



Helping to feed the world sustainably

Public Summary Short-Term Fertilizer Outlook 2023 – 2024

IFA Market Intelligence Service



This report is a summary of IFA's Short-Term Outlook, prepared by the Market Intelligence Service to accompany IFA's Short-Term Outlook Presentation and Data File, which are available to IFA members.

This report is authored by:

- ✓ Laura Cross, Director
- ✓ Armelle Gruère, Program Manager - Demand

With contributions from:

- ✓ José de Sousa, Program Manager - Supply
- ✓ Hanna Chtioui, Phosphate and Potash Market Analyst
- ✓ Etienne Achard, Fertilizer Market Analyst
- ✓ Grace Chilande, Fertilizer Demand Analyst
- ✓ Sylvie Marcel-Monnier, Project Coordinator

Notes and definitions:

- ✓ Volumes in this report are expressed in product and nutrient metric tonnes. Product tonnes refer to the physical weight of the product in question while nutrient tonnes reflect the N, P₂O₅ and K₂O content of nitrogen, phosphate and potash fertilizers respectively. Data followed by N, P₂O₅ and K₂O refer to nutrient tonnes.
- ✓ The terms nitrogen, phosphate and potash are used to denote groups of nutrient-bearing fertilizers which are produced and traded globally. The terms nitrogen, phosphorous and potassium refer to the nutrients required by plants.
- ✓ Annual periods refer to the calendar year unless stated otherwise, and when FY precedes a year, it refers to the Fertilizer Year. The reference period used to report fertilizer consumption varies depending on the country. Countries report fertilizer consumption statistics in 12-month periods that start either in January or in another month.
- ✓ In this report, "fertilizer year" (FY) refers to all 12-month periods. FY 2022 refers to the year starting in January 2022 for most countries in Latin America, Africa, East and Southeast Asia and Eastern Europe & Central Asia (EECA). For other regions including North America, WCE and South Asia, FY 2022 started in Q2 or mid-2022 and will end in Q2 or mid-2023. Fertilizer years do not always match crop marketing years used to report statistics on crop area, yield and production.

Disclaimer of Liability for IFA Reports/Presentations

IFA endeavors to base its reports and presentations on accurate information, to the extent reasonably possible under the circumstances. However, neither IFA nor its members warrant or guarantee any information IFA publishes or presents, and they disclaim any liability for any consequences, direct or indirect, arising from the use of or reliance upon IFA publications or presentations by any person at any time.

BACKDROP TO THE FERTILIZER OUTLOOK

Fertilizers remain at the intersection of unsettled food and energy markets, and are increasingly exposed to global risks spanning geopolitics, conflict, economics and climate. Supply has been resilient despite existing and fresh local disruptions in 2023, while macroeconomic drivers have grown in influence. Economic pressures stemming from inflation and recession risks have led to rising interest rates globally, which raises the cost of borrowing for governments, companies and consumers.

The combination of these complex and interconnected factors have implications for commodity markets. The last year has seen intensified competition, greater economic fragmentation and supply chain reorganization. Furthermore, the higher cost of borrowing, access to credit and depreciating currencies have placed continued affordability challenges in many importing and fragile markets.

Politics will play a significant role in 2024, with almost 2 billion people in more than 70 countries due to vote in national elections (based on recent voter turnout). Many topics will be on the table in these elections, several of which will have implications for fertilizers. Positions on foreign policy, food security, agricultural subsidies and decarbonization could spell change for fertilizers in these countries and the global market as a result.

SUPPLY FORECAST

At the end of 2023 there were four noteworthy and actively developing situations with the potential to impact fertilizer supply.

- **Middle East:** The situation in Gaza has implications for neighboring fertilizer exporters. Potash exports from Israel had not experienced significant disruption in Q4 2023, although rising freight risks in the Red Sea have the potential to impact trade flows. Indirect impacts have also been

seen, such as temporary shortages in gas supply to Egypt's nitrogen industry in late October. The geopolitical response to the situation has highlighted the global importance of the Middle East as a shipping transit hub in an already tight freight market, with the Strait of Hormuz, the Red Sea and the Suez Canal all being major potential chokepoints for fertilizer trade.

- **Ukraine:** The war in Ukraine continues, with Black Sea coastal ports a focal point of the conflict. Grain exports have found new routes despite the lapse of the Black Sea Grain Initiative, and finished fertilizer exports from Russian Baltic Sea ports continue at record levels for nitrogen and phosphates, and at a growing rate for potash in line with recovering global demand. Ammonia exports remain drastically cut due to the pipeline connecting Russia and Ukraine being out of operation, although new infrastructure is under construction for ammonia export terminals at the Baltic Sea and the port of Taman on the Azov Sea.

Europe's dependence on Russian natural gas continues to be felt, with feedstock costs to European nitrogen producers remaining high, albeit lower than the unprecedented levels of 2022. The impending introduction of the Carbon Border Adjustment Mechanism (CBAM) and other national carbon taxes have put further pressure on the European industry, with more permanent closures being announced in 2023.

- **Belarus:** Sanctions on Belarus continue to restrict the flow of potash exports from the country through EU territory to the Baltic Sea. However, there has been a significant rerouting of Belarusian potash exports overland by rail to China, which imported record potash volumes via this route in 2023. Belarus has exported potash to other international markets using Russia as a transit, also by rail. Belarus has also signed a number of potash supply agreements with

countries it deems to be friendly, such as a recent partnership announced with Iran.

- China:** The National Development and Reform Commission (NDRC) in China continues to curb exports of urea and MAP+DAP in order to prioritise the supply of fertilizers to the domestic market. China’s role in global trade of these products is smaller today than in the 2012-2016 era when the country had large volumes of overcapacity, but restrictions still have the potential to impact regional supply and price sentiment in seasonal demand periods.

Nitrogen and phosphate production stable, potash production recovery underway

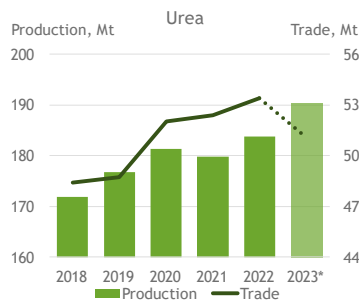
Based on IFA’s short-term supply survey conducted in Q4 2023, global ammonia

production is estimated to remain stable in 2023, increasing by <1% to 183.6 Mt. Urea output is expected to grow more significantly with production 4% higher in 2023, driven by the commissioning of new capacity and improved demand for both fertilizers and industrial products globally.

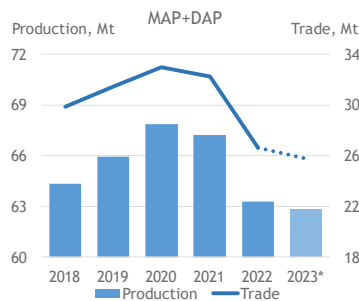
Phosphoric acid production is expected to follow a similar trend to ammonia, increasing marginally to 85.9 Mt in 2023 having declined significantly in 2022. Global MAP+DAP production is expected to decline by 1% in 2023, reflecting continued challenges in phosphate demand recovery despite improved affordability compared to 2022.

Global potash production is expected to recover by 5% in 2023 to 64.5 Mt, led by recovering production in Belarus and Russia, and the ramp of new supply in Laos.

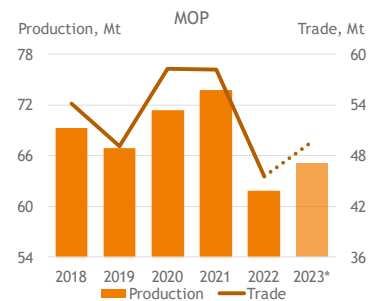
2023 supply projections



2023 production: 190 Mt (+3.6%)
2023 trade: 51 Mt (-4.3%)



2023 production: 63 Mt (-0.7%)
2023 trade: 26 Mt (-3.2%)



2023 production: 65 Mt (+5.1%)
2023 trade: 50 Mt (+9.0%)



Source: IFA *2023 data reflects preliminary estimates

Capacity investment leads to growth across nutrients despite economic cycle trough

IFA’s forecasts of capability (the measure of theoretical supply based on typical maximum operating rates) begin with announced capacity increases. The fertilizer capacity investment cycle has changed in two main ways in the last year. The first is that lower fertilizer prices have weakened the investment case to fund new capacity, and the second is that the industry is

becoming more sustainable, underpinned by the energy transition, which raises project costs.

Ammonia capacity is forecast to increase by 2% between 2022 and 2024, reaching 193.8 Mt N. Nitrogen capacity growth is centered in low-cost regions, namely Russia where natural gas-based projects are already under construction, and the US where tax incentives have dramatically improved the economics of investing in blue ammonia (when CO₂ is sequestered using carbon capture and storage). In addition, new

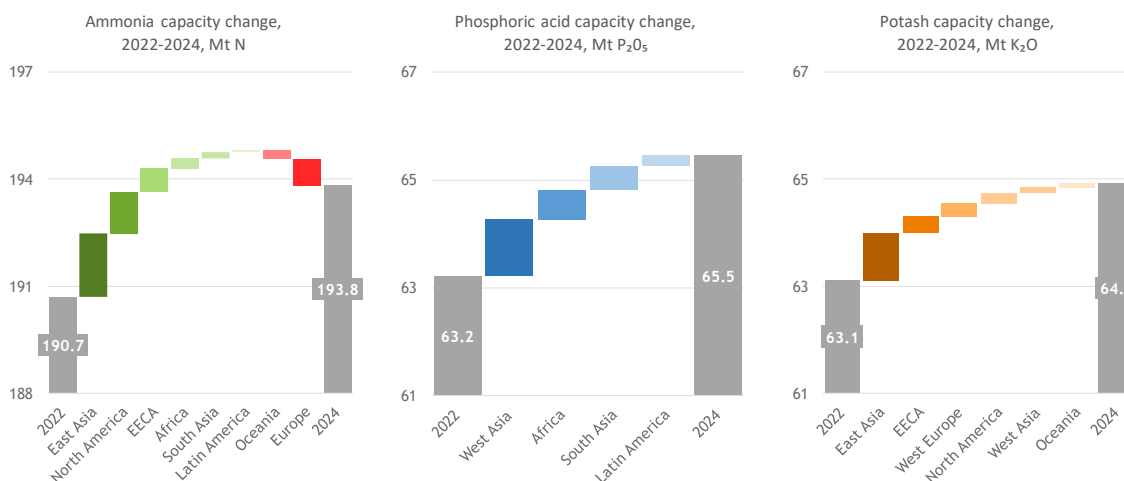
production units are expected to come into production in China to meet growing domestic fertilizer and industrial demand. At the same time, planned plant closures are taking place in high-cost locations - Europe and Australia.

IFA includes 0.2 Mt of green ammonia (produced using carbon-free renewable energy) projects coming onstream by 2024, and a much larger volume of prospective green ammonia capacity is under consideration (3.5 Mt by 2027) given its vast potential as a sustainable source of nitrogen as well as adjacent energy market opportunities as a hydrogen carrier.

Phosphoric acid capacity is forecast to increase to 65.5 Mt P₂O₅ in 2024, 4% higher than in 2022. Capacity growth is forecast in existing production hubs West Asia and Africa, while new capacity is also forecast in India and Brazil.

Potash capacity is forecast to rise to 64.9 Mt K₂O in 2024, a 3% increase from 2022. Laos is forecast to be the key contributor to this growth in the short-term, followed by projects and expansions in Russia.

2022-2024 capacity additions and closures



Source: IFA

Capacity is expected to be driven by a combination of the capacity expansions outlined above, and changing assumptions on output of disrupted countries.

- **Nitrogen** capability is forecast to increase from 156.5 Mt N in 2022 to 162.1 Mt in 2024, a 4% growth rate. The key drivers are low-cost projects in Russia and the US, the ramp up of import-displacement plants in India and a return to growth in China, offset by closures in Europe and Oceania.
- **Phosphate** capability is forecast to increase from 51.1 Mt P₂O₅ in 2022 to 53.4 Mt P₂O₅ in 2024, a 12% growth rate. This is mainly driven by a return to pre-Covid capability in

North Africa in line with the expected fertilizer demand recovery, and the continued ramp up of recently commissioned capacity in West Asia. Strong recent output levels are expected to be maintained in BRIC countries.

- **Potash** capability is forecast to increase from 46.2 Mt K₂O in 2022 to 50.8 Mt K₂O in 2024, a 10% growth rate. In addition to capacity jumps in Laos and Russia, a key assumption of the potash capability forecast is a continued recovery in Belarus as alternative export routes continue, and higher utilization in Russia in line with recovering global potash demand.

FERTILIZER CONSUMPTION FORECAST

IFA's methodology to prepare global fertilizer demand outlooks is based on a survey of ~50 country experts, representing around 90% of global fertilizer consumption. The results of this survey are complemented with agricultural and trade data, as well as latest market information.

Global fertilizer consumption is expected to recover partially in FY 2023

Global fertilizer consumption (N + P₂O₅ + K₂O) is expected to increase by 3% to 191.5 Mt nutrients in FY 2023 after a combined 8% drop in the previous two years. The 3% recovery may seem moderate given the improvement in fertilizer affordability since mid-2022 and in comparison to the strong rebound in FY 2009 after an 8% drop in consumption in FY 2008. But there are a unique set of factors impacting the recovery in FY 2023, from farm economics to weather and government policies.

- **Farm economics:** Global fertilizer prices increased more significantly than crop prices between mid-2021 and mid-2022, resulting in a drastic decline in fertilizer affordability. Between mid-2022 and mid-2023, the opposite trend took place: fertilizer prices fell faster than most crop prices, resulting in much improved fertilizer affordability. However, fertilizer affordability calculated on a global basis is not always reflected at the local level.

Furthermore, interest rates have increased significantly in the last few years, affecting farmers' ability to borrow. Many currencies have also depreciated against the US dollar in fertilizer importing markets. This depreciation does not usually impact fertilizer purchases in countries that export a large share of their agricultural production. However, it can pose significant challenges in countries that produce crops mostly for domestic use; this is the case for many farmers in Sub Saharan Africa and Asia.

- **Weather:** The direct transition from a triple dip La Niña event to an El Niño event in 2023 has affected major fertilizer consuming regions in various ways. In October 2023, crops in South Asia, Southeast Asia, and Oceania were already suffering from the drying effect of El Niño combined with a strong positive Indian Ocean Dipole (IOD). On the other side of the Pacific Ocean, El Niño is expected to bring relief to the south of Latin America after a severe drought, which should benefit the summer crops that are planted in late 2023 and early 2024. Other parts of Latin America including Brazil's granary state Mato Grosso, should experience drier conditions. Africa is expected to experience contrasting effects of El Niño, from drier conditions in the south of the continent to wetter conditions in the east. While the IOD was expected to ease in December, El Niño was also intensifying in late 2023 and was expected to last until the first half of 2024.
- **Government policies:** Both direct and indirect government policies are influencing global fertilizer consumption in FY 2023. Direct policies include fertilizer subsidies, regulations on fertilizer application and controls on fertilizer exports, while indirect measures include policies affecting crop planted area, crop exports, the quantity of foreign currencies available to importers, and other macroeconomic and geopolitical interventions.

In China, which accounts for 20% of global fertilizer consumption, fertilizer use trended downward between 2015 and 2021, in line with the governments zero and declining growth plans. More recently, however, the government has strengthened its food security objectives following the Covid crisis and boosted domestic production of grains and oilseeds through initiatives such as encouraging the cultivation of idle land. This combined with urea and MAP+DAP export restrictions to protect farmers from price

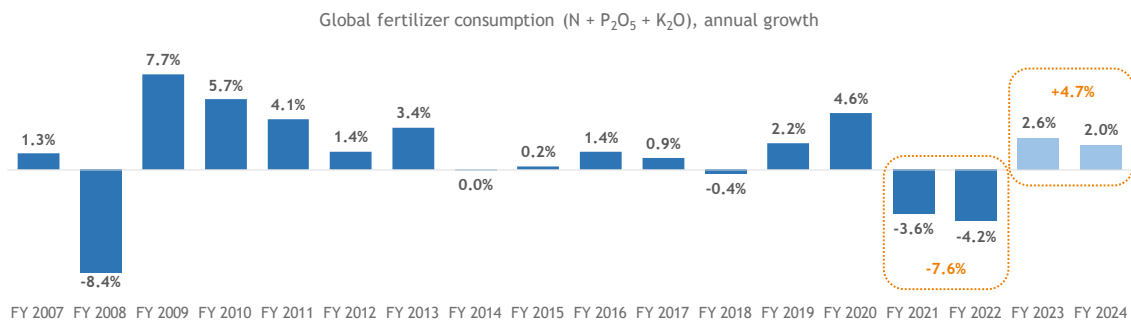
volatility led to a halt in the consumption decline in FY 2022.

In India, which represents 15% of global fertilizer consumption, the government has maintained the Maximum Retail Price (MRP) for urea at ₹5,360/t for the last 11 years, even during the recent episode of high international prices. This policy protected Indian farmers from the falling affordability seen in other countries in 2022. The government significantly increased its support for DAP in FY 2021 and FY 2022 although the support for potash remained low.

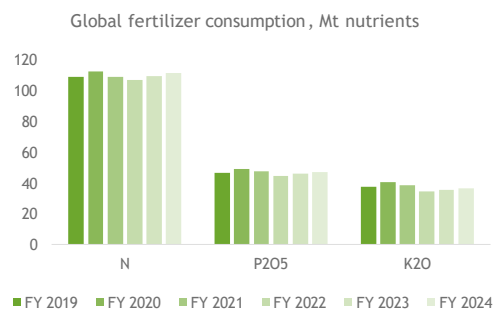
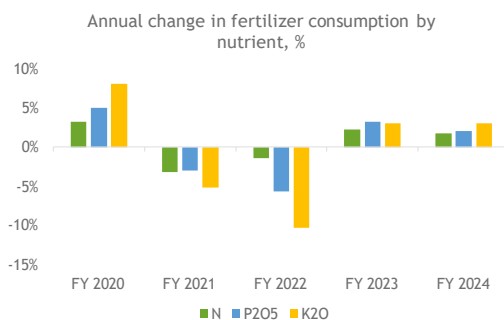
Fertilizer consumption in West Europe fell by 20% between FY 2020 and FY 2022, the strongest drop since FY 2008 (-27.5%). In the aftermath of FY 2008, N consumption recovered completely within two years but P₂O₅ and K₂O consumption remained at lower levels throughout the following decade. It is possible that a similar

downward shift will take place following the decline of FY 2020 - 2022. Consumption of P₂O₅ and K₂O dropped by 38% and 34% respectively between FY 2020 and FY 2022, and it is expected to recover by 23% and 21% respectively between FY 2022 and FY 2024. In addition, a downward shift in N consumption could also take place due to stricter fertilizer regulations in key West European countries. Recently implemented or imminently expected fertilizer regulations in Germany, Spain and the UK aim to bring the countries in line with the EU Nitrate Directive as well as contribute to the EU Green Deal objectives of reducing fertilizer use by at least 20% by 2030. In parallel, the share of organic area in total EU agricultural area has grown consistently, reaching almost 10% in 2021. The Farm to Fork strategy targets a share of 25% by 2030, but even an increase to 15% would continue to depress mineral fertilizer consumption in West Europe over the next few years.

Short-term fertilizer consumption outlook



K₂O consumption is expected to pick up... but to remain below FY 2019



Slower recovery for K₂O

Global N consumption is expected to recover faster than global P₂O₅ and K₂O consumption in the short-term. In FY 2023, N consumption is expected to increase by 2% to 109.7 Mt after a 5% decline in the previous two years (-1% in FY 2022 and -3% in FY 2021). P₂O₅ consumption is expected to increase by 3% to 46.2 Mt after a 9% drop (-3% and -6%). K₂O consumption is expected to increase by 3% to 35.6 Mt after a 15% drop (-10% and -5%). A delayed recovery in K₂O consumption was also witnessed in FY 2009 following the fall in FY 2008 - it took one year for N and P₂O₅ consumption to recover, and two years for K₂O consumption.

Compared to the pre-Covid period (FY 2019), global fertilizer consumption in FY 2023 is expected to reach slightly higher levels of N (+0.6%), slightly less of P₂O₅ (-0.8%) and significantly less of K₂O (-5.4%). Most of the decline in potash consumption over the FY 2019 - 2022 period took place in three regions: East Asia (mainly in China), South Asia (mainly in India), and West Europe (particularly in France).

In India, K₂O did not benefit from the significant support measures provided for N and P₂O₅ products, and prices of potash to farmers increased significantly. After falling by almost half between FY 2020 and FY 2022, Indian potash consumption is only expected to increase by 5% in FY 2023. No significant change in fertilizer subsidies is expected before the 2024 general election.

Latin America and South Asia drive global growth in FY 2023

Four regions account for almost 80% of the increase in global fertilizer consumption in FY 2023: Latin America, South Asia, West & Central

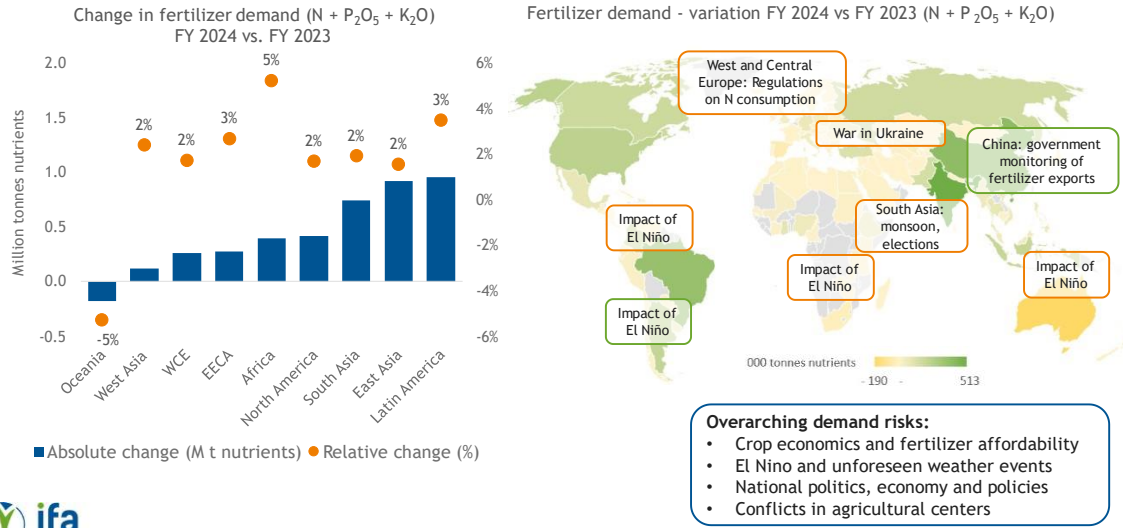
Europe (WCE) and Eastern Europe & Central Asia (EECA). Latin America and South Asia alone represent 46% of the global recovery in FY 2023, increasing their fertilizer consumption by 2.2 Mt nutrients combined. EECA and West Asia consumption is expected to grow the fastest, at 8% and 9% respectively. In EECA the significant increase is led by a partial recovery in Ukraine. In West Asia, a strong rebound is expected in Turkey, the leading market. North America and Oceania are the only regions expected to reduce their fertilizer consumption in FY 2023. In Oceania, the arrival of El Niño will have a strong impact on agriculture. In North America, a recovery already took place in FY 2022 and the FY 2023 consumption level is only slightly lower (-0.4%) and driven by crop mix change.

Global fertilizer consumption is expected to continue growing in FY 2024

Global fertilizer consumption is expected to grow by 2% in FY 2024 to 195.4 Mt. Consumption of N is forecast to increase by 2% to 111.6 Mt, consumption of P₂O₅ by 2% to 47.1 Mt, and consumption of K₂O by 3% to 36.7 Mt. As a result, consumption of both N and P₂O₅ are forecast to exceed their FY 2019 levels, by 2% and 1% respectively, whereas K₂O consumption is expected to remain 2.5% below its FY 2019 levels in the next two years.

Latin America, East Asia and South Asia are expected to drive global fertilizer consumption in FY 2024, accounting for two thirds of global growth. In contrast, Oceania could experience another year of decreased fertilizer consumption due to the impact of El Niño. Africa is expected to be the fastest growing market in FY 2024 (+5%), making a significant contribution (10%) to global growth relative to its market size (4%).

Fertilizer demand drivers in FY 2024



Source: IFA

Since the onset of Covid-19 lockdowns, the fertilizer industry has encountered successive crises. Fertilizer availability and affordability is much improved from the significant uncertainty of 2022, although disruptions remain.

Going into 2024, macroeconomic risks are at the forefront of industry drivers and will impact the markets across the supply chain and at the farm level. In the short-term N and P fertilizer

consumption is forecast to recover, but the K recovery is expected to take longer to play out. Weather conditions present large risks to the demand outlook, especially the transition from a triple dip La Niña to El Niño.

Across supply, demand and trade dynamics, government policies are forecast to remain key drivers as measures are implemented to support food security and sustainability goals.



ifa
INTERNATIONAL
FERTILIZER ASSOCIATION

Helping to feed the world sustainably

CONTACT INTERNATIONAL FERTILIZER ASSOCIATION



49 avenue d'léna,
75116 Paris, France



info@fertilizer.org
www.fertilizer.org



T: +33 1 53 93 05 00



international-fertilizer-association-ifa



@fertilizernews



IFAfertilizers