

# Fertilisers and Pesticides in the World and Kazakhstan

Market Overview, Investment Projects, Top Producers, and  
Results of the Economic Complexity Report of AIFC &  
Harvard Growth Lab

March 2024

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# EXECUTIVE SUMMARY

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According to the Economic Complexity Report of the AIFC and Harvard Growth Lab, Kazakhstan has a competitive advantage in exporting nitrogenous and mixed fertilisers and pesticides. Detailed data on their scores can be found in the Annexes to this overview.

This presentation provides an overview of global and Kazakhstani markets of fertilisers and pesticides.

## FERTILISERS

### GLOBAL MARKET AND TRENDS

- Overall, global production of fertilisers exceeds the demand in total and by each nutrient (nitrogen, phosphorus, potassium).
- Production of nitrogen fertilisers is dominated by **China, India, the USA, and Russia** with **57% of global market**.
- Production of phosphorus fertilisers is concentrated in **China, the USA, India, Morocco, and Russia** with **73% of global production**.
- Production of potassium fertilisers is concentrated in **Canada, Russia, and Belarus** with over **68% of global production**.
- Nitrogen and mixed fertilisers account for about **80% of global imports**.
- **97%** of China's consumption, the largest global consumer, is domestically sourced.
- Brazil, the 3<sup>rd</sup> global consumer, is the leading global importer of fertilisers with **65% of demand covered by imports**.
- Global fertilisers capability by 2027 is projected to cover expected demand. Globally, growth in fertiliser use is expected to slow over the medium-term, from **4% in 2023** (partial recovery) to **1.2% in 2027**.
- In the context of climate change, global fertiliser consumption is moving towards **highly effective fertilisers**.

### KAZAKHSTAN

- Kazakhstan is a **net importer of fertilisers**, being a net importer of nitrogen fertilisers and a net exporter of mixed fertilisers.
- **Kazphosphate and Kazazot** produce about **96%** of all fertilisers in Kazakhstan.
- Kazakhstan's exports are concentrated in the neighboring countries: **Russia, Kyrgyzstan, Uzbekistan**, etc.
- In 2022, the average import price of fertilisers exceeded the average export price of Kazakhstan's fertilisers, except for nitrogen fertilisers.
- Fertiliser consumption in Kazakhstan has significantly increased over the last years, reaching **313k tonnes** in 2021. However, fertiliser consumption is still low compared to other countries in terms of kg per ha, accounting for **4.4 kg per ha** in 2021.

# EXECUTIVE SUMMARY

(2/2)

## PESTICIDES

### GLOBAL MARKET AND TRENDS

- Pesticides production and use are highly regulated due to their impact on environment and human health.
- Developed countries have the lowest proportion of insecticides use due to more strict policies.
- Leading global consumers: **Americas (51%)** and **Asia (28%)**.
- Leading global exporters: China, the USA, Germany, France, and India (**60% of global exports**).
- Leading global importers: Brazil, the USA, France, Canada, and Germany (**30% of global imports**).
- Top global producing companies are in **Germany, the USA, India, and China**.

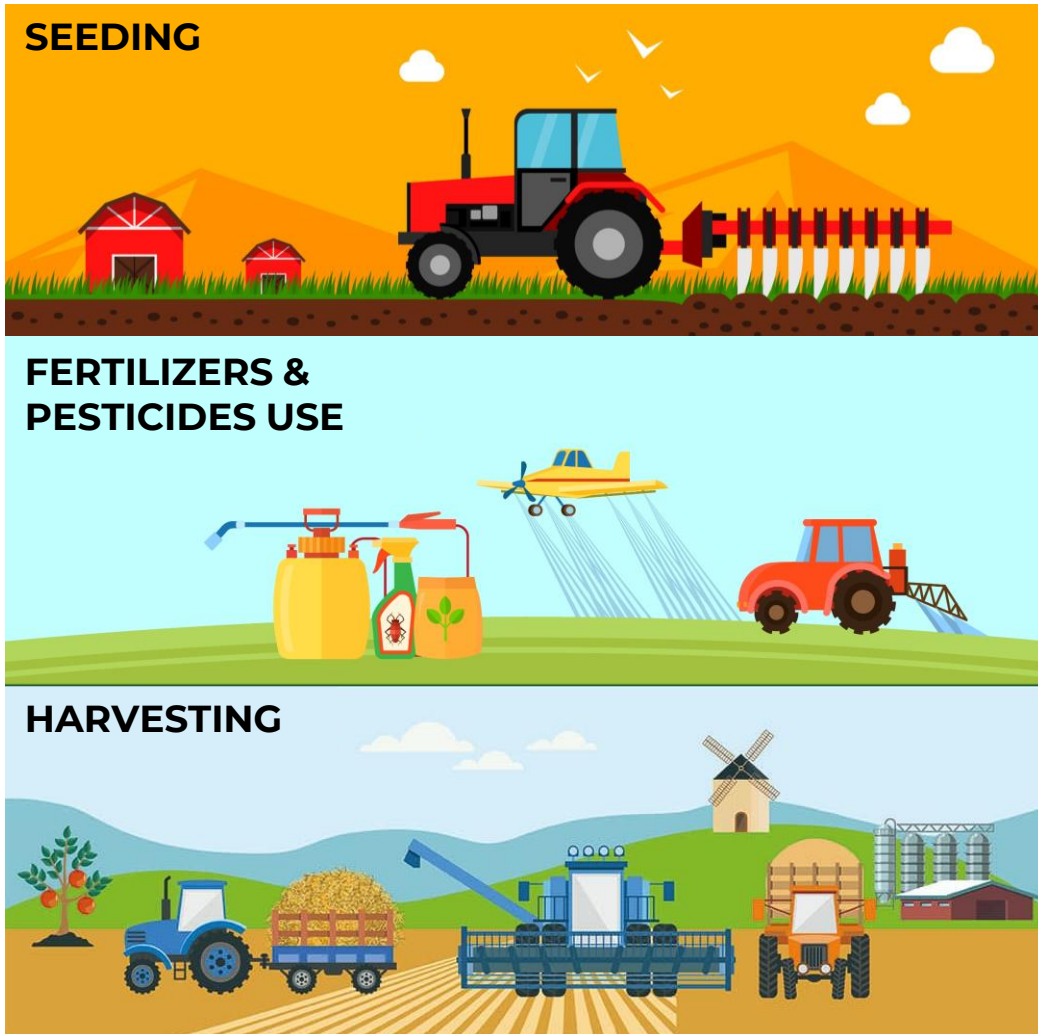
### KAZAKHSTAN

- Kazakhstan is **a net importer of pesticides**.
- **47%** of pesticides imports come from Russia, followed by China with **28%**.
- Minor exports are directed to the neighboring countries, such as **Kyrgyzstan, Uzbekistan, and Russia**.
- Pesticides exporters are located mainly in grain producing regions, such as **North Kazakhstan and Karaganda regions**, as well as in **Almaty region**.
- **85%** of pesticides consumption in Kazakhstan accounts for **herbicides**.

# INTRODUCTION: FERTILISERS AND PESTICIDES



# INTRODUCTION TO FERTILISERS & PESTICIDES



Source: [freepik.com](https://www.freepik.com), [doraagri.com](https://www.doraagri.com)

**FERTILISER** is a substance used in agricultural and gardening processes to increase the productivity of soil and plant growth.

## Types:

- Organic fertilisers are made from animal products, plant waste.
- Inorganic fertilisers are made from chemical substances.

## Inorganic fertilisers categories:

- Straight fertilisers supply only one primary chemical element.
- Complex fertilisers are multi-nutrient fertilisers produced by chemical reactions between components of individual granules.
- Mixed fertilisers consist of granules or blends of different single-nutrient fertilisers (mixture of straight fertilisers). The individual granules still have only one nutrient.

**Main nutrients:** nitrogen (N), phosphorus (P), and potassium (K).

Source: [agrotexglobal.com](https://www.agrotexglobal.com)

**PESTICIDES** are chemical compounds that are used to kill pests, including insects, rodents, fungi and unwanted plants (weeds).

## Types:

- Insecticides – insects
- Herbicides – plants
- Rodenticides – rodents (rats & mice)
- Bactericides – bacteria
- Fungicides – fungi

## Methods of application:

- Seed treatment
- Soil treatment
- Disinfection of warehouses
- Tree wound treatment
- Post harvest treatment

Source: [PPP 211: PESTICIDES AND METHODS OF APPLICATION \(iasri.res.in\)](https://www.iasri.res.in)

# GLOBAL AGRICULTURAL CHEMICALS MARKET VALUE

Global agrochemicals market to reach in 2028

**\$282bn**

Growth in global agrochemicals market between 2023 and 2028

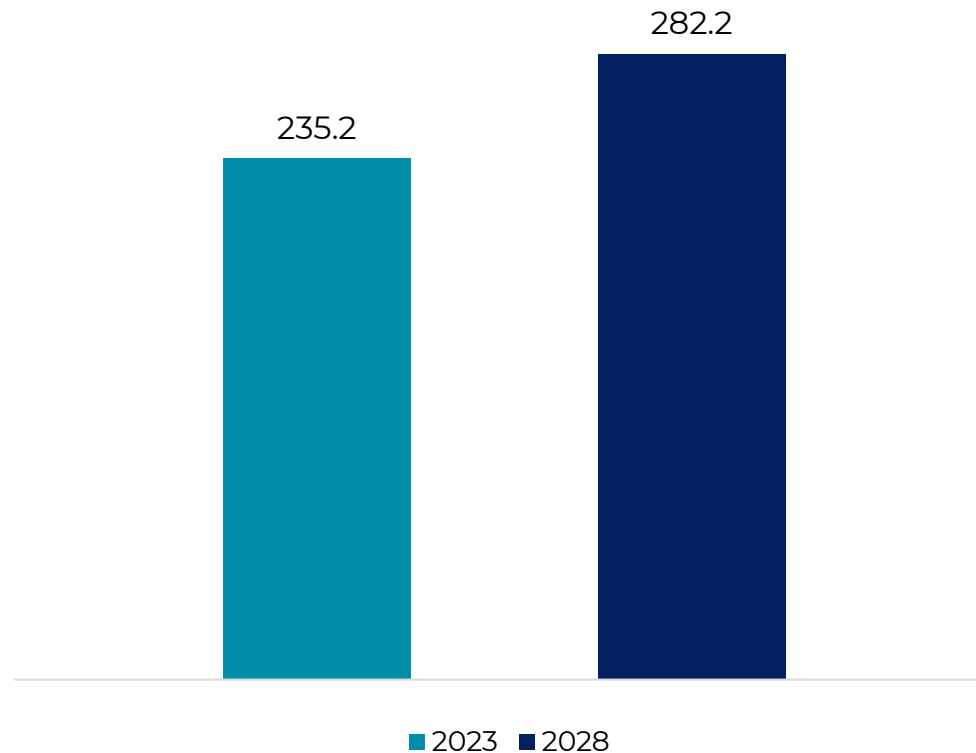
**20%**

CAGR in global agrochemicals market between 2023 and 2028

**3.7%**

## AGRICULTURAL CHEMICALS MARKET VALUE WORLDWIDE IN 2023 AND 2028

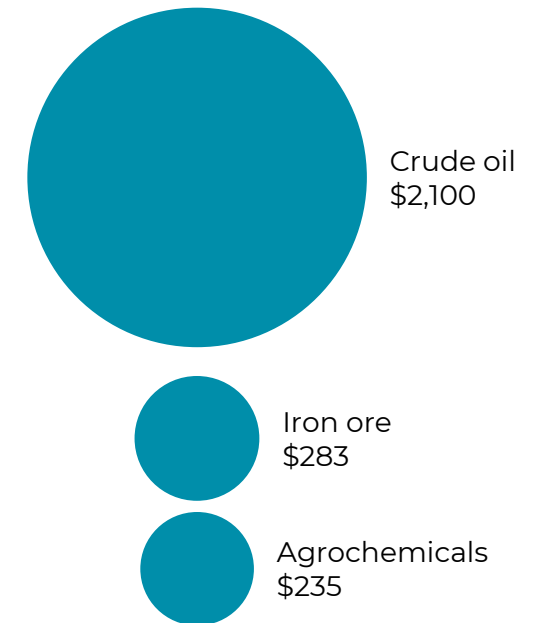
(billion US dollars)



Note: **Agrochemicals** are a broad group of agricultural chemicals that include **fertilisers and pesticides**.

## COMPARISON OF AGROCHEMICALS, CRUDE OIL, AND IRON ORE MARKETS

(billion US dollars)



Source: [MarketsandMarkets](#), [Visual Capitalist](#)



# CHALLENGES, PRICES, AND RECENT DEVELOPMENTS

- According to IFA Market Intelligence Service, fertiliser prices have declined from the peaks of Q2 2022, improving their affordability. However, the impacts of poor affordability were still felt throughout 2022, with many buyers deciding to delay or skip fertiliser applications.

- Rerouting of trade: Russia leans to the Baltic**

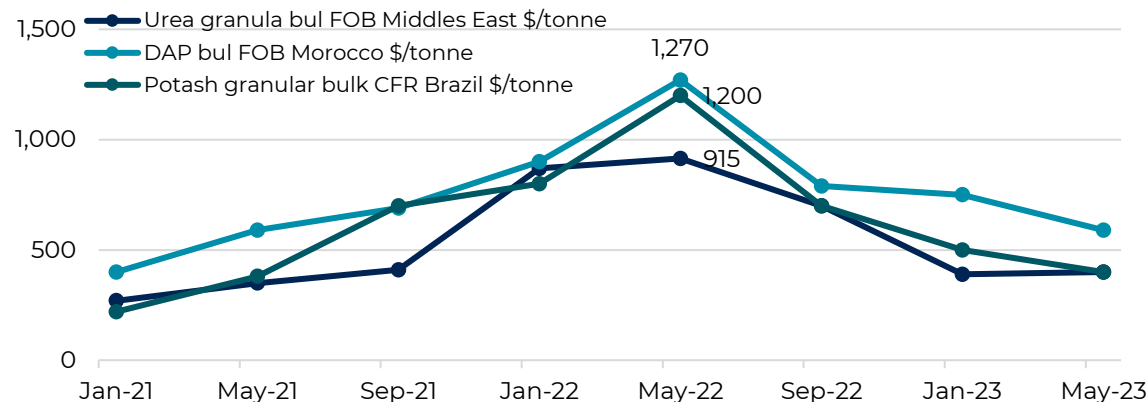
Russia has successfully exported larger volumes of dry bulk fertilisers from its Baltic Sea ports.

- Rerouting of trade: Belarus exports east**

The transit of potash from Belarus via EU territory to the Baltic Sea is problematic. Instead, exports of Belarusian potash have pivoted to China.

- Fertilisers are quite sensitive goods in international trade, being subject to many investigations and trade remedy measures among the WTO members.

## FERTILISER PRICES HAVE FALLEN FROM THEIR Q2 2022 PEAKS



Source: [IFA, Medium-Term Fertilizer Outlook 2023 – 2027](#)

## AS OF DECEMBER 2023, THERE ARE 11 ACTIVE ANTI-DUMPING MEASURES IMPOSED BY THE WTO MEMBERS:

Reporting member	Exporting member	Subject product
UK	Russia	Ammonium nitrate (N)
EU	Russia (2), USA, Trinidad and Tobago	Ammonium nitrate (N)
Australia	China, Sweden, Thailand	Ammonium nitrate (N)
USA	China	Ammonium sulphate (N)
Mexico	China, USA	Ammonium sulphate (N)

Source: [WTO](#)

Note: trade remedy measures are not political sanctions

# FERTILISERS: GLOBAL MARKET OVERVIEW



# CLASSIFICATION & PRODUCTION SPECIFICATION

- Fertilisers are classified by three main nutrients: **nitrogen (N), phosphorus (P), and potassium (K)**.
- Mixed fertilisers are combination of the mentioned nutrients (NPK complex).
- Nitrogen is the most applied nutrient with a 56% share of total consumption.
- Over 50% of total fertilisers are applied in cereals production.

## FERTILISERS APPLICATION BY CROP

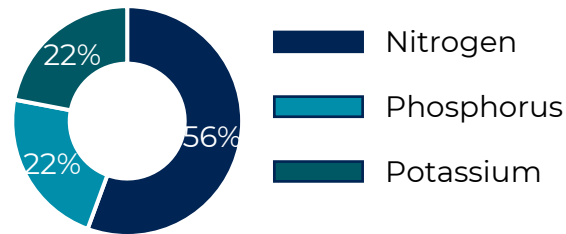


NUTRIENT	CONSUMPTION	PRIMARY BENEFIT	APPLICATION	INDUSTRY STRUCTURE AND PRODUCTION
Nitrogen (N)	56%	<ul style="list-style-type: none"> <li>Increase crop size.</li> <li>Most important and commonly lacking nutrient</li> </ul>	<ul style="list-style-type: none"> <li>Annual application critical</li> </ul>	<ul style="list-style-type: none"> <li>Fragmented industry</li> <li>Nitrogen fertilisers production requires <b>significant amount of natural gas</b></li> </ul>
Phosphorus (P <sub>2</sub> O <sub>5</sub> )	24%	<ul style="list-style-type: none"> <li>Improve crop quality</li> <li>For fruit and flowers</li> </ul>	<ul style="list-style-type: none"> <li>Application can be varied</li> </ul>	<ul style="list-style-type: none"> <li>Fewer suppliers, concentrated market</li> <li><b>China</b> produces more than 1/3 of the world's phosphorus, followed by the <b>USA, India, Morocco, and Russia</b>, respectively.</li> </ul>
Potassium (K <sub>2</sub> O)	21%	<ul style="list-style-type: none"> <li>Improve crop quality</li> <li>For strong roots</li> </ul>	<ul style="list-style-type: none"> <li>Application can be varied</li> </ul>	<ul style="list-style-type: none"> <li>Fewer suppliers, concentrated market</li> <li>Potassium production is the most concentrated. <b>2/3</b> of all potassium reserves are supplied by only 3 countries: <b>Canada, Russia, and Belarus</b>.</li> </ul>
<b>Total 195 mln t nutrients</b>				

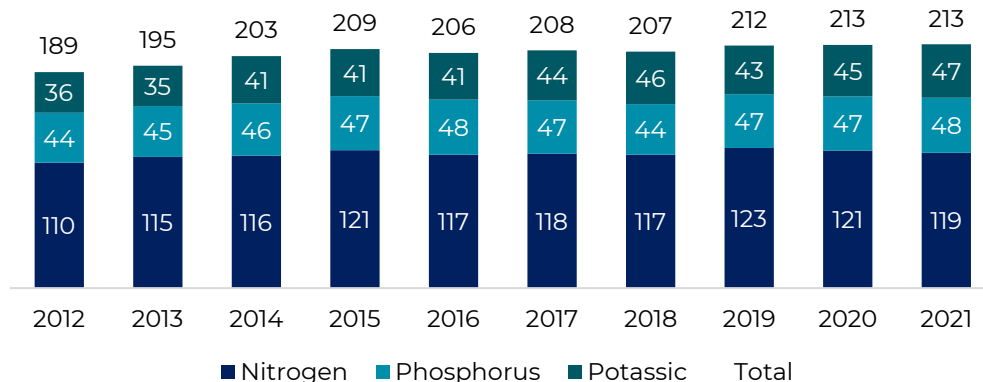
Source: *Fertilizer Industry Handbook 2022 (yara.com), USDA Foreign Agricultural Services report, 2022*

# FERTILISERS GLOBAL SUPPLY & DEMAND BALANCE

- Overall, global production of fertilisers (213 million tonnes in 2021) **exceeds the demand** in total and by each nutrient (nitrogen, phosphorus, potassium).
- In terms of nutrients, global production and consumption are dominated by nitrogen, followed by phosphorus and potassium.

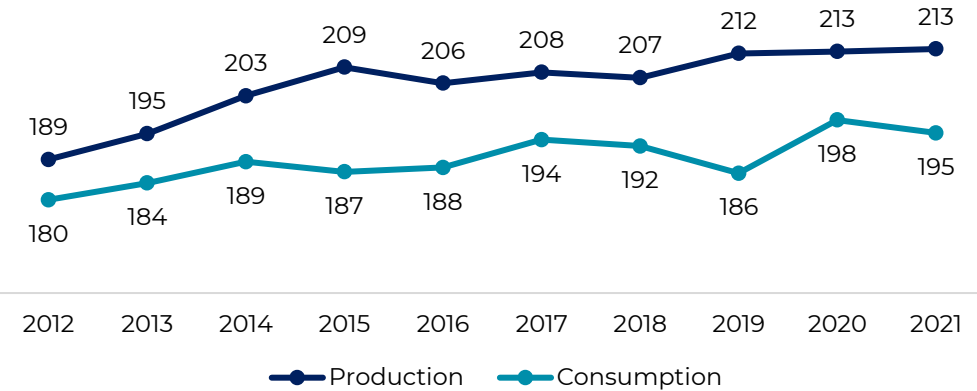


**FERTILISERS GLOBAL PRODUCTION STRUCTURE**  
(mln tonnes)



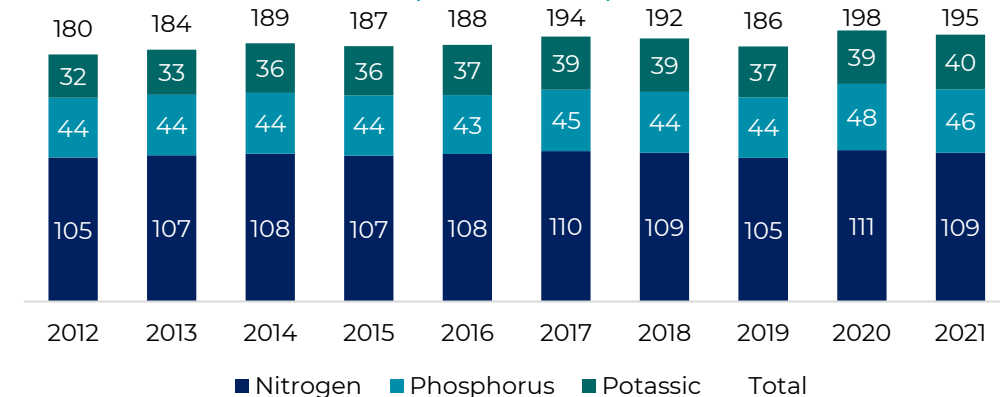
Source: FAOSTAT

**GLOBAL PRODUCTION AND CONSUMPTION OF FERTILISERS**  
(mln tonnes)



Source: FAOSTAT

**FERTILISERS GLOBAL CONSUMPTION STRUCTURE**  
(mln tonnes)

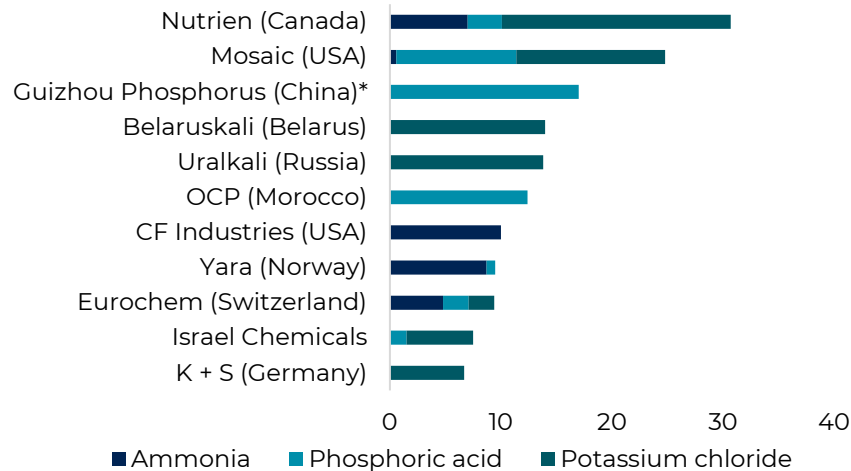


Source: FAOSTAT

# MAJOR GLOBAL PRODUCERS

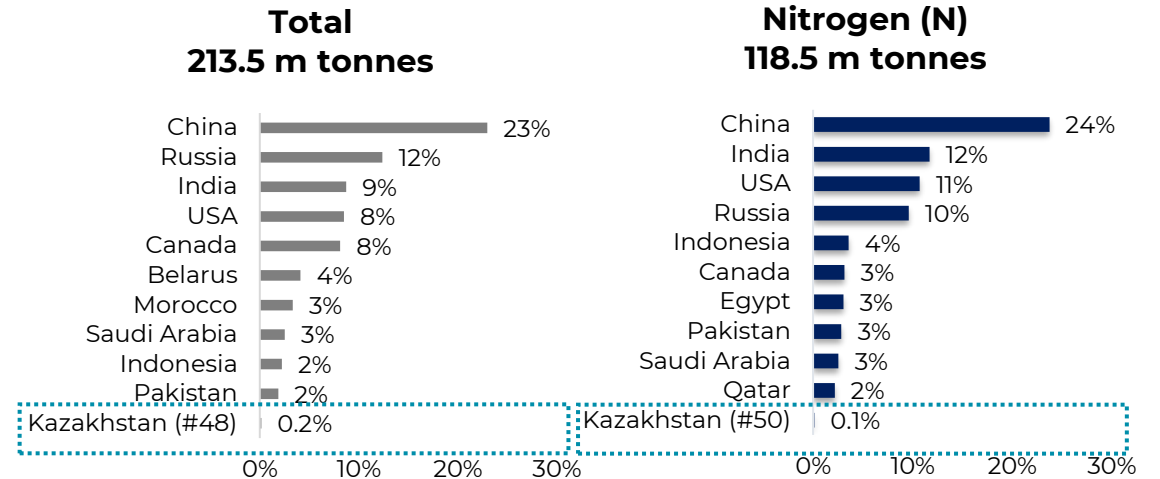
- In real terms, **China** is the largest fertiliser producer country in the world, followed by Russia, India, the USA, and Canada. Combined fertiliser production of these countries stood at around **128 million tonnes** in 2021.
- China, India, the USA, and Russia account for **57%** of global production of **nitrogenous** fertilisers.
- Production of **phosphorus** fertilisers is concentrated in China, the USA, India, Morocco, and Russia with **73%** of global supply.
- Production of **potassium** fertilisers is concentrated in Canada, Russia, and Belarus with around **68%** of global supply.

## PLANT CAPACITY OF SELECT LEADING CROP NUTRIENT PRODUCERS (mln tonnes, 2020)

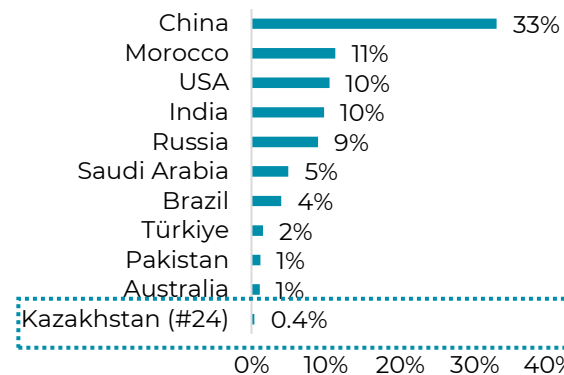


Source:   
 Plant capacity: Statista, \*solenis.com.  
 Note: Ammonia is a group of nitrogen fertilisers

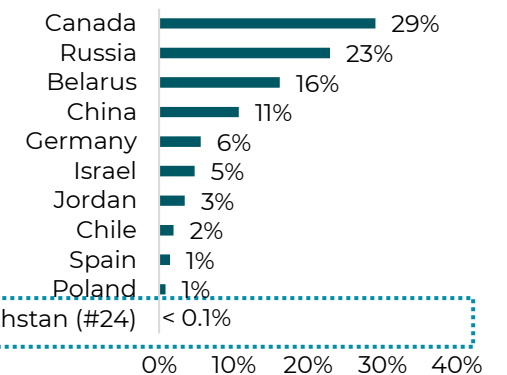
## TOP-10 GLOBAL PRODUCERS OF FERTILISERS (tonnes, 2021)



## Phosphorus (P) 48.3 m tonnes



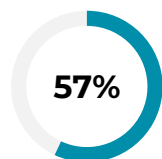
## Potassium (K) 46.6 m tonnes



Source: FAOSTAT

# MAJOR GLOBAL CONSUMERS

- **China is the largest user** of fertiliser, using nearly one-quarter of global fertiliser supplies.
- **India**, another large fertiliser producer, is the second largest user. Much of India's usage is fueled by the Indian Government's heavy subsidization of fertilisers.
- The United States accounts for **10% of global fertiliser usage** with most of it being used in grains and oilseed production.
- China is the largest consumer of fertiliser on a per hectare basis, consuming more than **320 kilograms**. Brazil is the second largest user, consuming **298 kilograms** per hectare.
- In the context of climate change, global fertiliser consumption is moving towards **highly effective fertilisers**.



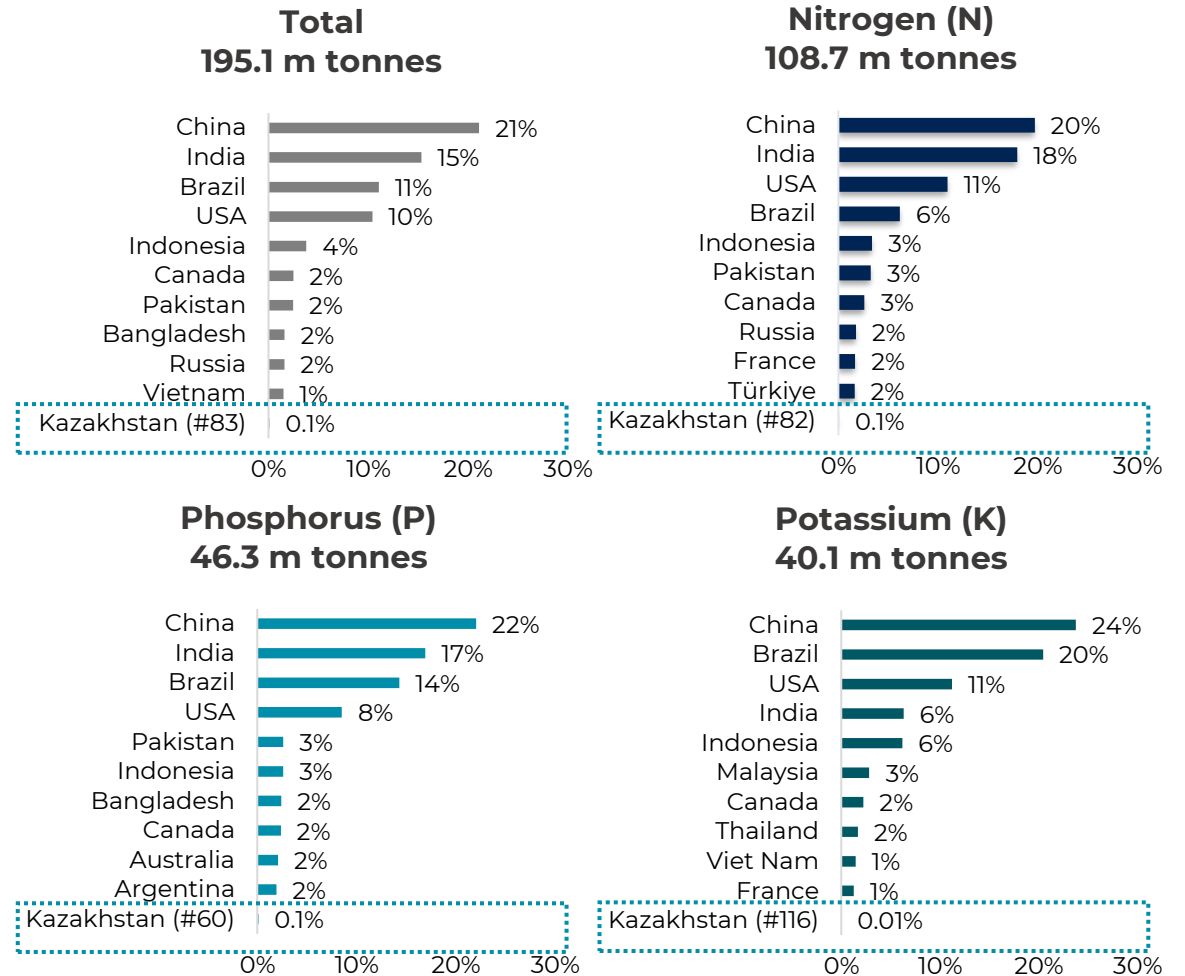
Combined share of China, India, USA, and Brazil in fertiliser usage



China's consumption of fertiliser per hectare

Source: *USDA Foreign Agricultural Services report, 2022*

## SHARES OF COUNTRIES IN GLOBAL CONSUMPTION OF FERTILISERS (tonnes, 2021)



Source: *FAOSTAT*

# EXPORTS AND IMPORTS OF FERTILISERS

## 106.6 m t

Global exports of fertilisers in 2021

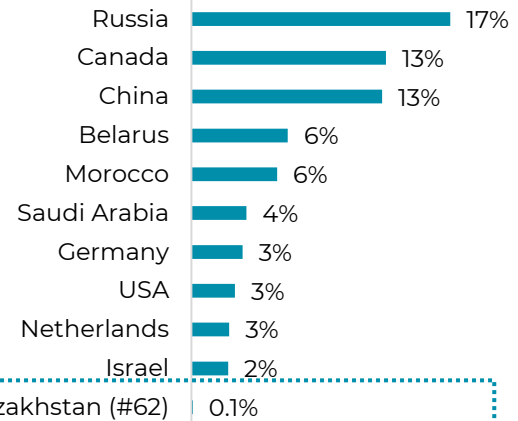
In terms of nutrients, global exports in natural terms are dominated by nitrogen (43%), followed by potassium (36%) and phosphorus (21%).

### Self-sufficient countries:

China, Russia, and the USA domestically produce 97%, 96%, and 84% of their consumption, respectively.

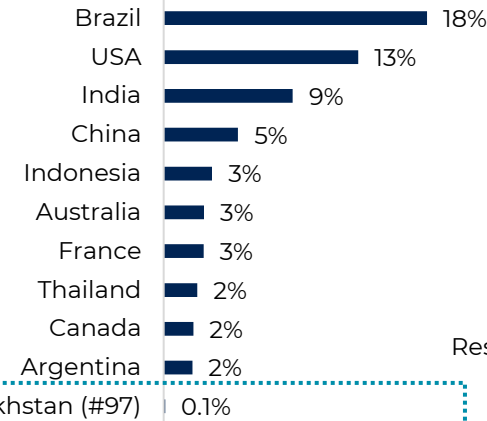
65% of Brazil's (3rd global consumer) consumption is sourced from imports.

## TOP EXPORTERS (tonnes, 2021)

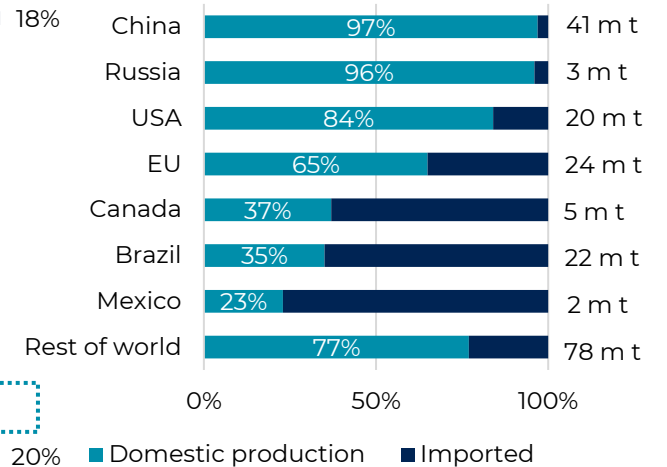


Source: FAOSTAT

## TOP IMPORTERS (tonnes, 2021)

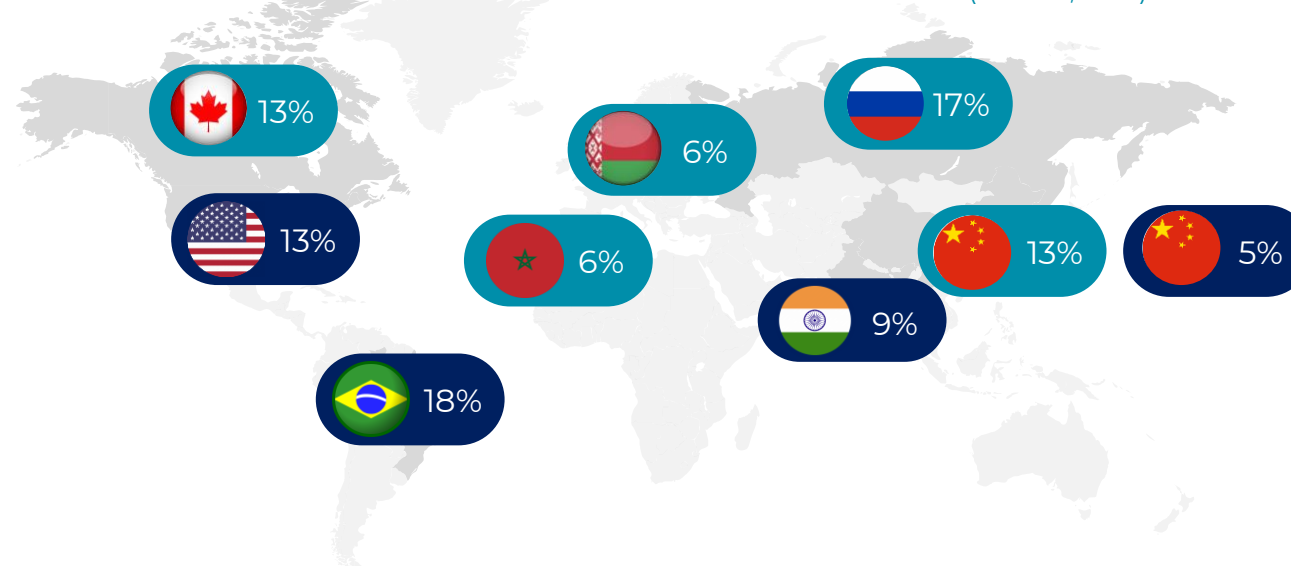


## IMPORT DEPENDENCE (2021)



Source: USDA Foreign Agricultural Services report, 2022

## TOP EXPORTING AND IMPORTING COUNTRIES (tonnes, 2021)



Exports Imports

Source: FAOSTAT

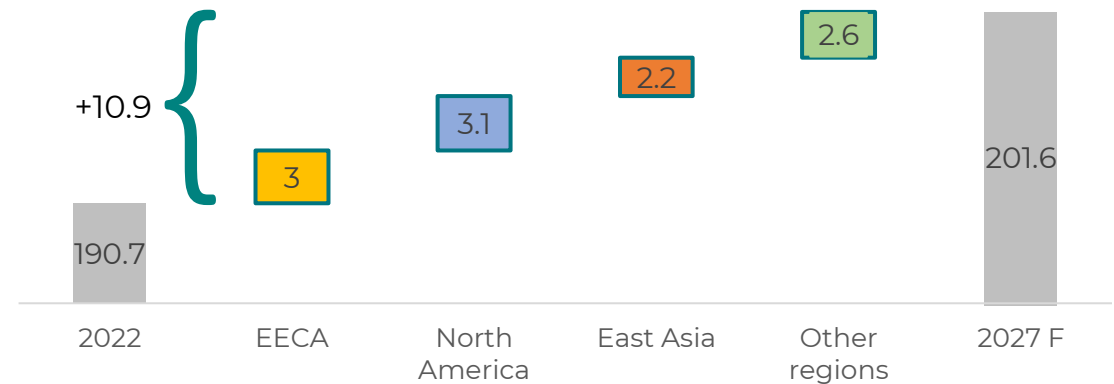
# FORECAST: FERTILISER REGIONAL CAPACITY

**Nitrogen** capacity growth drivers are centered in low-cost regions, such as **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.

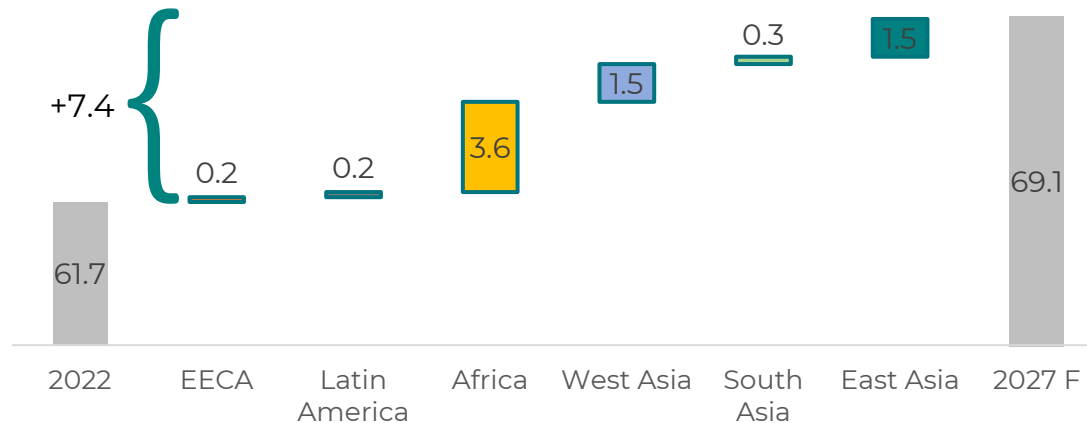
**Phosphorus** capacity growth is forecast to remain in regions with existing production hubs, namely **Africa and West Asia**.

**Potash** capacity growth is forecast to manifest in long-running projects being developed by new entrants, primarily in **Canada and Laos**, as well as existing mine development expected to ramp up in **Russia** in the next five years.

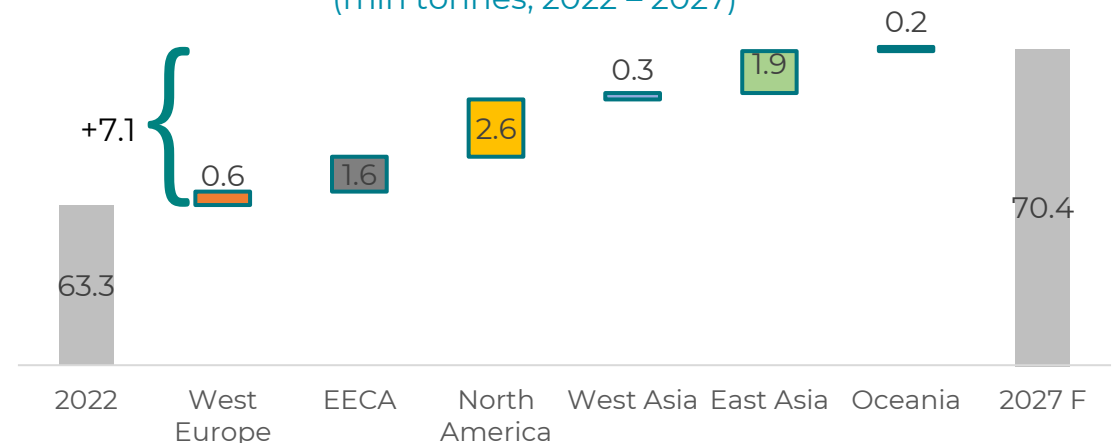
**NITROGEN (N) CAPACITY GROWTH BY REGION**  
(mln tonnes, 2022 – 2027)



**PHOSPHORUS (P) CAPACITY GROWTH BY REGION**  
(mln tonnes, 2022 – 2027)



**POTASSIUM (K) CAPACITY GROWTH BY REGION**  
(mln tonnes, 2022 – 2027)



Source: IFA, Medium-Term Fertilizer Outlook 2023 – 2027



# FORECAST: GLOBAL CAPABILITY AND CONSUMPTION

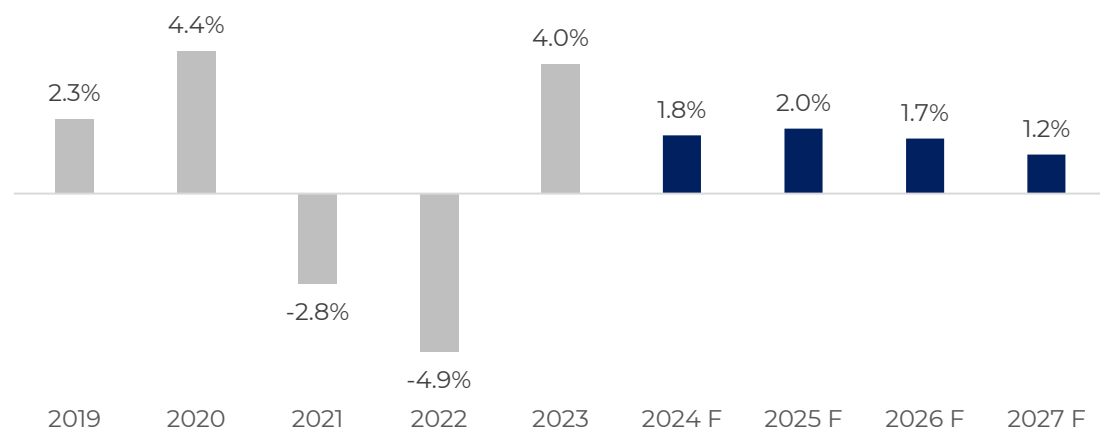
Globally, growth in fertiliser use is expected to slow over the medium-term, from **4% in FY 2023** (partial recovery) to **1.2% in FY 2027**.

**Nitrogen:** The key contributors to this growth will be **Russia**, where a rebound in capability is expected as a result of the continued pivot towards the Baltic Sea.

**Phosphorus:** Depends on the ability of **Belarus** to increase alternative routes to market, assuming that barriers to exporting via **Lithuania** remain in place over the medium-term.

**Potassium:** Driven by capacity expansions by existing producers in **Africa and West Asia**, as well as by a rebound in **Chinese** capability.

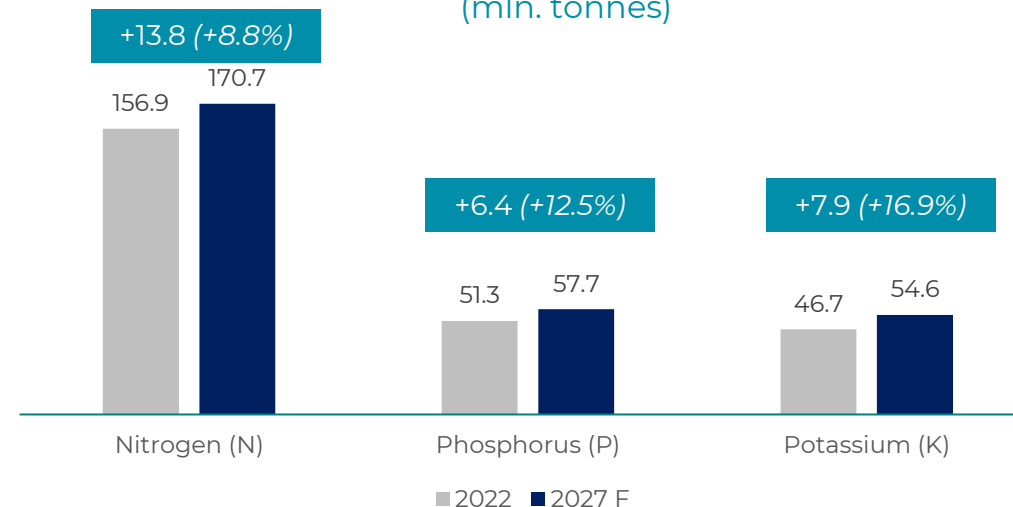
## GLOBAL FERTILISER CONSUMPTION CHANGE (N, P, K)



Source: IFA, Medium-Term Fertilizer Outlook 2023 – 2027

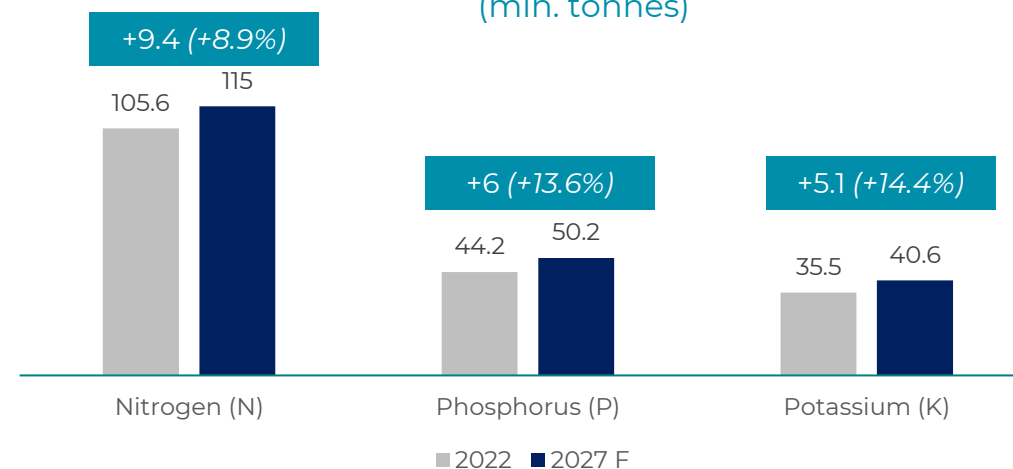
## GLOBAL CAPABILITY FORECAST BY NUTRIENTS

(mln. tonnes)



## GLOBAL CONSUMPTION FORECAST BY NUTRIENTS

(mln. tonnes)

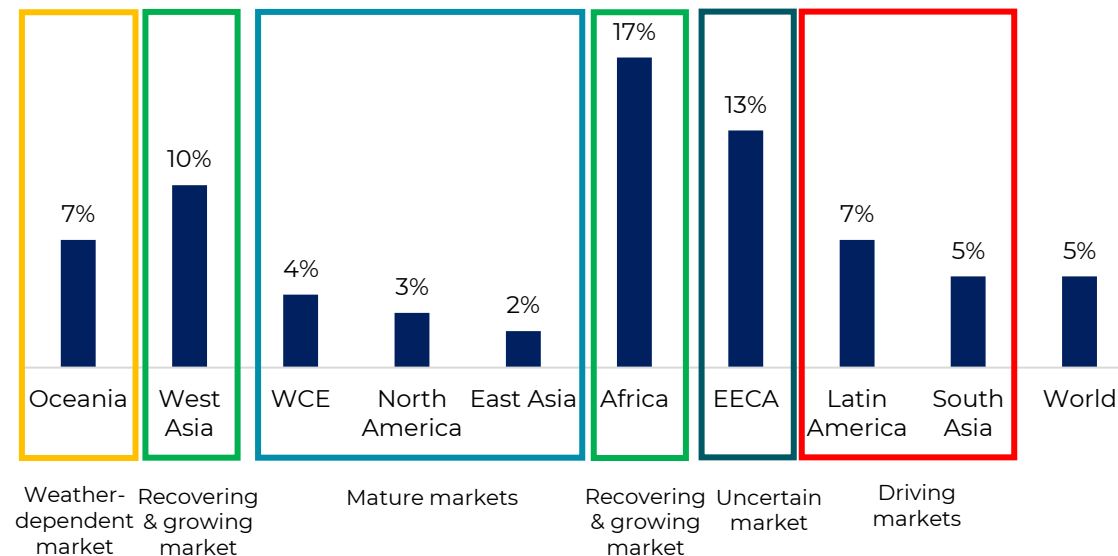


# FORECAST: CONSUMPTION BY REGIONS

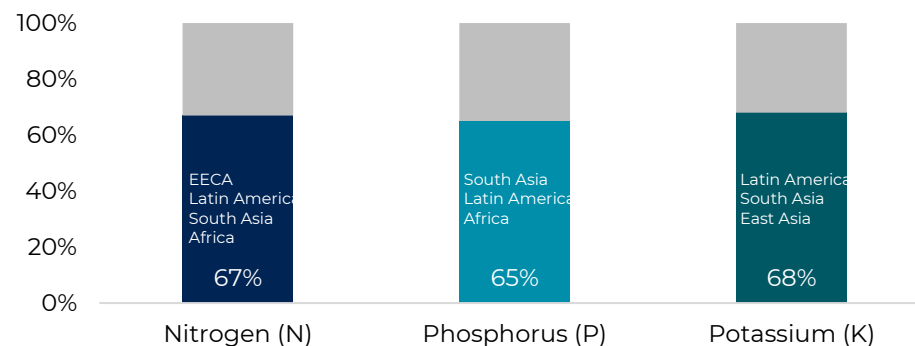
- **South Asia and Latin America are forecast to contribute 40% to the growth** in global fertiliser use between FY 2024 and FY 2027. Other large contributing regions include EECA, Africa and East Asia.
- Between FY 2024 and FY 2027, regional fertiliser markets can be classified in the following types:
  - 1. Driving markets:** South Asia and Latin America, with top contributions and comfortable growth rates (5% to 7%).
  - 2. Mature markets:** East Asia, North America and WCE, with average contributions to global growth and low growth rates (2% to 4%). Fertiliser consumption in East Asia is expected to be driven by countries other than China in this period.
  - 3. Weather-dependent market:** Oceania, which would grow by 7% over the three years.
  - 4. Recovering and growing markets:** Africa (+17%) and West Asia (+10%)
  - 5. Uncertain market:** EECA, which would grow by 13% based on an assumed gradual recovery in agricultural production and fertiliser use.

Source: IFA, *Medium-Term Fertilizer Outlook 2023 – 2027*

## FERTILISER USE GROWTH IN 2024-2027 BY REGION



## REGIONAL CONTRIBUTION TO THE GROWTH BY NUTRIENTS



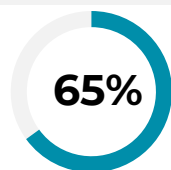
# FERTILISERS: KAZAKHSTAN'S MARKET OVERVIEW



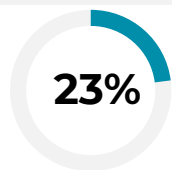
# FERTILISER CONSUMPTION AND STATE SUBSIDIES

## CONSUMPTION TRENDS AND PLANS

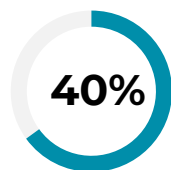
- Fertiliser consumption in Kazakhstan has significantly increased, reaching **313k tonnes in 2021**. However, fertiliser consumption is still low compared to other countries in terms of kg per ha.
- Agricultural sector demands fertilisers that are not produced in Kazakhstan, such as urea, ammonium sulphate, complex (nitrogen-phosphorus-potassium) fertilisers, liquid and microfertilisers.
- Kazakhstan's agricultural complex development concept by 2030 considers the transition to organic farming through the introduction of "green" technology into production, the use of organic fertilisers and biological methods of plant protection.



Share of domestic production in fertiliser consumption



Current consumption as a share of required norm (1.2% for organic fertilisers).



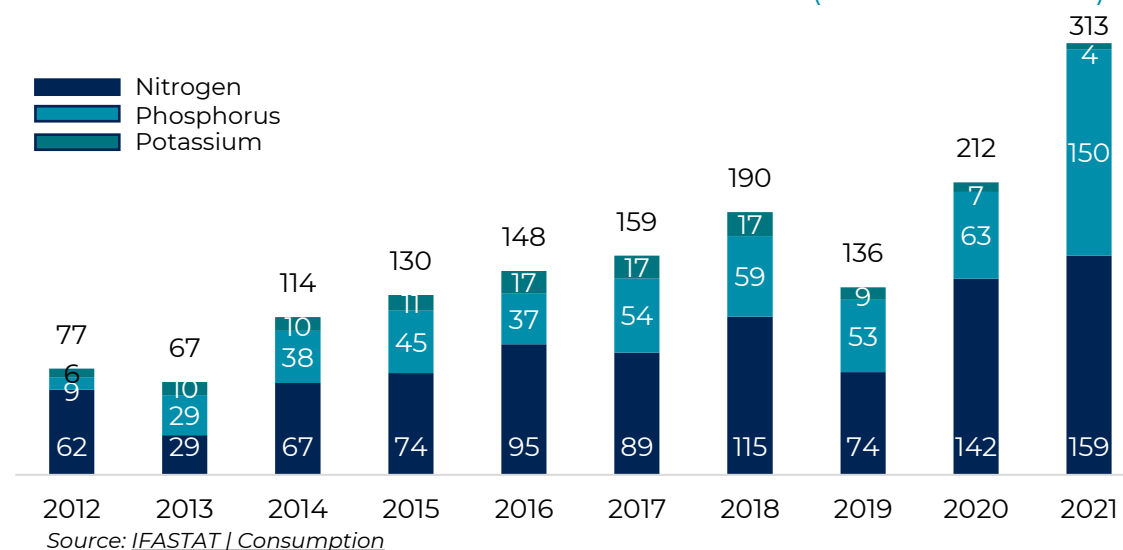
2030 consumption target as a share of norm



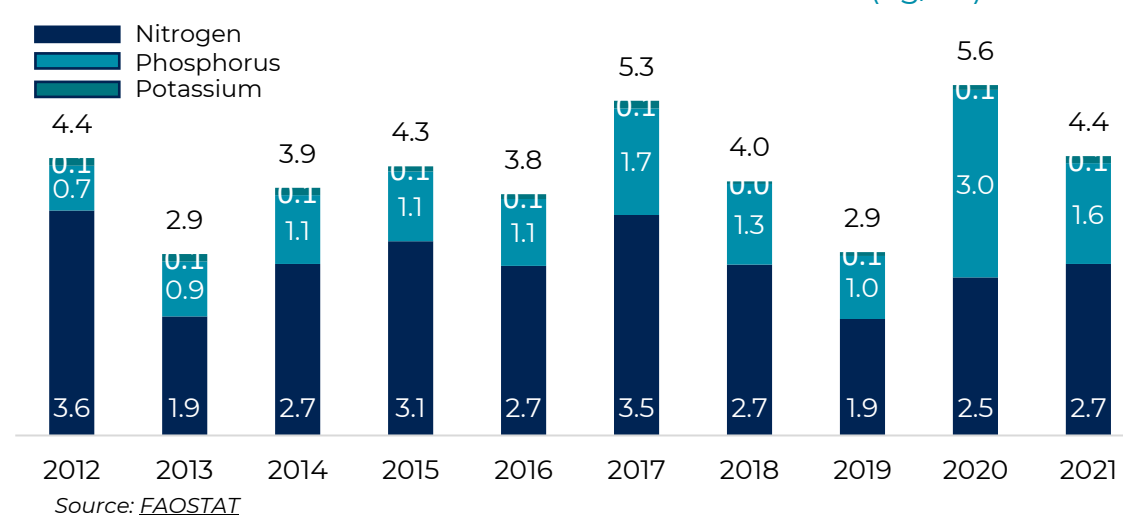
Fertiliser subsidies in 2023

Source: *Kazakhstan's Agro-Industrial Complex Development Concept for 2021–2030, Local budget execution report as of January 2024*

## FERTILISER CONSUMPTION IN KAZAKHSTAN (thousand tonnes)

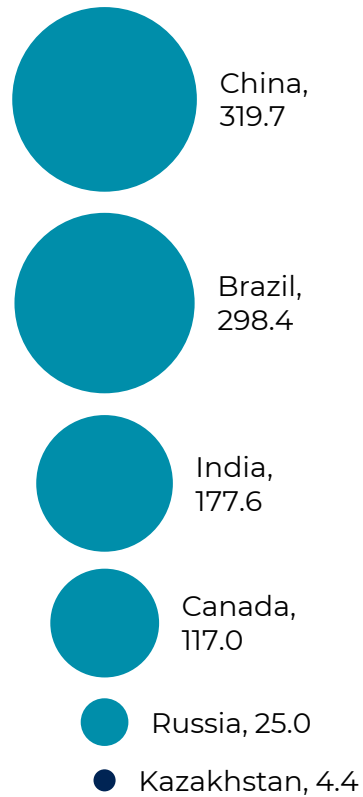


## FERTILISER USE PER AREA OF CROPLAND (kg/ha)



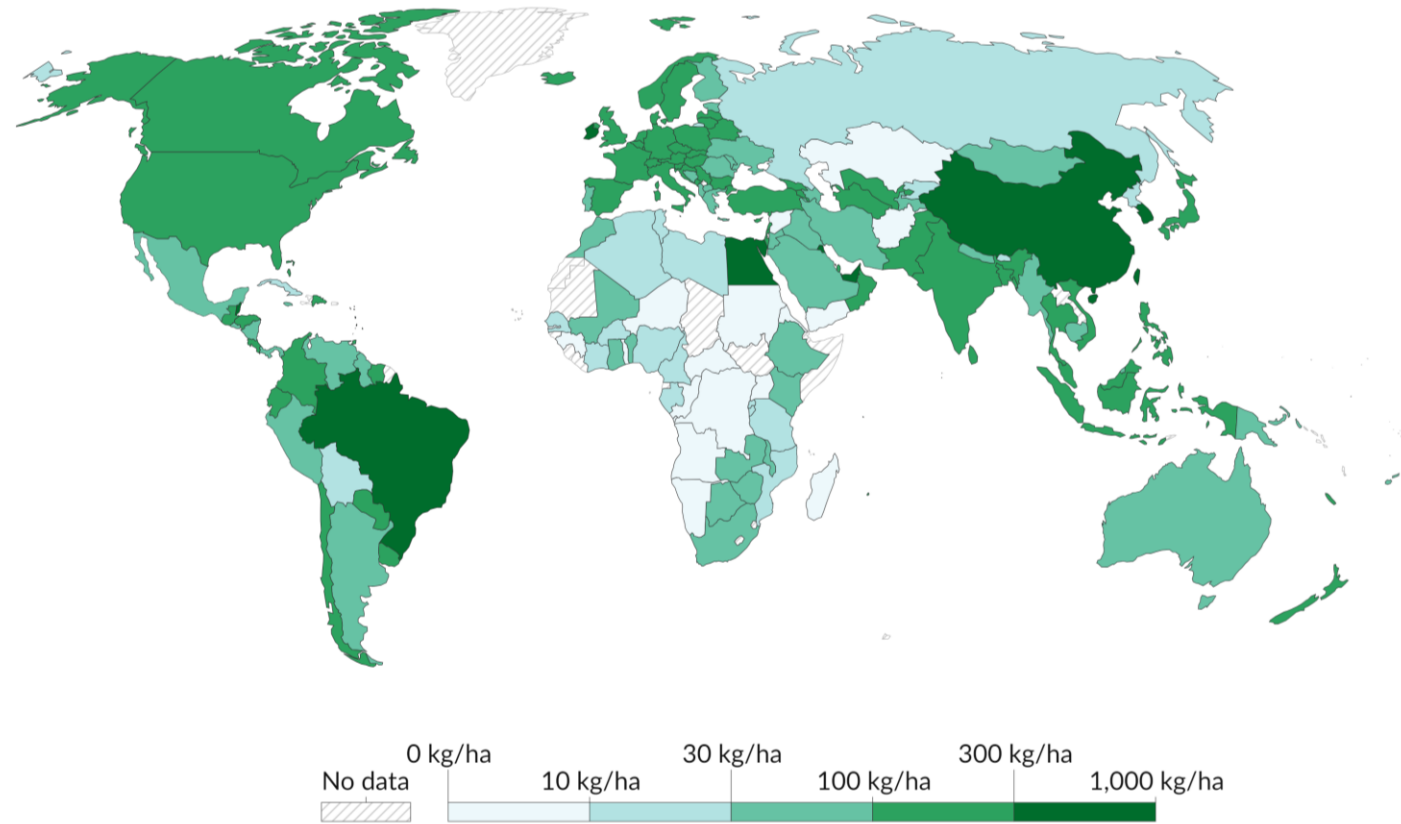
# FERTILISER USE PER HECTARE OF CROPLAND

## COMPARISON OF SELECT COUNTRIES' FERTILISER USE PER HECTARE (kg/ha)



Source: [FAOSTAT](#)

## COUNTRIES' FERTILISER USE PER HECTARE (kg/ha)



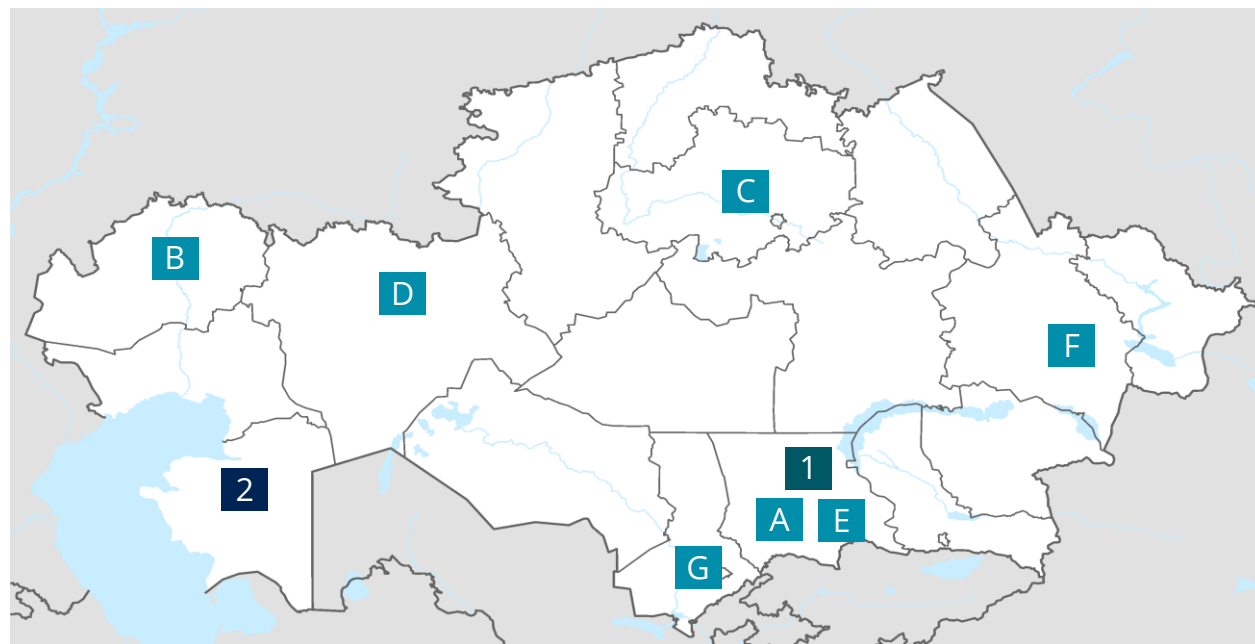
Source: [Fertilizers - Our World in Data](#)

# KAZAKHSTAN'S FERTILISER PRODUCTION & INVESTMENT PROJECTS

- **Kazphosphate** and **KazAzot** (380,711 tonnes in 2021) are the main fertiliser producers in the country with a combined share of 96%.
- Several investment projects are being implemented in Kazakhstan, which should increase fertiliser production in the country.

Source: [www.gov.kz](http://www.gov.kz), [KazAzot](#)

## KAZAKHSTAN'S PRODUCTION OF FERTILISERS (thousand tonnes)



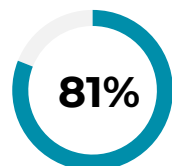
1 Kazphosphate      2 KazAzot

#	Investment project	Investor's country	Region	Project cost, mln KZT
A.	Fertiliser production	Russia (Eurochem)	Jambyl	500 000
B.	Construction of a potassium fertiliser plant at Satimola and Chelkar deposits	Kazakhstan	West Kazakhstan	436 034
C.	Construction of a biogas plant (5 MW/h) with an integrated organic fertilisers production	Kazakhstan	Akmola	22 500
D.	Production of coal made organic fertilisers	United Kingdom	Aktobe	16 344
E.	Mineral fertilisers factory	Kazakhstan	Jambyl	12 450
F.	Construction of a granular fertilisers plant	Kazakhstan	Abai	6 275
G.	Production of mineral, organo-mineral fertilisers	Kazakhstan	Shymkent	500

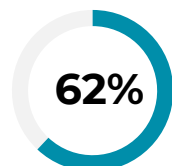
Source: Bureau of National Statistics, [Kazakh Invest](#)

# KAZAKHSTAN'S TRADE BALANCE & STRUCTURE

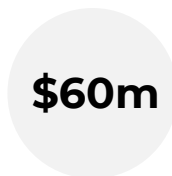
- Since 2019, in dollar terms, Kazakhstan has been experiencing a trade deficit in mineral fertilisers. The trade deficit reached its maximum of around **\$60 million in 2022**.
- Kazakhstan **primarily exports mixed fertilisers** and imports nitrogen fertilisers.
- Kazakhstan also has been exporting potassium fertilisers in some years, and exports of phosphorus fertilisers have been negligible so far.



Share of mixed fertiliser in Kazakhstan's exports in 2022

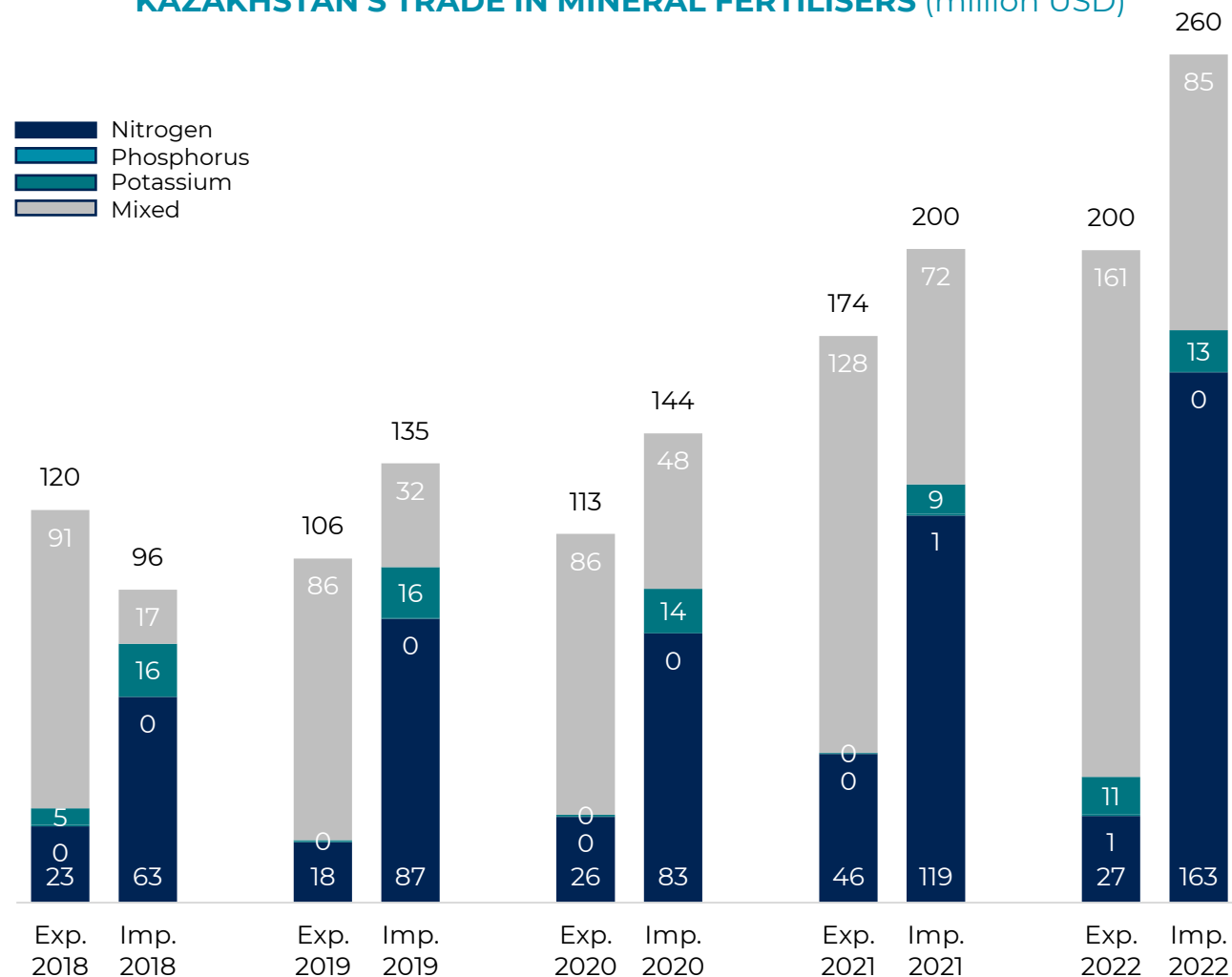


Share of nitrogen fertiliser in Kazakhstan's imports in 2022



Trade deficit in mineral fertilisers in 2022

KAZAKHSTAN'S TRADE IN MINERAL FERTILISERS (million USD)



Source: Bureau of National Statistics

# PESTICIDES: GLOBAL MARKET OVERVIEW

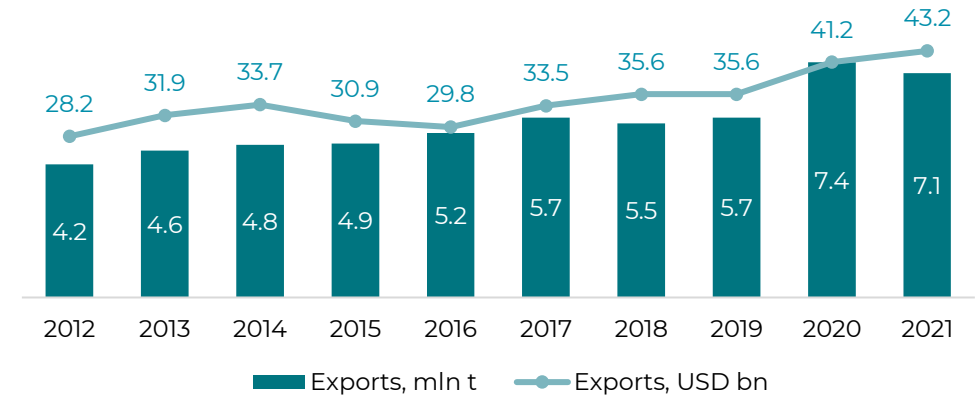




# MAJOR GLOBAL EXPORTERS AND IMPORTERS

- Total **pesticides exports** in 2021 reached **7.1 million tonnes** of formulated products, for a total value of **\$43.2 billion**.
- In 2021, **Asia** had the highest levels of pesticides exports, with **3.7 million tonnes** in formulated products and a value of \$17.3 billion.
- During 2010–2021, the volume of pesticides exports grew by 66%, while their value increased by 91%.
- The **Americas** imported the highest amounts of pesticides in 2021: **2.1 million tonnes** by volume, corresponding to a value of \$7.6 billion.

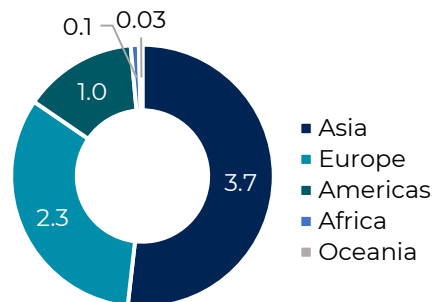
## GLOBAL EXPORTS OF PESTICIDES



Source: FAOSTAT

## EXPORTS BY REGIONS

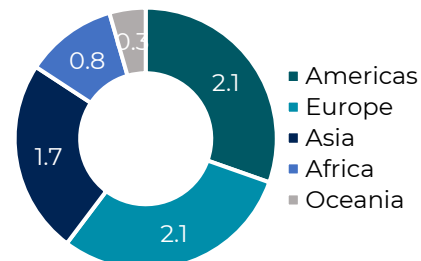
(tonnes, 2021)



Source: FAOSTAT

## IMPORTS BY REGIONS

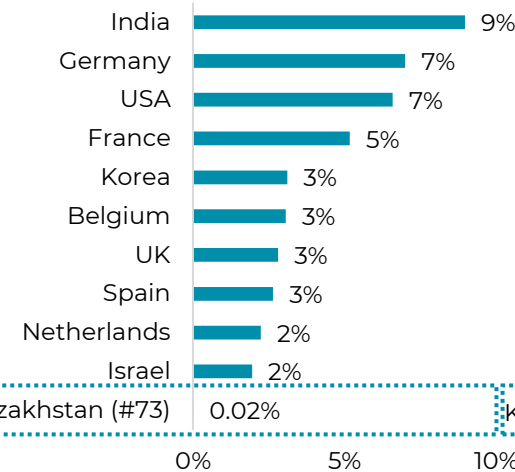
(tonnes, 2021)



**Note:** Non-agricultural uses, the use of adjuvants to increase shelf life and efficacy, and storage of imported pesticides contribute to the **difference between traded pesticides quantities and use in agriculture**.

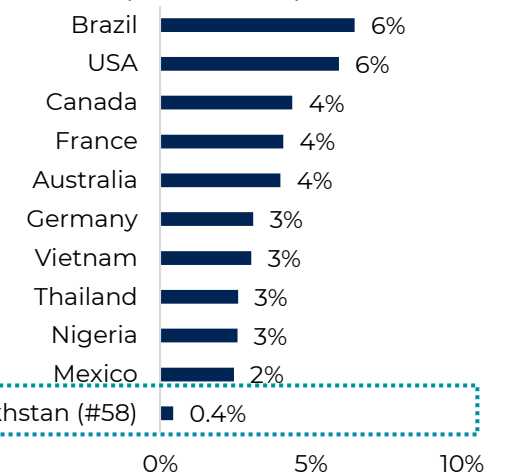
## TOP PESTICIDES EXPORTERS

(tonnes, 2021)



## TOP PESTICIDES IMPORTERS

(tonnes, 2021)



Source: FAOSTAT

# PESTICIDES USE IN AGRICULTURE

3.5 m t

Total pesticides global consumption in agriculture in 2021

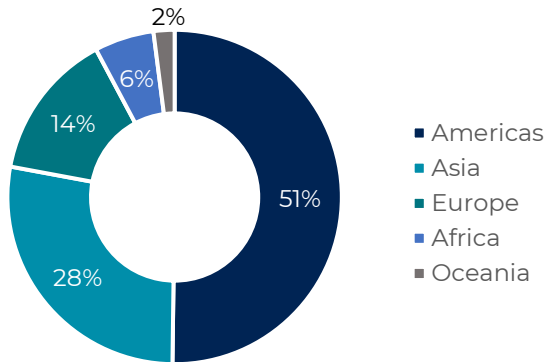
49%

Share of Herbicides in pesticides global consumption

22%

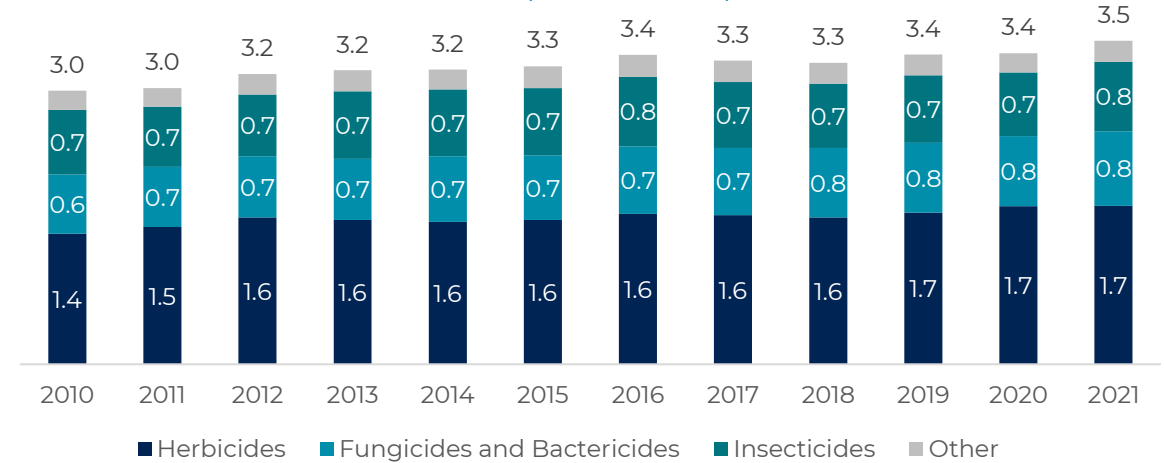
Shares of Fungicides and Insecticides in global consumption

## HALF OF PESTICIDES GLOBAL CONSUMPTION IS CONCENTRATED IN AMERICAS



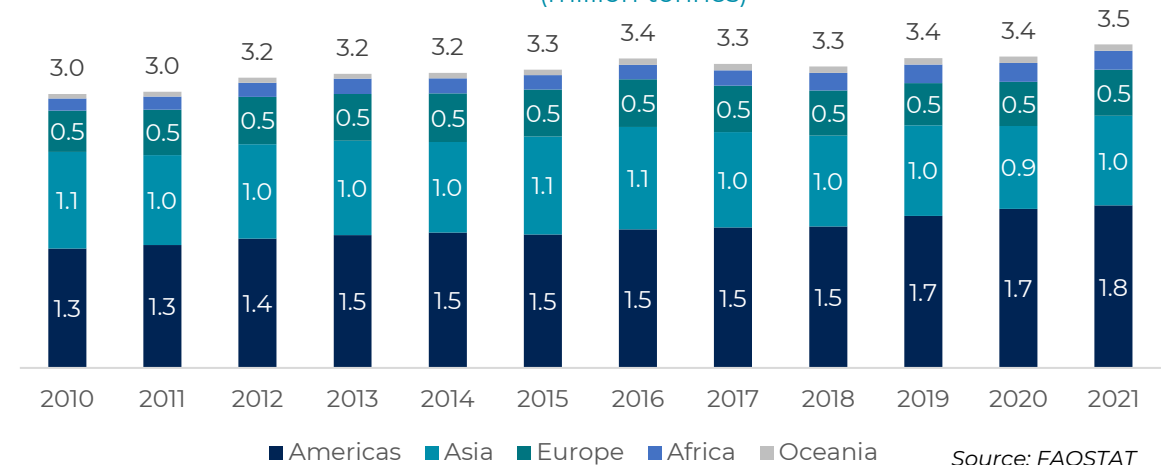
## PESTICIDES GLOBAL CONSUMPTION BY TYPE

(million tonnes)



## PESTICIDES GLOBAL CONSUMPTION BY REGION

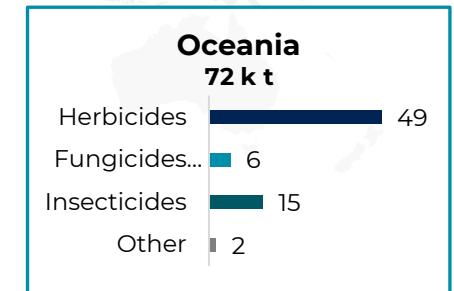
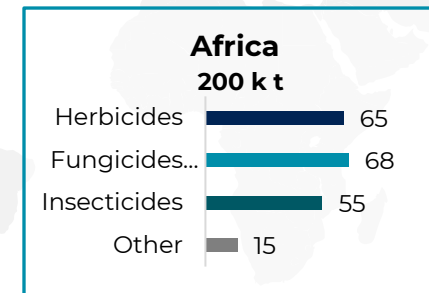
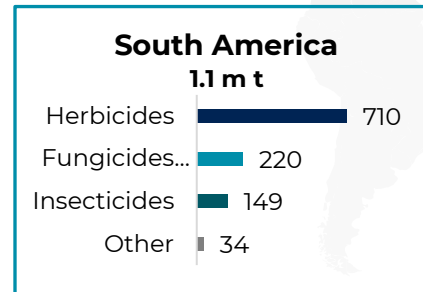
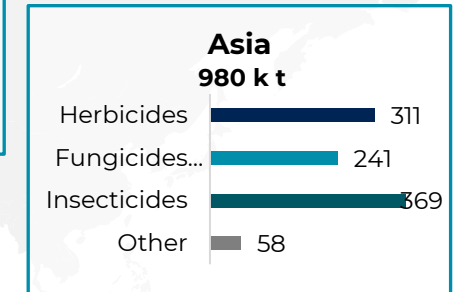
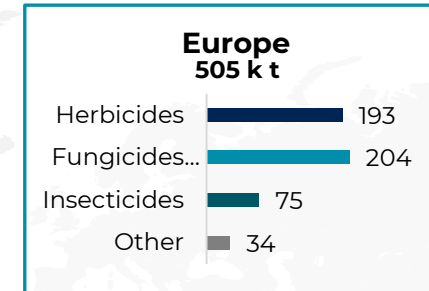
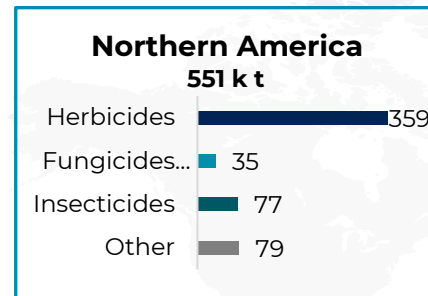
(million tonnes)



Source: FAO/STAT

# PESTICIDES USE IN AGRICULTURE BY REGION & TYPE

- **South America** is the largest user of pesticides among all regions. There, pesticides use in agriculture was **1.1 million tonnes** in 2021 with prevailing share of herbicides 64%.
- The second largest consumer, **Asia**, used **0.9 million tonnes** of pesticides in agriculture in 2021 with the highest share of insecticides (37%) in consumption.
- **North America and Europe** had the **lowest proportions of insecticides** use (14-15 %), most likely due to more strict policies.
- **Africa** uses low levels of pesticides, contributing only **6%** to the global total in 2021. Most of Africa's pesticides imports come from countries outside the region, and the majority of exported pesticides remain in the region.

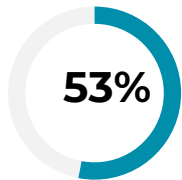


Source: *Pesticides use and trade 1990-2021 (fao.org)*

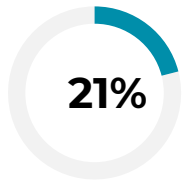
Source: *FAOSTAT*

# PESTICIDES USE IN AGRICULTURE BY COUNTRIES

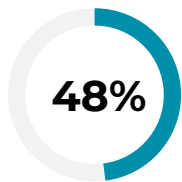
- **Brazil** was the world's largest user of pesticides in 2021, with **720k tonnes** of pesticides applications for agricultural use. This was close to 60% higher than the **USA** (457k tonnes), the second largest user.
- The next three largest users – **Indonesia** (283k tonnes), **China** (245k tonnes), **Argentina** (242k tonnes) – all had similar applications levels.



53% Share of top-3 consumers of herbicides: Brazil, USA, and Argentina



21% Brazil leads in global consumption of fungicides and bactericides

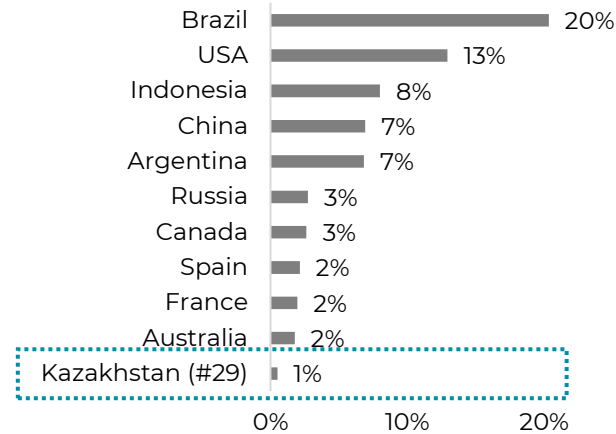


48% Share of insecticides top-3 consumers: Indonesia, Brazil, and USA

Source: FAOSTAT

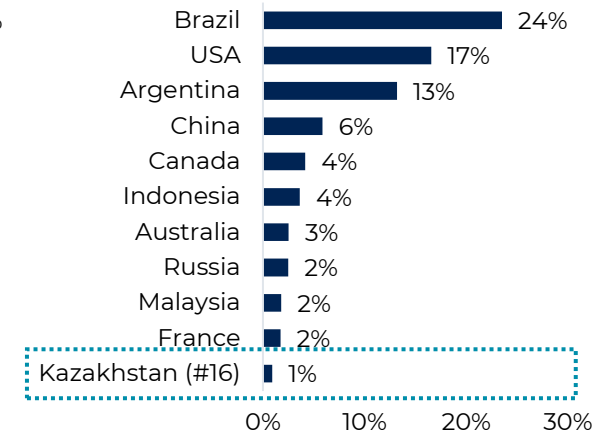
## TOTAL CONSUMPTION

3.5m tonnes



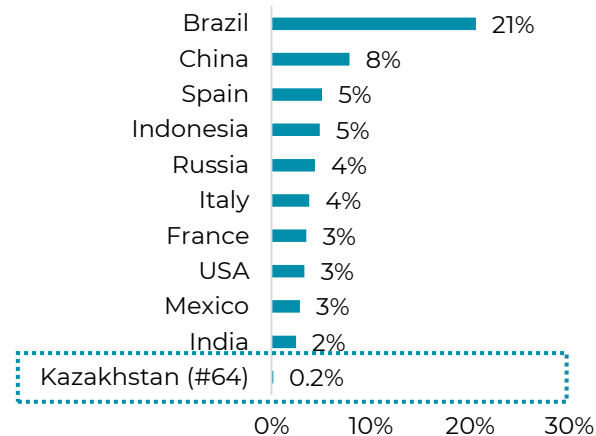
## HERBICIDES

1.7m tonnes



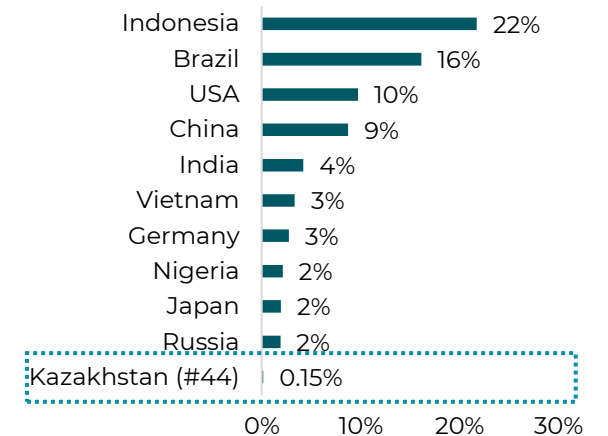
## FUNGICIDES & BACTERICIDES

0.8m tonnes



## INSECTICIDES

0.8m tonnes



# PESTICIDES: KAZAKHSTAN'S MARKET OVERVIEW



# PESTICIDES CONSUMPTION AND STATE SUBSIDIES

- Pesticides consumption in Kazakhstan has been growing over the last years and reached its peak of **18.3k tonnes** in 2021.
- Kazakhstan primarily consumes **herbicides**, followed by fungicides and bactericides and insecticides.



Share of herbicides in total pesticides consumption in Kazakhstan



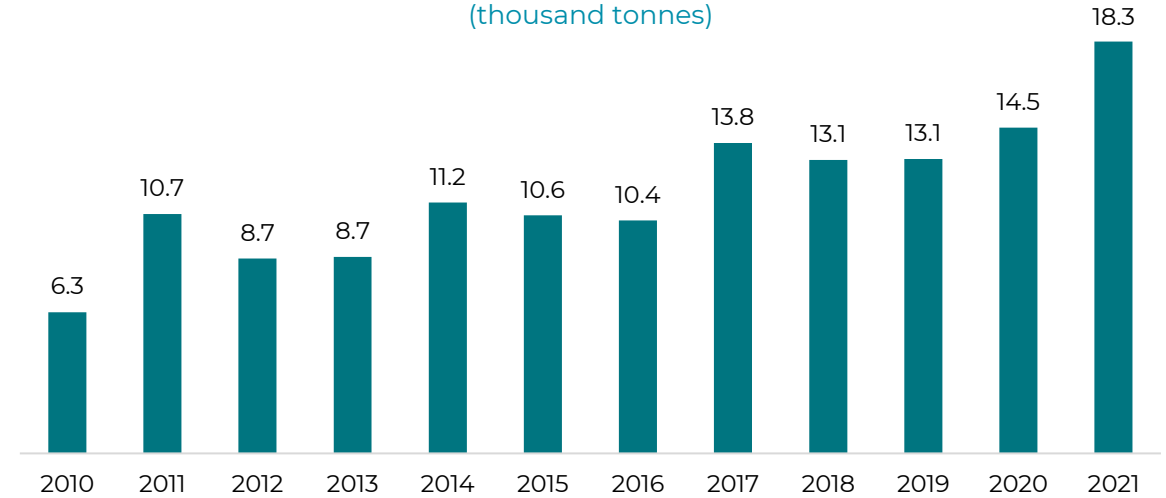
Growth of pesticides consumption in Kazakhstan from 2010 to 2021



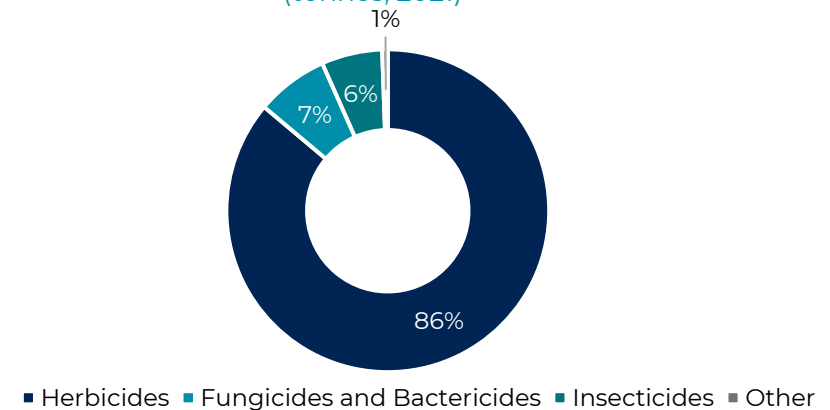
State subsidies for pesticides in 2023

Source: *Local budget execution report as of January 2024*

**PESTICIDES CONSUMPTION IN KAZAKHSTAN**  
(thousand tonnes)



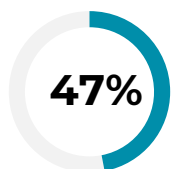
**PESTICIDES CONSUMPTION BY TYPES**  
(tonnes, 2021)



Source: *FAOSTAT*

# KAZAKHSTAN'S TRADE BALANCE

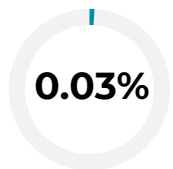
- Kazakhstan is a **net importer of pesticides** – both in real and dollar terms.
- Trade deficit in pesticides in 2022 stood at around **\$32 million**.
- Kazakhstan mostly exports to Kyrgyzstan and Russia, and imports from Russia, China, Germany, and France.



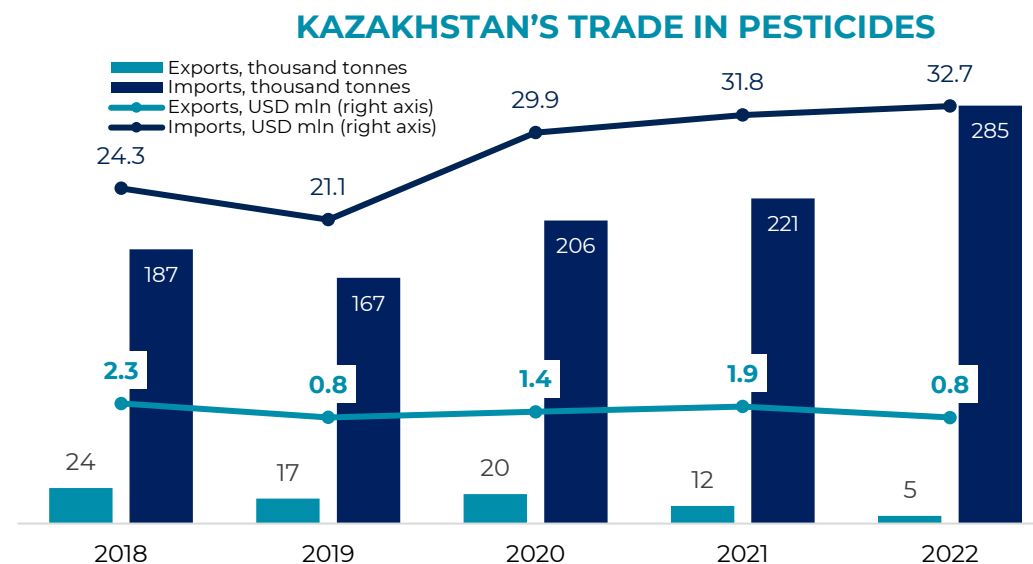
Share of Russia in Kazakhstan's imports (2022)



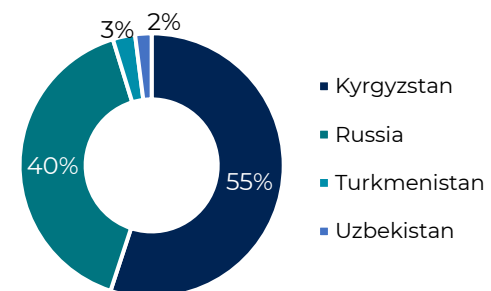
Decrease in pesticides exports of Kazakhstan since 2018 in real terms



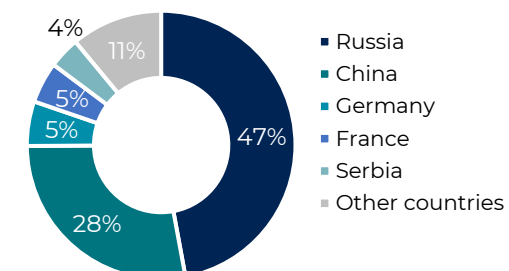
Share of Kazakhstan in global exports of pesticides (2021)



### KAZAKHSTAN'S EXPORTS (2022)



### KAZAKHSTAN'S IMPORTS (2022)



Source: Bureau of National Statistics of Kazakhstan

# ANNEX 1. ECONOMIC COMPLEXITY INDEX





# THE ECONOMIC COMPLEXITY INDEX OF HARVARD GROWTH LAB

1

## RCA (Revealed Comparative Advantage)

a place-product measure that captures the relative prevalence of a product in a country/region and is usually calculated as the ratio between the proportion of the product in the export basket of a country/region and the proportion of the product in world trade

**RCA  $\geq 1$**

the macro region is globally competitive in the product, comprising proportional or higher shares of its export basket than the average country

### Intensive margin group

existing competitive exports that can be further scaled up

**RCA  $< 1$**

while the macro region might export some of the product, it is not yet globally competitive in it and exports less of it than the average country in share of the macro region's total exports

### Extensive margin group

new or nascent products that may be feasible



2

Products in each group are evaluated along several dimensions of feasibility and attractiveness

#### The attractiveness factors:

- Product Complexity Index (PCI)
- Resilience to commodity shocks
- Size of the total addressable markets
- Complexity Outlook Gain (COG) (only for extensive margin products)

#### The feasibility factors:

- Resistance to remoteness
- Existing presence (only for extensive margin products)
- Density, i.e., the relatedness with existing exports (only for extensive margin products)

Factor values are normalized using a standard z-score normalization. For each factor, the resulting product scores follow a normal distribution with a mean score of 0.



3

The overall product score is calculated as the sum (equal weighting) of the composite attractiveness and feasibility scores.

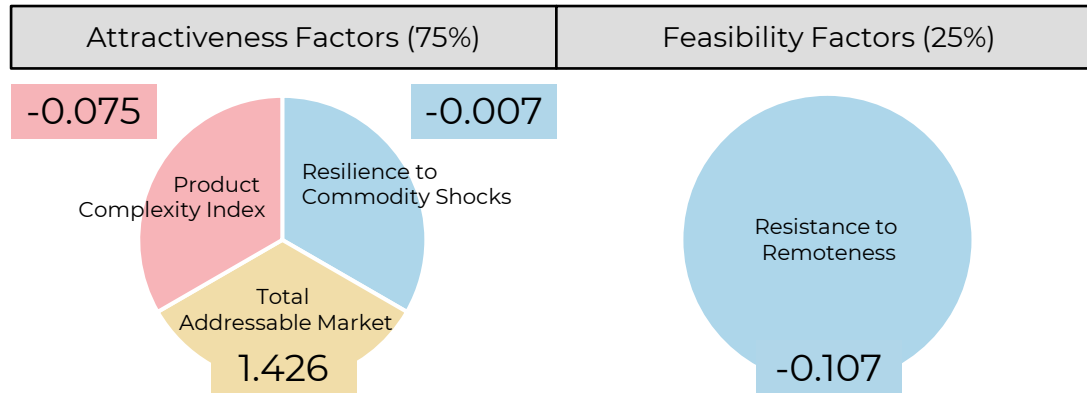
Source: Economic Complexity Report: Sustainable and Inclusive Growth in Kazakhstan. Harvard Growth Lab, 2022

# RESULTS OF THE ECONOMIC COMPLEXITY INDEX REPORT OF HARVARD GROWTH LAB

## MIXED FERTILISERS (HS 3105)

(Intensive margin group)

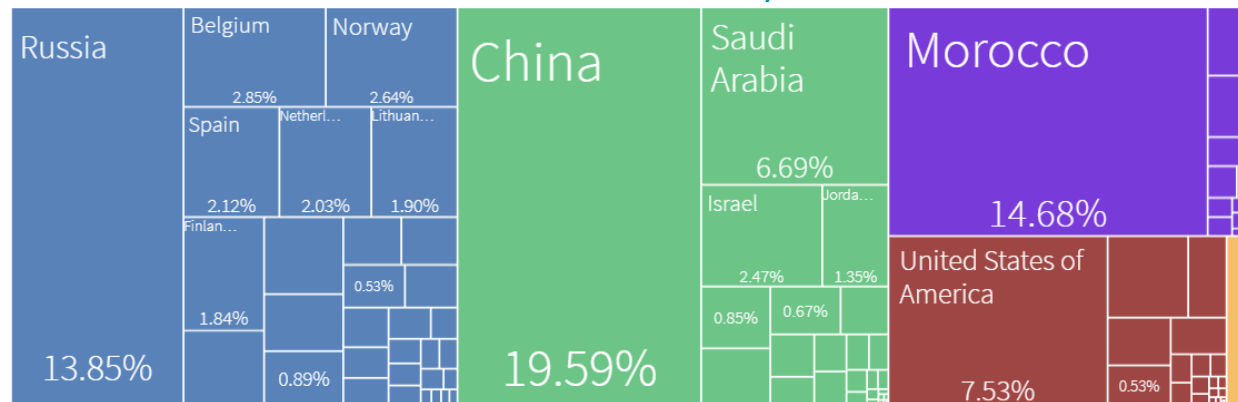
0.310



### HS codes:

- 310510 Goods presented in tablets and other similar forms, the gross weight of which does not exceed 10 kg
- 310520 Mineral or chemical fertilisers containing three nutrients - nitrogen, phosphorus and potassium
- 310530 Diammonium hydrogen phosphate (diammonium phosphate)
- 310540 Ammonium hydrogen phosphate (monoammonium phosphate) and its mixtures ammonium hydrogen phosphate (diammonium phosphate)
- 310551 Fertilisers containing nitrates and phosphates
- 310559 Other mineral or chemical fertilisers containing two nutrients: nitrogen and phosphorus**
- 310560 Mineral or chemical fertilisers containing two nutrients - phosphorus and potassium
- 310590 Other mineral or chemical fertilisers

### TOP GLOBAL EXPORTERS, 2021



**Kazakhstan 0.46%**

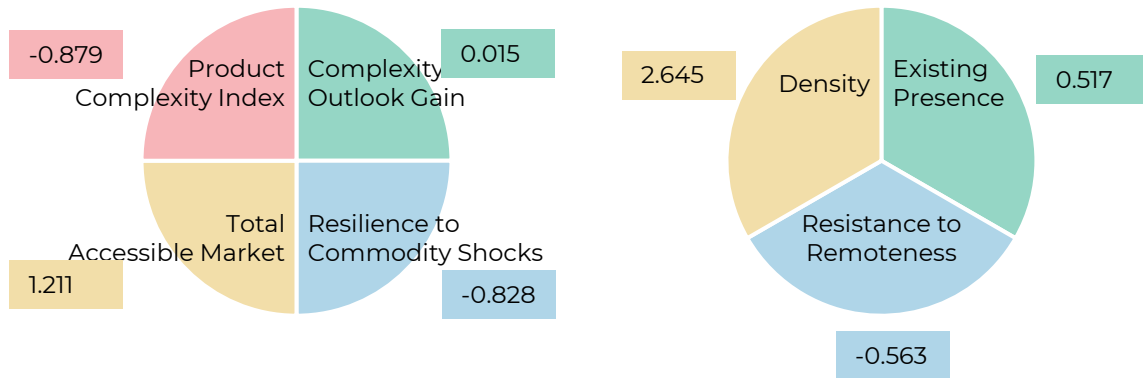
Sources: *Industry Targeting Dashboard, Atlas of Economic Complexity*

# RESULTS OF THE ECONOMIC COMPLEXITY INDEX REPORT OF HARVARD GROWTH LAB

## NITROGEN FERTILISERS (HS 3102)

(Extensive margin group)

1.296



### HS codes:

310210 Urea

310221 Ammonium sulfate

**310230 Ammonium nitrate**

310240 Mixtures of ammonium nitrate and calcium carbonate

310250 Sodium nitrate

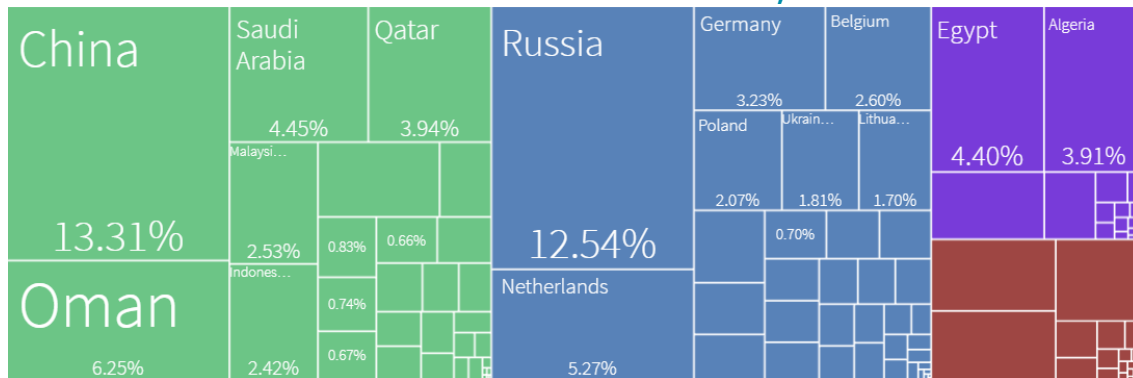
310260 Salts and mixtures of calcium nitrate and ammonium nitrate

310280 Mixtures of urea and ammonium nitrate

310290 Other

Note: Bold = the highest share of exports

### TOP GLOBAL EXPORTERS, 2021



**Kazakhstan 0.12%**

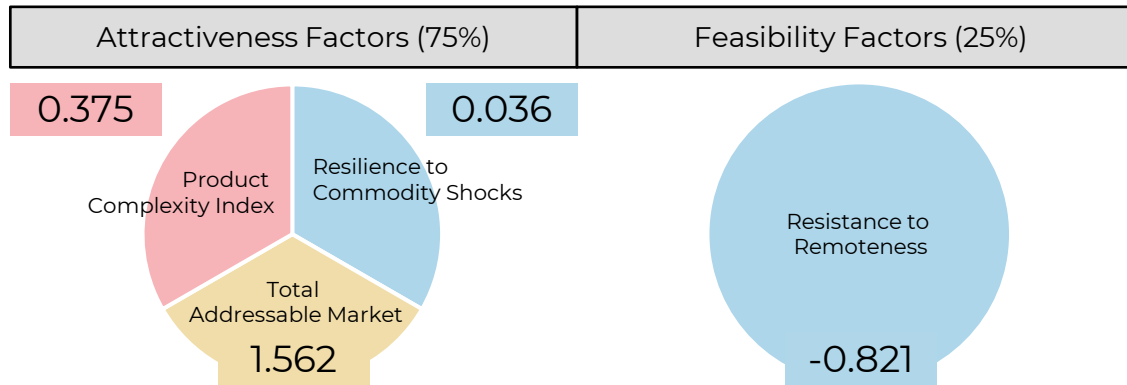
Sources: *Industry Targeting Dashboard, Atlas of Economic Complexity*

# RESULTS OF THE ECONOMIC COMPLEXITY INDEX REPORT OF HARVARD GROWTH LAB

## PESTICIDES (HS 3808)

(Intensive margin group)

0.288



### HS codes:

**380891 Insecticides**

380892 Fungicides

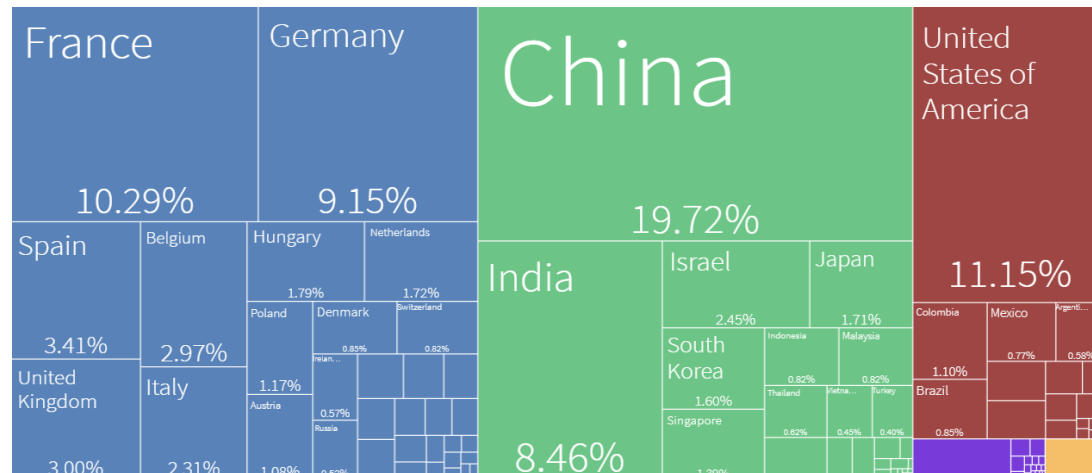
**380893 Herbicides**

**380894 Disinfectants**

380899 Rodenticides

Note: Bold = the highest share in Kazakhstan exports

### TOP GLOBAL EXPORTERS, 2021



**Kazakhstan 0.03%**

Sources: Industry Targeting Dashboard, Atlas of Economic Complexity

# ANNEX 2. EXPORTERS OF KAZAKHSTAN



# FERTILISER EXPORTERS OF KAZAKHSTAN

#	ENTERPRISE SIZE	COMPANY NAME	REGION	FERTILISER EXPORTS			
				NITROGENOUS (HS 3102)	PHOSPHATIC (HS 3103)	POTASSIC (HS 3104)	MIXED (HS 3105)
1	L	<b>"Kazazot" JSC</b>	<b>Mangystau region</b>	✓			
2	L	"TALAS INVESTMENT COMPANY" LLP	Zhambyl region	✓			
3	M	"PROMVZRYV" LLP	Almaty	✓			
4	S	"Bagashar meken" LLP	Almaty	✓			
5	S	"KOSAGROKOMMERTS" LLP	Almaty region	✓			✓
6	S	"SWISSGROW" LLP	Astana	✓	✓	✓	✓
7	S	"Natural Plast" LLP	Zhambyl region	✓			
8	S	"CEMEX ENGINEERING" LLP	Almaty	✓			
9	S	«AGROMINERALSTRADING» LLP	Almaty	✓			
10	S	"KAZ PARTS GROUP" LLP	Shymkent	✓			
11	S	"NITROTECH" LLP	Karaganda region	✓			
12	S	"BRAVO COMMODITIES" LLP	Astana	✓			
13	S	"RASSVET-V.R." LLP	Karaganda region	✓			
14	S	«MINERAL-AGRO» LLP	North-Kazakhstan region	✓			
15	S	"DRY FOAM CONCRETE MIXTURES PLANT" LLP	North-Kazakhstan region	✓			✓
16	S	"FLEXOL" LLP	North-Kazakhstan region	✓			
17	S	"FOSAGROSTANDART" LLP	North-Kazakhstan region	✓			
18	L	"EUROCHEM-KARATAU" LLP	Almaty		✓		
19	L	<b>"KAZPHOSPHATE" LLP</b>	<b>Almaty</b>		✓		✓
20	S	"TEMIR-SERVICE" LLP	Aktobe region		✓		
21	M	"SUMMIT ATOM RARE EARTH COMPANY" LLP	Akmola region				✓
22	S	"KAZAGROCEN" LLP	Almaty region				✓
23	S	"NPO "ANA ZHER" LLP	Almaty				✓
24	S	"ECOSAVE" LLP	Akmola region				✓
25	S	"AGROPERSPECTIVA"	Akmola region				✓

Source: *Development Bank of Kazakhstan*

# PESTICIDES EXPORTERS OF KAZAKHSTAN

	ENTERPRISE SIZE	COMPANY NAME	REGION	EXPORTS			
				INSECTICIDES (HS 380891)	FUNGICIDES (HS 380892)	HERBICIDES (HS 380893)	DISINFECTANTS (HS 380894)
1	M	<a href="#">"Astana - Nan" LLP</a>	Akmola region	✓	✓	✓	
2	S	"SHCHELKOVO AGROCHIM-KZ" LLP	Astana	✓	✓	✓	
3	S	<a href="#">"KOSAGROKOMMERTS« LLP</a>	Almaty region			✓	
4	S	<a href="#">"Chem-Plus" LLP</a>	Zhambyl region			✓	
5	S	"COAL RESOURCE" LLP	Pavlodar region			✓	
6	S	"Aspan" LLP	Pavlodar region			✓	
7	L	"Kentavr" LLP	Aktobe region				✓
8	L	"Raduga" LLP	North-Kazakhstan				✓
9	L	<a href="#">"Caustic" JSC</a>	Pavlodar region				✓
10	M	"DOSFARM" LLP	Almaty				✓
11	S	"DISINFECTANTS PLANT NAMED AFTER EFREMOVA" LLP	North-Kazakhstan				✓
12	S	"TRADING HOUSE "BO-NA" LLP	Pavlodar region				✓
13	S	«Grospharm" LLP	Karaganda region				✓
11	S	"ECO PLUS KZ" LLP	Almaty				✓
15	S	"FORAS TRADING" LLP	Almaty				✓

Note: The table above contains information on some select companies. There are over 50 small enterprises exporting disinfectants

Source: *Kazakhstan Development Bank*

## OVERVIEW AUTHORS

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