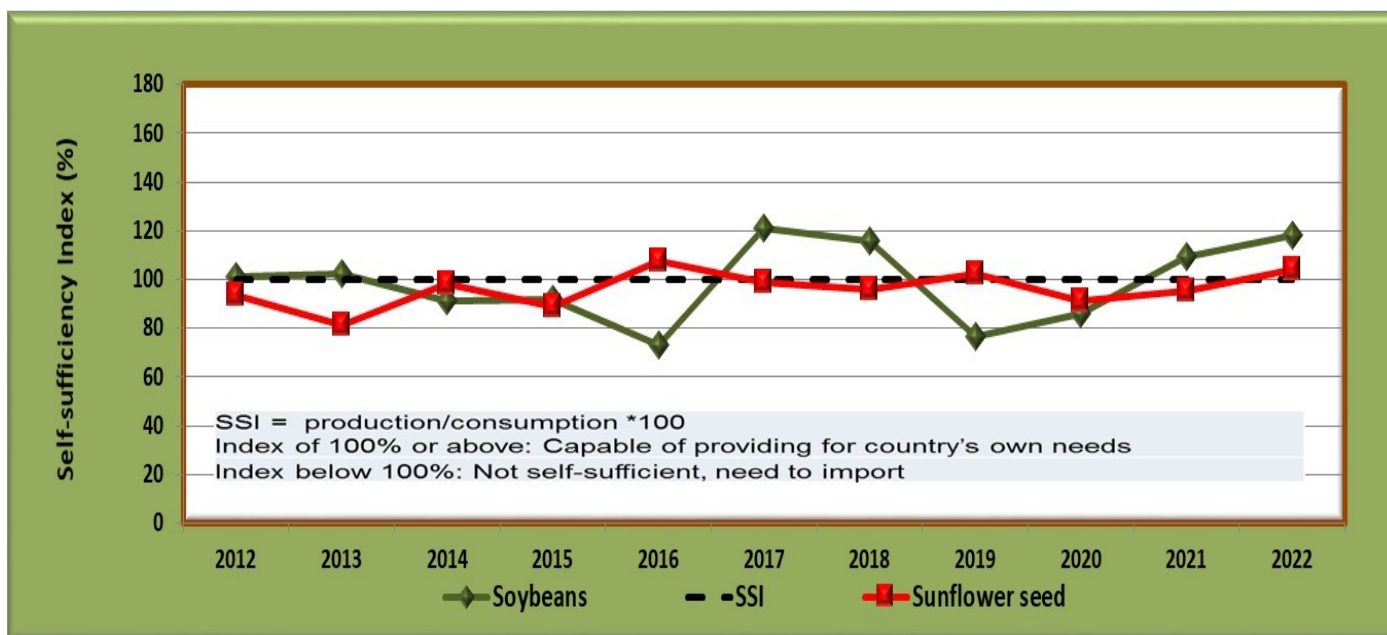
Soybeans and Sunflower seed:

South Africa has the capacity to be self-sufficient in most agricultural products. However, South Africa does rely on imports for some significant agricultural products, including soybeans and sunflower seed.

For the past decade, South Africa experienced a positive trend in the commercial area planted with summer rainfall field crops. As a result, South African producers planted a 25-year high of 4,3 million ha with summer rainfall field crops in the 2022 season. However, this positive trend is mainly driven by an increase in soybean plantings, while there is a definite decline in the areas planted with maize, groundnuts and sorghum. The sunflower seed area planted stayed relatively flat the past 20 years.

The bulk of soybeans and sunflower seeds produced in South Africa are crushed to produce both edible oil for human consumption and protein meal for inclusion in animal feed rations. Sunflower seed is a higher oil yielding seed, therefore more oriented towards human consumption. Sunflower meal, a byproduct of the oil extraction process, is sold to local animal feed manufacturers. In contrast, soybeans yield higher protein meal and are mainly crushed to be used by the animal feed sector.

SSI of soybeans & sunflower seed, 2012 - 2022



Soybeans:

As South Africa is producing insufficient quantities of soybeans to satisfy local consumption, thus resulting in a negative SSI (SSI<100). The average 10-year index value (2012 to 2021) of soybeans is 97. The index value of soybeans for 2022 is 118, which is 8,2% more than the index value of 2021 (109). This increase can mainly be attributed to the expected record commercial soybean crop of 2022, which is 14,5% higher at 2,2 million tons, as compared to the smaller crop of 2021 of 1,9 million tons. The 2022 soybean crop is also the largest crop on record. The larger soybean crop contributes to a larger production figure as compared to the consumption of soybeans, resulting in a higher SSI value for 2022.

The main factors contributing to the positive trend in soybean planting, include investments in new oilseed processing plants, an improved affinity by farmers to use soybeans as a rotational crop with maize and better soybean prices. In addition, higher yielding cultivars were introduced by seed companies after a statutory seed levy was introduced.

The seed levy is payable to the South African Cultivar and Technology Agency (SACTA) on an annual basis. SACTA was formed as a non-profit company, to guarantee that breeding and technology levies are paid to seed breeding companies and plant breeder rights holders, ensuring continuous research and cultivar development. The current high input cost environment will also contribute to an increase in soybean plantings. In general, soybeans require fewer farming inputs, especially fertilizer, compared to maize. With Russia as the leading exporter of fertilizer inputs, the Russia-Ukraine war is adding upside risks on fertilizer prices and availability. This disruption could push fertilizer prices even higher than the spikes experienced in the past 18 months and could limit an expansion in maize area in favor of oilseeds.

As of February 2022, the cost of fertilizer and herbicides more than doubled for South African producers driven by increased global prices. The generally higher commodity prices, specifically grains and oilseeds, provide financial support to absorb some of these costs. However, inflated input costs enlarged the risk of production in a mostly weather dependent industry. South Africa uses around 2,2 million tons of fertilizer annually (1% of global usage), of which about 50% is used by maize producers. South Africa imports more than 70% of its fertilizer annually (FAS Oilseeds and Products Annual Report, April 2022).

Sunflower seed:

South Africa is regarded as a net importer of sunflower seed as local production is not sufficient to satisfy local consumption, resulting in a negative SSI ($SSI < 100$). The average 10-year index value (2012 to 2021) of sunflower seed is 95.

The index value of sunflower seed for 2022 is 104, which is 9,5% more than the index value of 2021 (95). This increase can mainly be attributed to a larger expected sunflower seed crop, estimated at 876 050 tons for 2022, representing an increase of 29,2% as compared to the 678 000 tons of 2021. The 2022 sunflower seed crop is the largest since the 2002 sunflower seed crop of 928 790 tons or the past 20 years.

The sunflower seed market in South Africa is mature and finely balanced. When prices increase towards import parity levels, expansion occurs, but this typically causes a correction in the market and prices decline to export parity levels. As a result, profitability deteriorates, and producers start cutting back on the sunflower seed area planted. However, due to rising global sunflower seed prices pushing local export parity prices towards record levels, the expectation is that the sunflower seed area planted will remain at a relatively high levels (FAS Oilseeds and Products Annual Report, April 2022).