# The effect of fertiliser prices on the grain industry

By Christiaan Vercueil, intern economist, Grain SA

Traditionally, between 30 and 50% of a grain and oilseed producer's existing input costs are spent on fertiliser. Fertiliser makes up such a large part of input costs that any change, especially a price increase, can drastically affect profitability.

South Africa is also a net importer of fertiliser which further aggravates the situation, since all imported fertilisers are not only affected by their actual price but by a whole range of factors such as the exchange rate, transport costs and so on.

## Import volume and price changes

*Figure 1* shows South Africa's fertiliser imports of MAP, ammonia, urea, potassium chloride and ammonium sulphate, from various countries since 2009. Although not the only fertilisers imported, these are five of the most important products imported.

As of 2009, fertiliser imports for these products have increased by 199% in total. During 2021, South Africa imported a total of 2 295 365 tons of just these five fertiliser products from various countries. Apart from the increase in import volume, the exchange rate of the rand to other major currencies also weakened sharply from 2009 onwards, which further intensified the effect of price increases.

*Table 1* shows the average price changes for nitrogen (N), phosphate (P) and potassium (K) during March last year compared to March 2022. It is staggering to see how sharply the prices for these products have increased in a matter of a year.

## Fertiliser requirements

If we look at the fertiliser requirements of different parts of the country we see that on average, the western Free State uses 72 units of nitrogen, 16 units of phosphate and 14 units of potassium per hectare. The eastern Free State uses 100 units of

**Figure 1: Fertiliser imports to South Africa.**

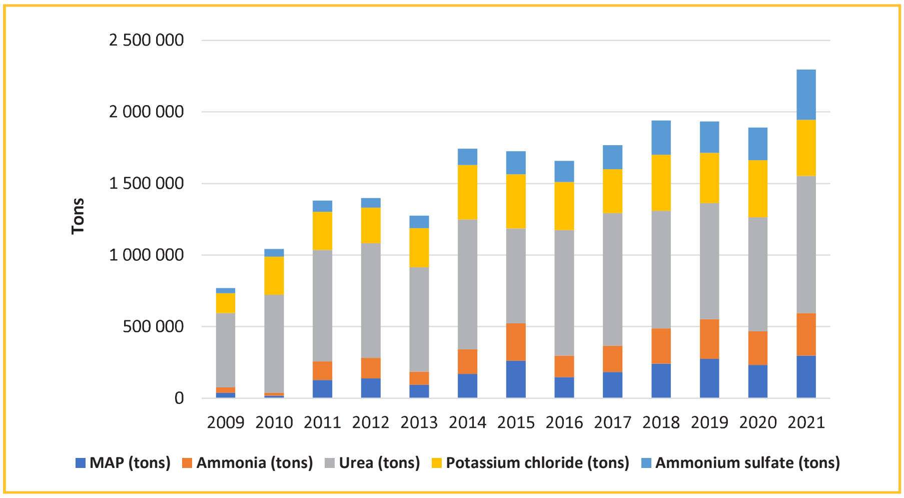


**Figure 2: The affordability of fertiliser.**

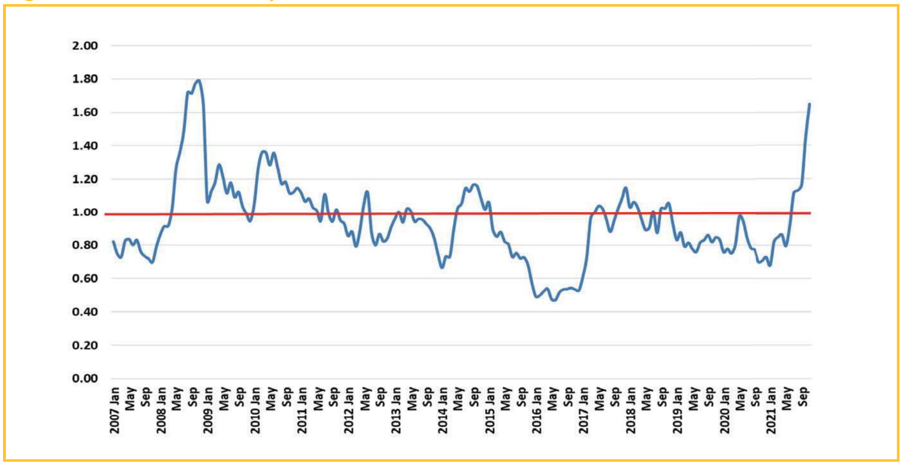


**Table 1: Price comparison of nitrogen, phosphate and potassium for March 2021 and March 2022.**

| | Nitrogen (N) | Phosphate (P) | Potassium (K) |
|---|---|---|---|
| **Avg. price: March 2021 (R/kg)** | R21 | R45 | R13 |
| **Avg. price: March 2022 (R/kg)** | R43 | R75 | R32 |
| **Change (year on year)** | 105% | 67% | 135% |

**Table 2: Change in fertiliser cost per hectare for March 2021 compared to March 2022.**

| | Nitrogen (N) | Phosphate (P) | Potassium (K) | Price: March 2021 | Price: March 2022 | Change |
|---|---|---|---|---|---|---|
| **Eastern Free State: Avg. units (kg/ha)** | 100 | 19 | 27 | R3 322,20 | R6 589 | 98% |
| **Western Free State: Avg. units (kg/ha)** | 72 | 16 | 14 | R2 422,40 | R4 744 | 96% |
| **Irrigation: Avg. units (kg/ha)** | 285 | 52 | 80 | R9 434 | R18 758 | 99% |

nitrogen, 19 units of phosphate and 27 units of potassium per hectare. Irrigated areas use 286 units of nitrogen, 52 units of phosphate and 80 units of potassium per hectare.

*Table 2* provides a comparison of the average fertilisation requirements for these three regions for March 2021 and March 2022. On average, the cost of fertiliser increased by 98%. This means that prices have almost doubled.

## Fertiliser affordability

*Figure 2* provides an indication of the affordability of fertiliser compared to the SAFEX price of maize. Fertilisers, which account for between 30 and 50% of input costs, have become less and less affordable, which means that the producer's margin for trade has weakened excessively. This puts pressure on the producer's profitability and can result in fewer hectares being planted, especially maize.

This information paints a clear picture of the extreme challenges that producers face daily to try and stay afloat. Fertiliser is not the only input cost that has seen sharp price hikes; the cost of energy sources such as fuel and electricity has also risen sharply, and the price of seed and chemicals has also increased. It is becoming progressively more difficult for farming operations to remain profitable and sustainable.

Since there is little room for mistakes, producers must make sure they are not being taken for a ride by fertiliser suppliers. Do the homework, make sure the representative's prices are market related, compare offers to find the best price, and select the most suitable offer for your purposes.

For more information, email the author at christiaan@grainsa.co.za.