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Argus Water-Soluble Fertilizer Strategy Report 2023

Sample slides



Fertilizers

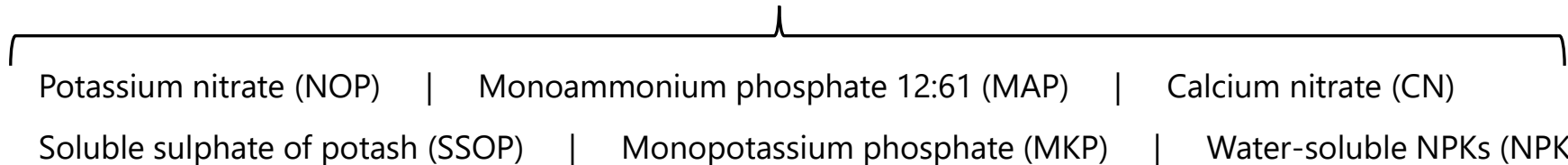
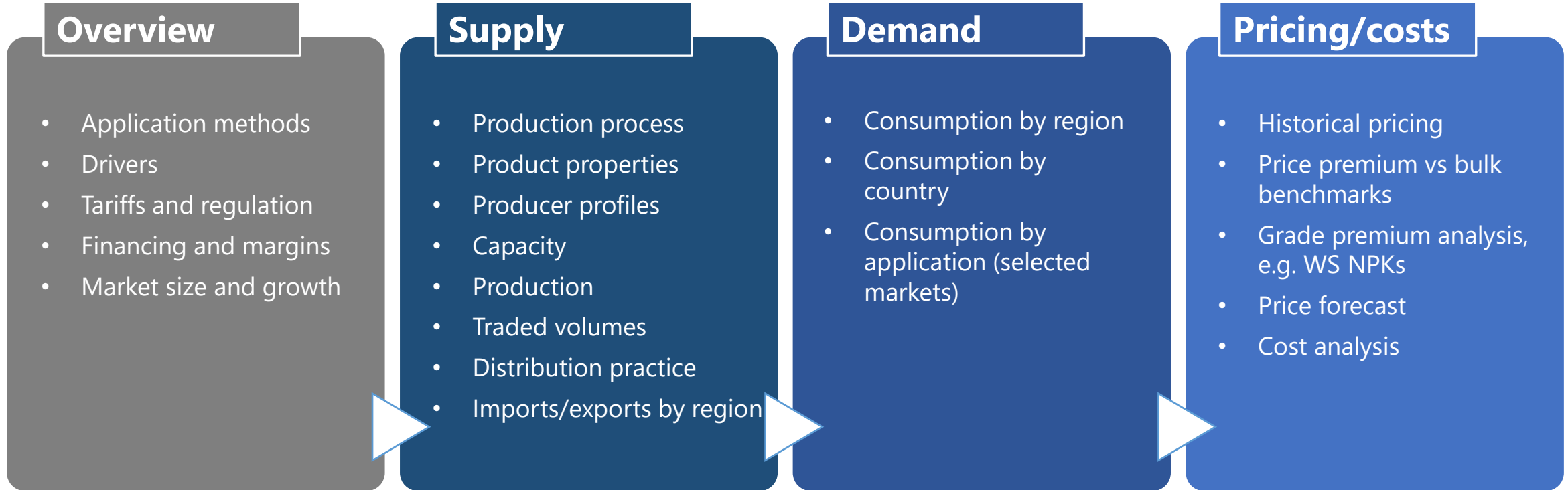
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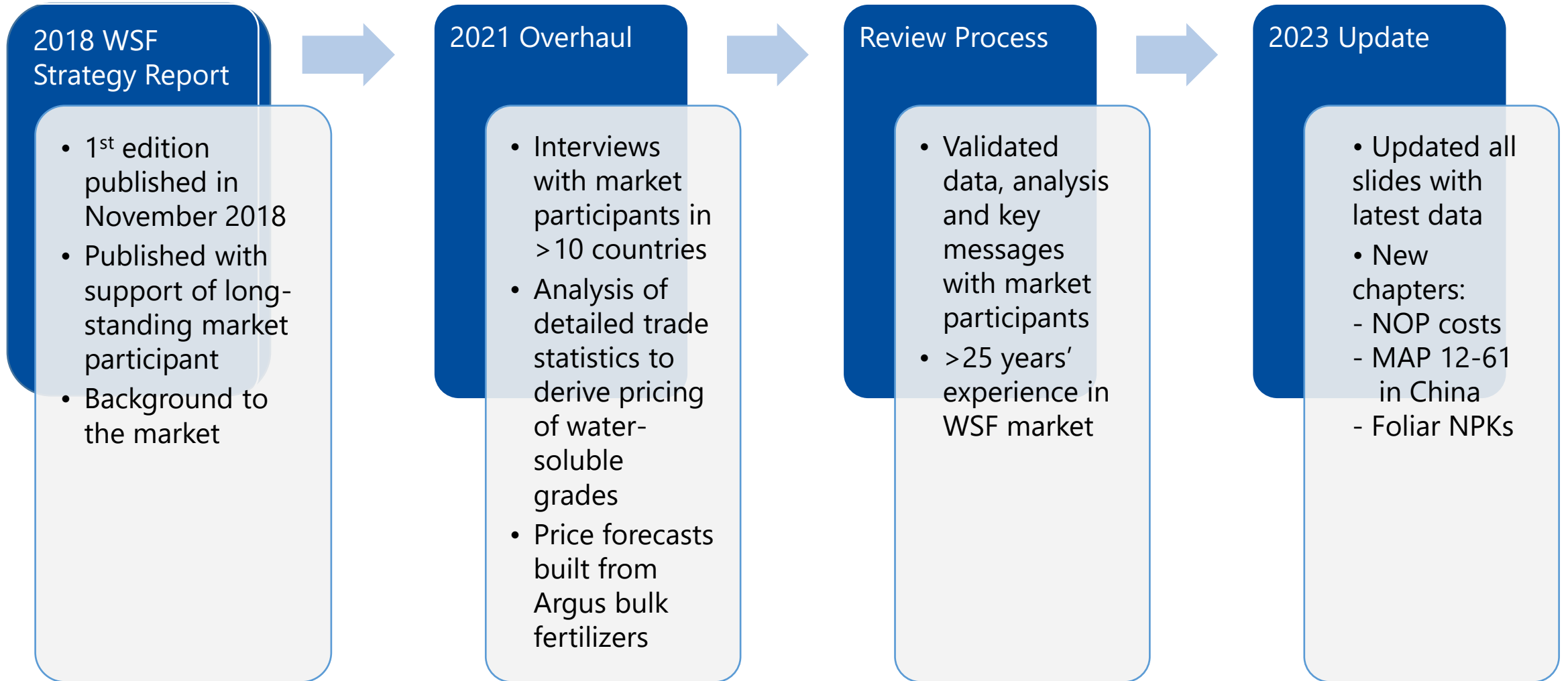
Argus WSF Strategy Report

Data Availability By Region

Product	Production Capacity By Producer	Production Volume By Region/Manufacturer	Future Projects	Market Balance By Country/Region	Imports Analysis	Exports Analysis	Consumption by country/region	Consumption by application	Historical Price Series (16-21)	Price forecast (2021-40)
NOP								Global, industrial vs ag Netherlands, Spain, Turkey distributor vs NPK	cfr India, EXW China	
SOP					Unavailable for soluble variants	Unavailable for soluble variants		MENA, Europe, distributor vs NPK	cfr Mexico	
CN		Yara data			Mexico, India analysis by brand and grade	China exports		Global, industrial vs liquid vs granular vs fertigation	cfr India (by brand/grade)	
MAP 12-61					West Coast Latin America, India			Spain, Netherlands, Turkey, distributor vs NPK	cfr India, cfr Mexico, China fob	
MKP					Mexico, India, US				cfr India	
WS NPK	Not relevant	Europe, MENA, Russia		Global	Mexico, India, US				cfr India, cfr Mexico	

Key to data coverage Complete Partial Unavailable

WSF Strategy Report - Methodology

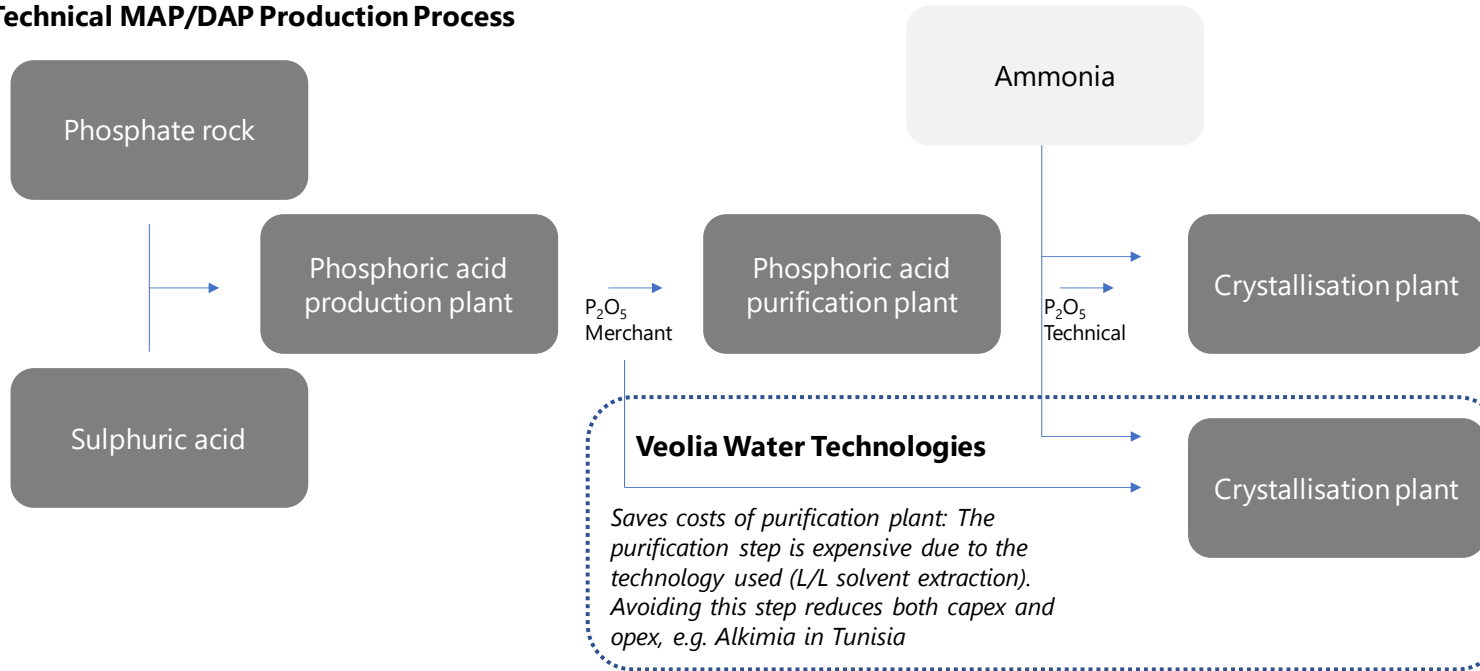


Production process

The standard “wet” production process requires purification via solvent extraction and crystallization but cheaper options exist

80

Technical MAP/DAP Production Process



Source: company literature, Argus interviews and analysis

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What you receive:

- Production process described for all products
- Raw materials and production process comparison between different producers
- Commentary on novel production processes (often using cheaper raw materials) which reduce costs of production, e.g. NOP, MAP, SOP, MKP, NPK
- Analysis of water-soluble NPK raw materials and value chain

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Product description

Yara's fertigation CN has similar nutrient content to field grade but is sold in crystalline form with slightly higher solubility 107

Calcium Nitrate Range – Yara and Uralchem

Criteria	Yara				Uralchem Tech-grade Anhydrous	Commentary
	Water Soluble (Fertigation) Range		Field Grade			
	Calcinit®	Calcibor®	Tropicote®	Nitrabor®		
Avg. N	15.5%	15.4%	15.5%	14-15%	17%	Main Nutrients: Similar across product ranges
Avg. Ca	19%	18.3%	18.8%	17-18%	24%	
Avg. B	-	0.2%	-	0.25-0.3%	-	Boron: added as differentiator for CN+B products
Shape	Crystalline Granules		2-4mm Granules		1-4mm granules	Shape: Crystalline granules guaranteed zero residual dissolving
pH	6.0	6.3	6.0	6.3	5.8	Neutral pH: Similar across product range
Solubility @ 20°C (g/l)	1,200		1,100		N/A	Only slight increase in solubility from dry applied to water soluble

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Source: company literature, Argus analysis

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What you receive:

- Application trends
 - Crop drivers
 - Customer segment, e.g. fertigation, foliar
 - Application rate
- Physical properties
 - Nutrient content
 - Insoluble content
 - pH
 - Salt index
 - Solubility
- Commentary on link between product properties and price premium
- Water-soluble NPK grade analysis

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Capacity by region and plant

Tessengerlo accounts for the majority of global soluble SOP capacity from its plant in Belgium

Water-soluble SOP Production Capacity (Excluding China), 2021

Region	Location	Company	Source	Capacity (kt/y)
Europe	Belgium	Tessengerlo	Mannheim	<p>REDACTED <i>Speak to us to learn more about these figures</i></p>
Europe	Austria	Salinen	Salt mine by-product	
Europe	Sweden	Kemira	Mannheim	
Europe	Italy	Marchi	Mannheim	
North America	US	Compass Minerals	Salt brines	
Latin America	Chile	SQM	Salt brines	
East Asia	Taiwan	Sesoda	Mannheim	
SE Asia	Indonesia	K+S	Mannheim	
South Asia	India	Blue Deebaj	Mannheim	
North Africa	Egypt	Evergrow	Mannheim	
North Africa	Egypt	Egypt army	Mannheim	
North Africa	Egypt	Other	Mannheim	
Middle East	Jordan	N/A	Mannheim	
Middle East	Saudi Arabia	N/A	N/A	
Middle East	Turkey	Alkim Alkali Kimya	Veolia crystallization	
Russia	Achinsk	Rusal	Aluminium (semi-soluble)	

SOP Exceptionalism
 Few of the large SOP producers participate in the other large water-soluble categories. This presents a challenge as many growers wish to buy the entire product range from their suppliers, a service offered by integrated (SQM, Yara, Haifa, ICL) and unintegrated (Compo, Van Iperen) companies. Consequently, these "SOP Exceptionalists" must sometimes sell private label under the brands of competitors

This may also thwart attempts to diversify into agronomic advisory services

Evergrow estimated SOP capacity is 250kt/y but this includes standard, granular and soluble grades (see Evergrow profile for more details)

Russian SOP is a by-product of the aluminium industry. The product is used in some greenhouses in Russia but the quality is not high enough for exports. Isolated in Siberia, Rusal product is mostly sold in China

Note: * see SQM profile

Source: company literature, newspaper articles, Argus interviews and analysis

What you receive:

- Comprehensive capacity list: all producers of all straight products: Over 60 plants included in the database
- Forecast capacity additions and impact on S/D balance
- Producer profiles for all key players, including SQM, Compo, Evergrow, Prayon, OCP and Eurochem
- Commentary on distribution practice and commercial agreements

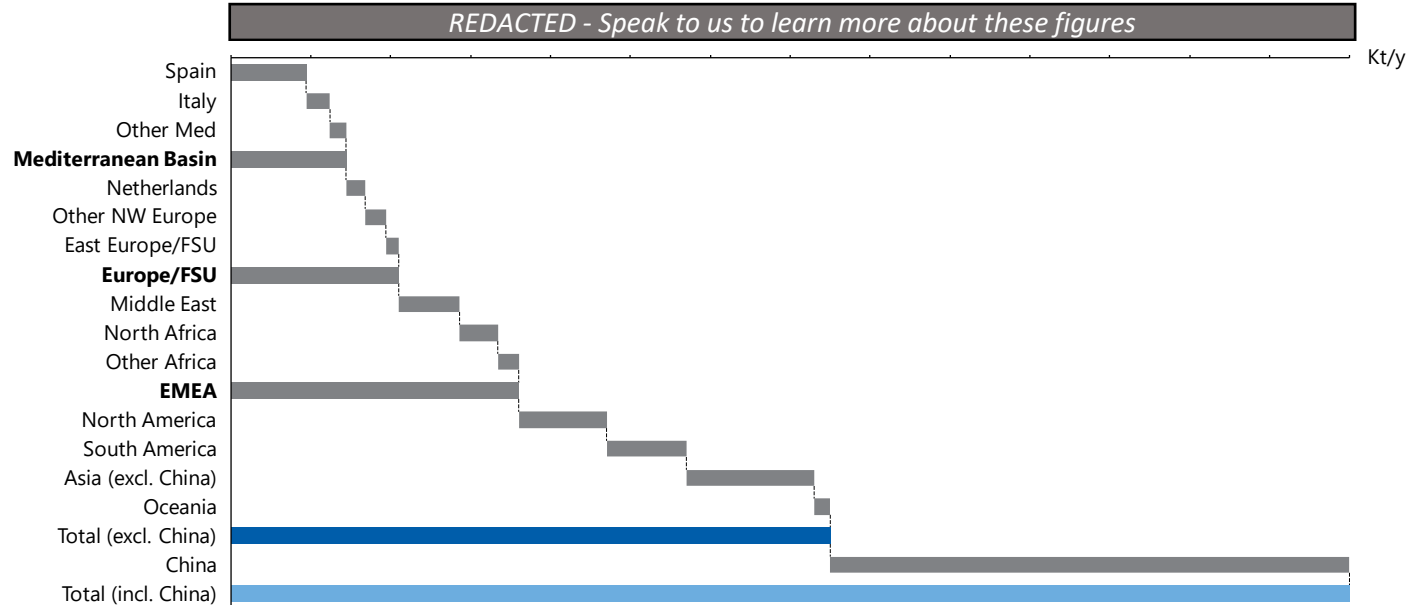


Consumption: volume by region, country and application

MAP 12-61 consumption

90

MAP 12-61 Agricultural Consumption By Region, 2021



Source: IFA, company literature, newspaper articles, Argus interviews and analysis

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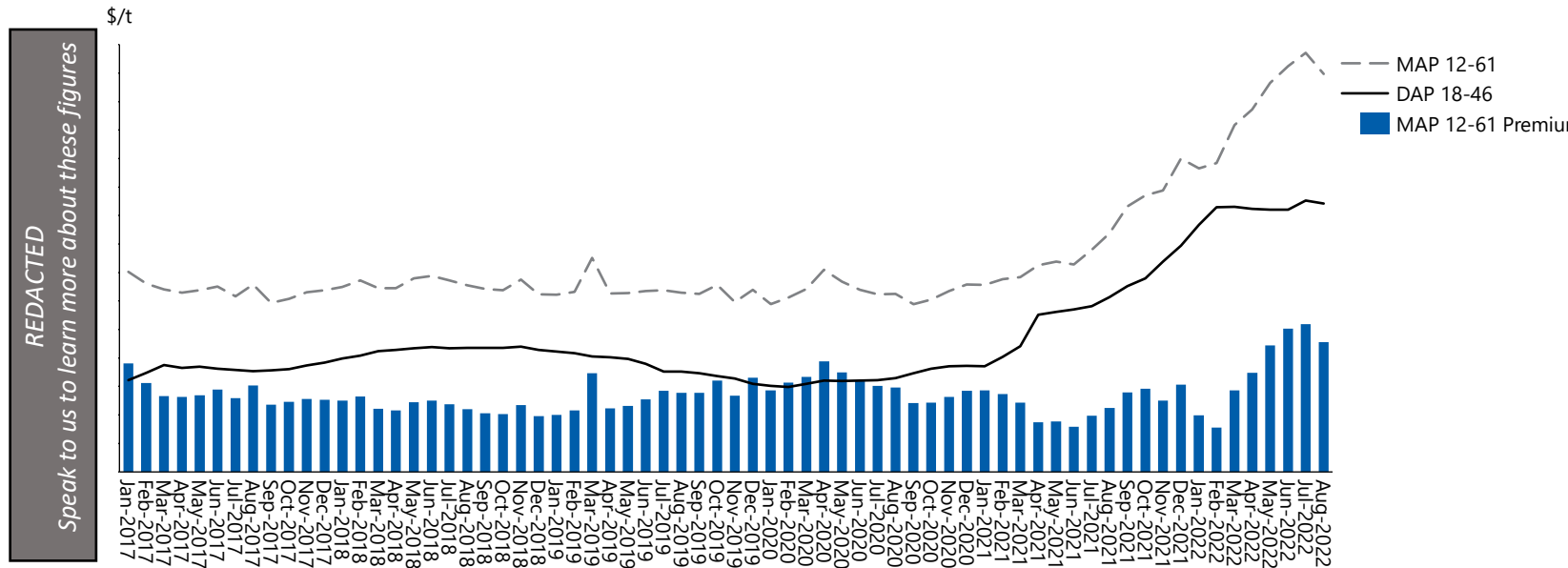
- Consumption by region and major country
- Consumption by application in selected countries, e.g.
 - Fertigation vs foliar
 - Greenhouse vs open-field
 - Direct application vs NPK production

Historical price and premium analysis

97

MAP 12-61 price premium

MAP 12-61 Vs DAP 18-46, India Imports, Monthly Average Price, January 2017 – August 2022



What you receive:

- Price series
 - NOP India, Mexico import
 - MAP 12:61 fob China, India import
 - CN India import
 - MKP Mexico, India import
 - NPK (various) Mexico, India import
- Premium analysis
 - Soluble premium vs bulk benchmarks
 - Producer/country of origin premium, e.g. NOP, MAP, NPK
 - Form/grade premium, e.g. CN
 - Application premium, e.g. foliar
 - NPK upgrading analysis vs raw materials (NOP, MAP + bulk nitrogen)

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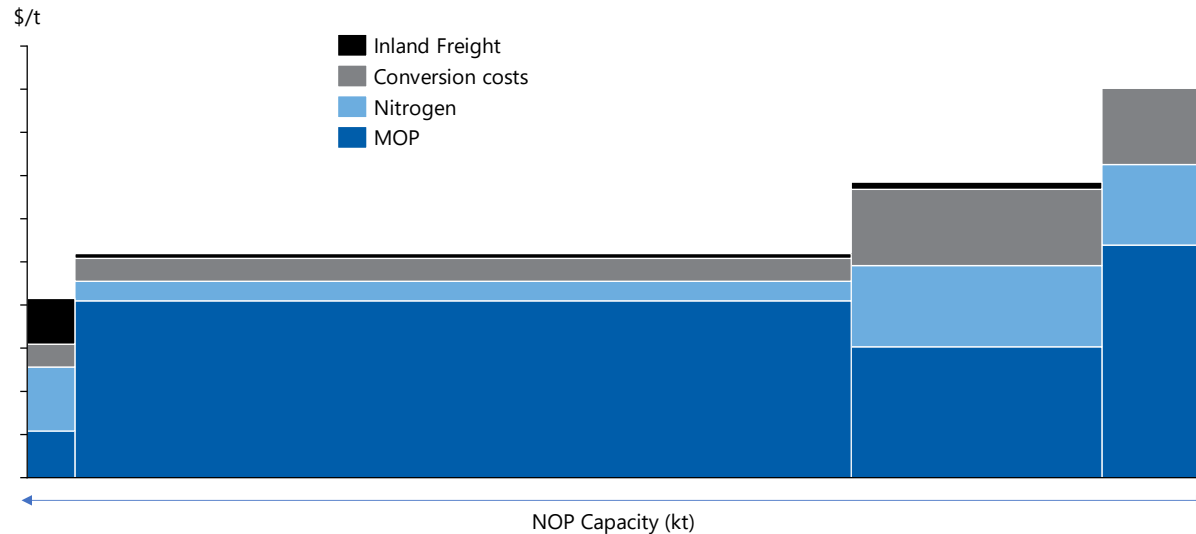


Cost analysis

NOP FOB Cost Curve

75

NOP Fob Cost Curve, Selected Producers, 2025



Source: Argus Consulting

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What you receive:

- Historical raw material cost analysis
 - MAP: phosphoric acid, ammonia
 - MKP: phosphoric acid, MOP
 - MKP: phosphoric acid, KOH
 - NPK margin analysis
- Cash cost curve for NOP

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Argus WSF Strategy Report – more information/demo

Request more information – or get a personal demonstration of the report. Simply contact us:

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