

## Turbulence in fertiliser markets weighs on crop outlook

Fertiliser supply decreased in 2022 and prices rose to record highs causing a global drop in demand. High gas prices, sanctions, and export restrictions have resulted in a shift in trade which will continue into 2023. Meanwhile, the lower use of fertilisers will weigh on crop yield expectations for the upcoming season

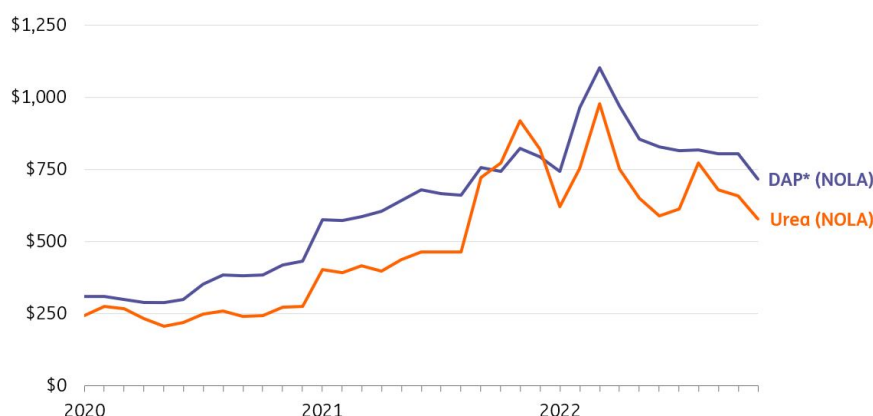


### High prices create ripple effects

The war in Ukraine, Western sanctions on Russian and Belarussian exports, and Chinese export restrictions have created turmoil in fertiliser markets. The surge in fertiliser prices that started in 2021 led to deteriorating farmer affordability during 2022 and lower demand. Uncertainty about the amount of fertiliser that farmers are going to need for the upcoming season leads to a more muddled outlook for next year's crop yields. This has an upward effect on commodities futures. Although the urgency of the situation for global food security is increasingly being recognised, there are reasons to be cautious about any quick improvements in the situation. History shows that unwinding sanctions often prove to be quite a sticky process against a backdrop of geopolitical tensions.

## Fertiliser prices are still high despite recent falls

Monthly prices per metric ton



Source: Refinitiv, ING Research

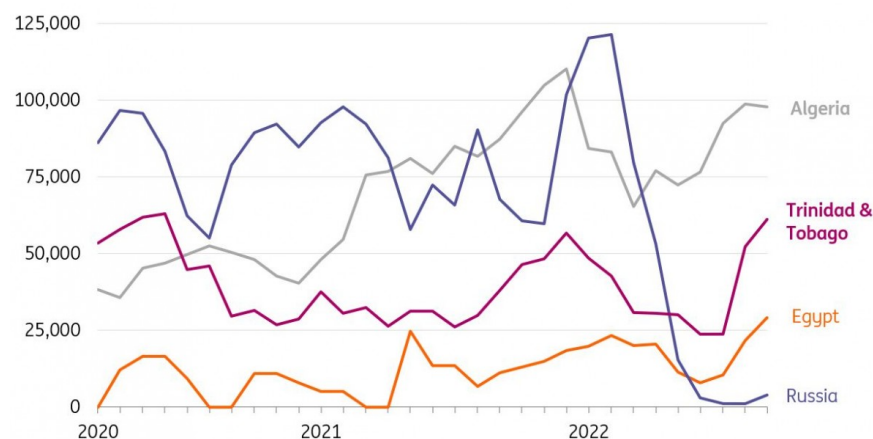
\*DAP = Diammonium phosphate

## Considerable shifts in fertiliser trade

Buyers have been busy this year finding alternative suppliers due to the sharp drop in fertiliser exports from Russia (nitrogen, potash), Belarus (potash), China (nitrogen, phosphate) and the EU (nitrogen). In the EU, lower local ammonia and urea production in combination with a reduced inflow of Russian products has been partially offset by imports from other countries such as Egypt and Algeria. This is also happening with potash where Belarussian exports to the EU have ceased and Russian imports dropped by more than 70% up until September. Those decreases are partially made up by a 25% increase in potash imports from Canada. In the process, European buyers are crowding out other buyers, similar to what has been happening in liquefied natural gas (LNG) markets. Meanwhile, other large importers, including Brazil, China, India and the US, have not turned away from Russian fertilisers and absorbed some of the flows that have become available, as they have generally worked out how to deal with any additional red tape.

## The EU is turning to other countries for ammonia imports

Import volume in tonnes, 3-month average, January 2020 to September 2022



Source: Eurostat, ING Research

## Prospects for 2023

High prices drive producers across the globe to ramp up production at existing sites and increase investments in new capacity which has a downward effect on prices. Still, it's likely that part of the supply gap in 2023 will remain. Geopolitics is a major factor in how the market will evolve in 2023 as European sanctions on exports from Russia and Belarus are particularly influential. Both a de-escalation of the war in Ukraine and global pressure to reduce restrictions on fertiliser trade flows for the sake of food security could lead to a winding down in sanctions. This could, for example, result in the reopening of the Tolyatti-Odessa ammonia pipeline (output: 2.5 million tonnes, 1.5% of global production) and the release of fertiliser cargoes stuck in European ports. However, further tightening of sanctions cannot be completely ruled out in case the war in Ukraine escalates.

## Impact on food production

In our view, the impact of the increase in fertiliser prices on crop yields has been soft this year as many farmers buy fertiliser ahead of the season and affordability was still quite favourable at the start of 2022 due to high commodity prices. But during the course of 2022 fertiliser imports in major markets such as India and Brazil have dropped below the levels of the previous year. The impact on yields could become more pronounced in 2023, especially in African and Asian countries where farmers have generally fewer means to adapt and get less government support compared to their counterparts in Europe, the US and China.

Still, the process is likely to be gradual for two reasons. First, while the lower application of nitrogen fertilisers is directly affecting yields, the reduced use of phosphate and potash has a longer lag before it kicks in. Second, some of the impact can be mitigated by farmers and such mitigation can also be in the interest of food traders and manufacturers. Farmers could invest in the more precise application of (liquid) fertilisers, increase the use of organic fertilisers (like biochar) or opt to shift to crops that require less fertiliser (such as legumes or cassava). All of these have their drawbacks and limitations. Shifting to a different crop, for example, requires specific knowledge to be successful. So overall it will be hard to match the effectiveness of synthetic fertilisers. As always, favourable weather in the major growing regions during the season can ease some of the impact of under-fertilisation, while bad weather can cause more problems.

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