Chemicals for the Non-Chemist

Plant Nutrients and Plant Nutrient Markets

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Safe Habor

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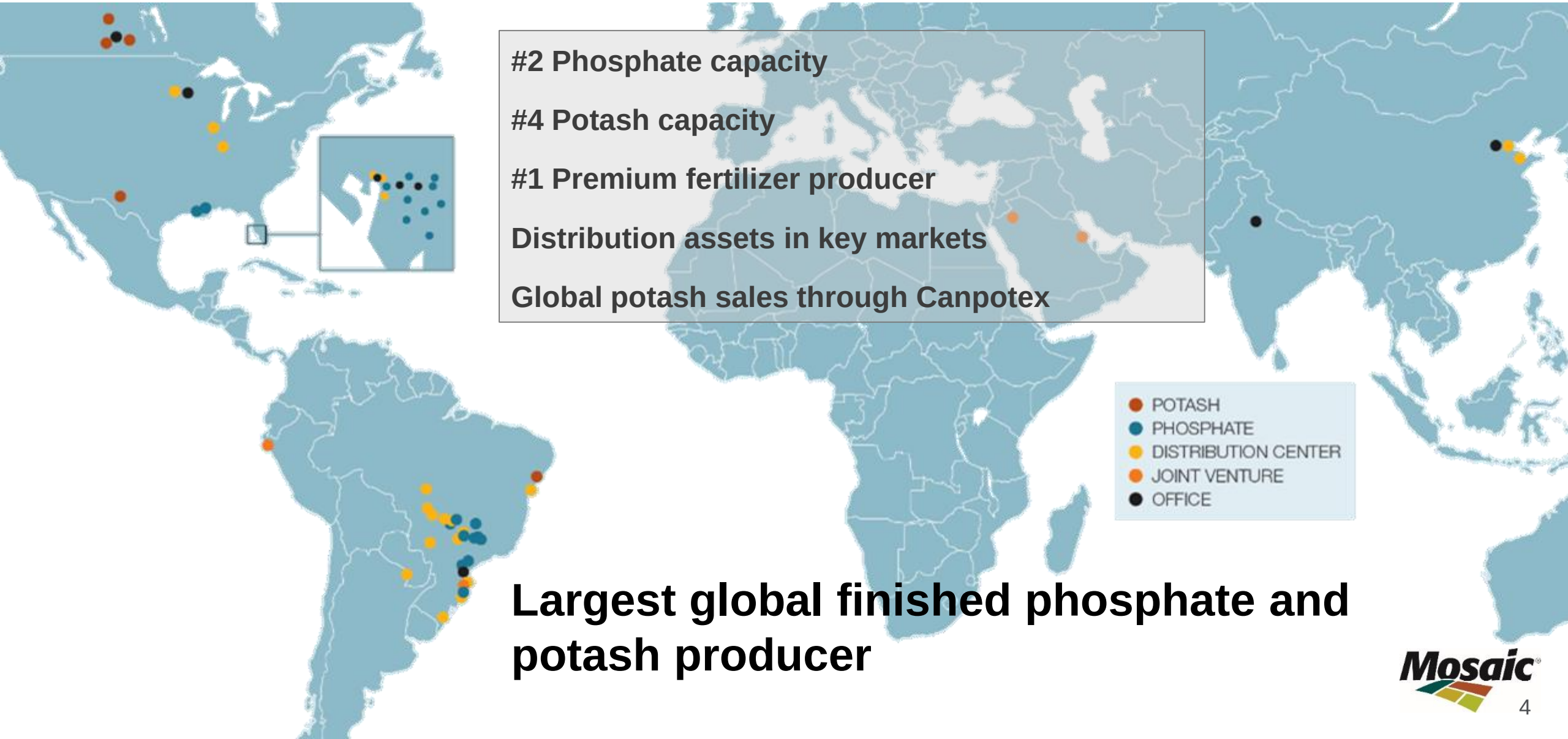
These risks and uncertainties include, but are not limited to: difficulties with realization of the benefits and synergies of the Transaction, including the risks that the acquired business may not be integrated successfully or that the anticipated synergies or cost or capital expenditure savings from the Transaction may not be fully realized or may take longer to realize than expected, including because of political and economic instability in Brazil or changes in government policy in Brazil, such as higher costs associated with the new mining rules and remediation efforts, or the implementation of new freight tables; the predictability and volatility of, and customer expectations about, agriculture, fertilizer, raw material, energy and transportation markets that are subject to competitive and other pressures and economic and credit market conditions; the level of inventories in the distribution channels for crop nutrients; the effect of future product innovations or development of new technologies on demand for our products; changes in foreign currency and exchange rates; international trade risks and other risks associated with Mosaic's international operations and those of joint ventures in which Mosaic participates, including the performance of the Ma'aden Wa'ad Al Shamal Phosphate Company (also known as MWSPC), the ability of MWSPC to obtain additional planned funding in acceptable amounts and upon acceptable terms, the timely development and commencement of operations of production facilities in the Kingdom of Saudi Arabia, and the future success of current plans for MWSPC and any future changes in those plans; the risk that protests against natural resource companies in Peru extend to or impact the Miski Mayo mine, which is operated by an entity in which we are the majority owner; difficulties with realization of the benefits of our long term natural gas based pricing ammonia supply agreement with CF Industries, Inc., including the risk that the cost savings initially anticipated from the agreement may not be fully realized over its term or that the price of natural gas or ammonia during the term are at levels at which the pricing is disadvantageous to Mosaic; customer defaults; the effects of Mosaic's decisions to exit business operations or locations; changes in government policy; changes in environmental and other governmental regulation, including expansion of the types and extent of water resources regulated under federal law, carbon taxes or other greenhouse gas regulation, implementation of numeric water quality standards for the discharge of nutrients into Florida waterways or efforts to reduce the flow of excess nutrients into the Mississippi River basin, the Gulf of Mexico or elsewhere; further developments in judicial or administrative proceedings, or complaints that Mosaic's operations are adversely impacting nearby farms, business operations or properties; difficulties or delays in receiving, increased costs of or challenges to necessary governmental permits or approvals or increased financial assurance requirements; resolution of global tax audit activity; the effectiveness of Mosaic's processes for managing its strategic priorities; adverse weather conditions affecting operations in Central Florida, the Mississippi River basin, the Gulf Coast of the United States, Canada or Brazil, and including potential hurricanes, excess heat, cold, snow, rainfall or drought; actual costs of various items differing from management's current estimates, including, among others, asset retirement, environmental remediation, reclamation or other environmental regulation, Canadian resources taxes and royalties, or the costs of the MWSPC, its existing or future funding and Mosaic's commitments in support of such funding; reduction of Mosaic's available cash and liquidity, and increased leverage, due to its use of cash and/or available debt capacity to fund financial assurance requirements and strategic investments; brine inflows at Mosaic's Esterhazy, Saskatchewan, potash mine or other potash shaft mines; other accidents and disruptions involving Mosaic's operations, including potential mine fires, floods, explosions, seismic events, sinkholes or releases of hazardous or volatile chemicals; and risks associated with cyber security, including reputational loss; as well as other risks and uncertainties reported from time to time in The Mosaic Company's reports filed with the Securities and Exchange Commission. Actual results may differ from those set forth in the forward-looking statements.

The Mosaic Company

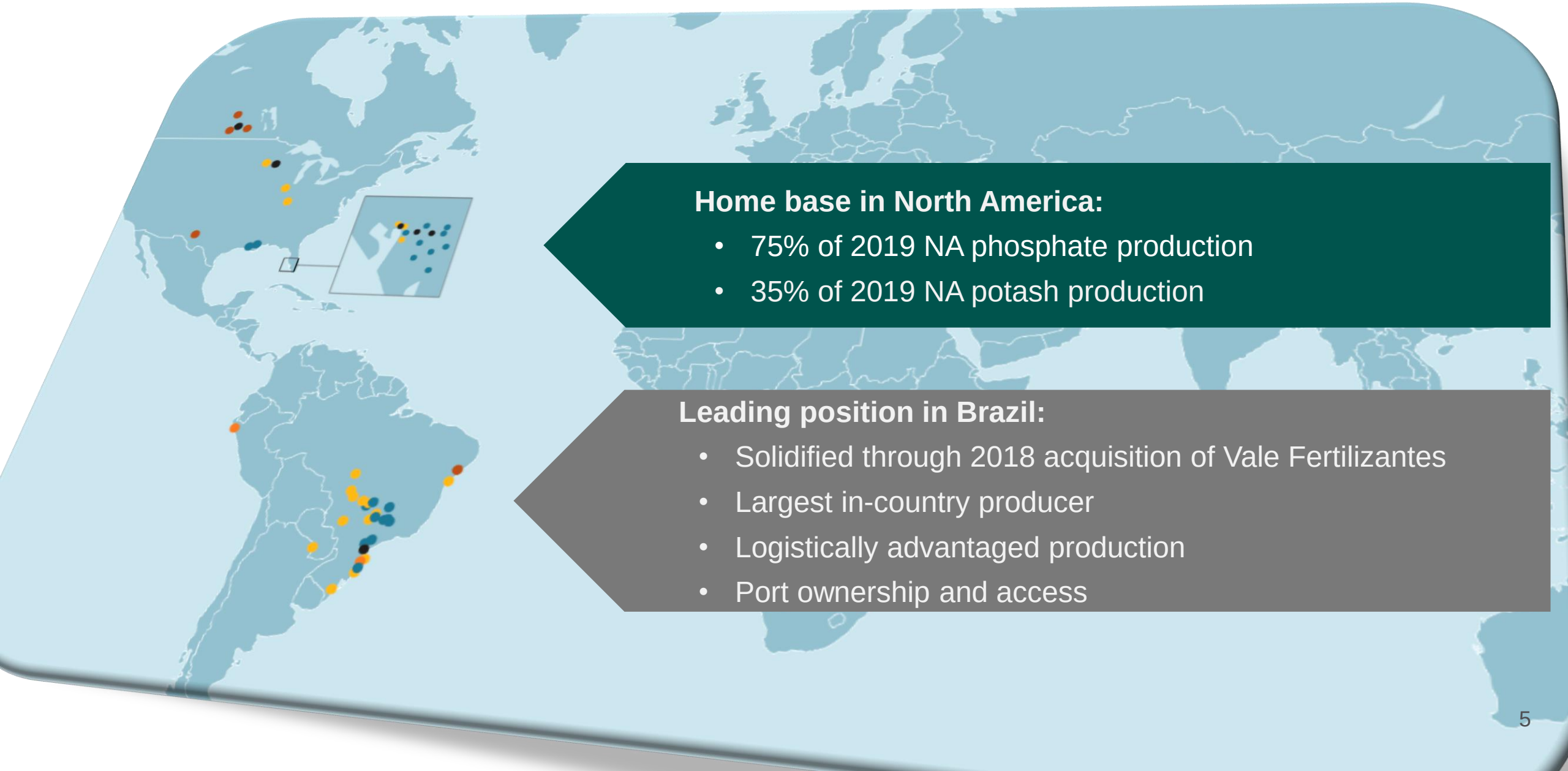
High Quality Asset Portfolio



- #2 Phosphate capacity
- #4 Potash capacity
- #1 Premium fertilizer producer
- Distribution assets in key markets
- Global potash sales through Canpotex

Largest global finished phosphate and potash producer

Focused on The Americas



Home base in North America:

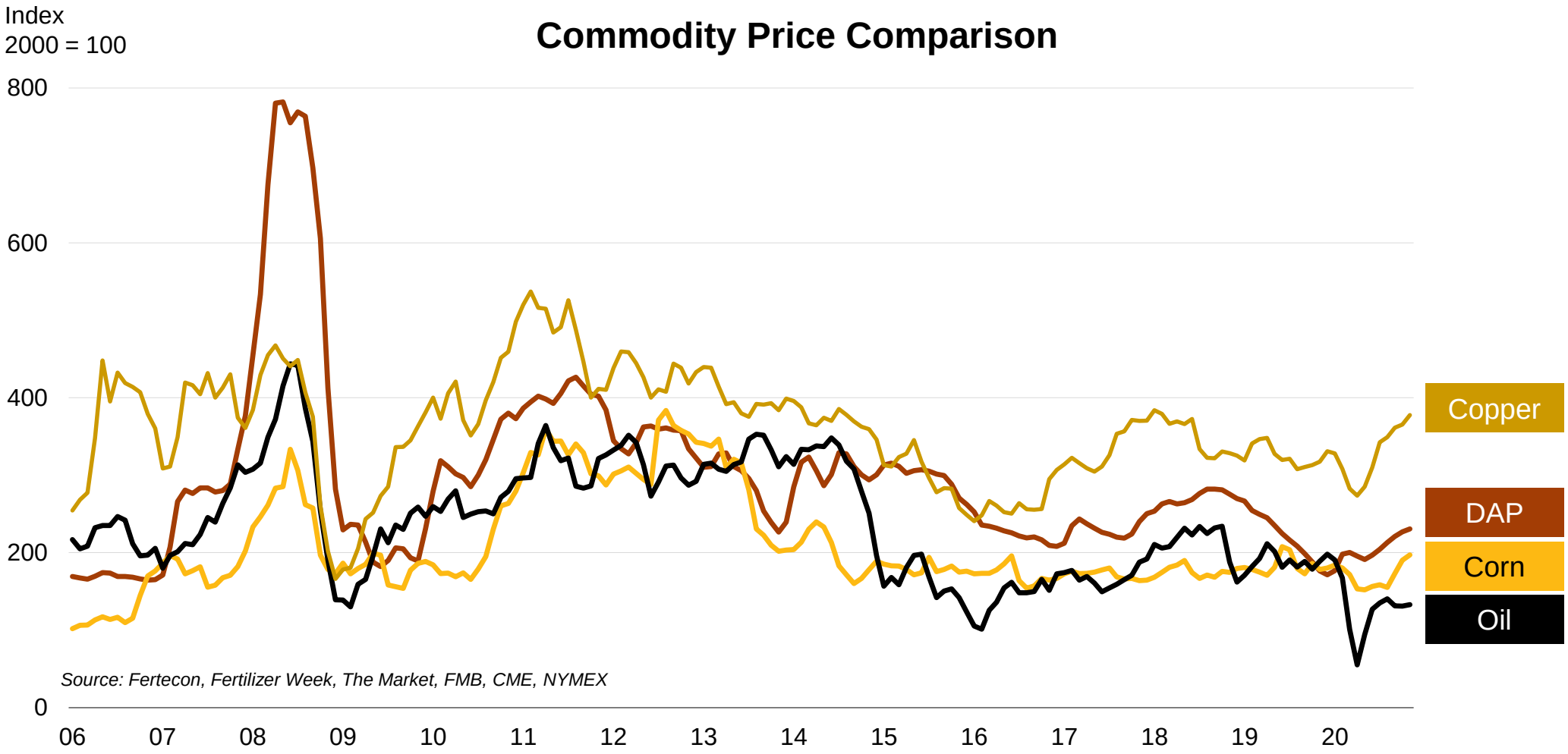
- 75% of 2019 NA phosphate production
- 35% of 2019 NA potash production

Leading position in Brazil:

- Solidified through 2018 acquisition of Vale Fertilizantes
- Largest in-country producer
- Logistically advantaged production
- Port ownership and access

Plant Nutrients and Plant Nutrient Products

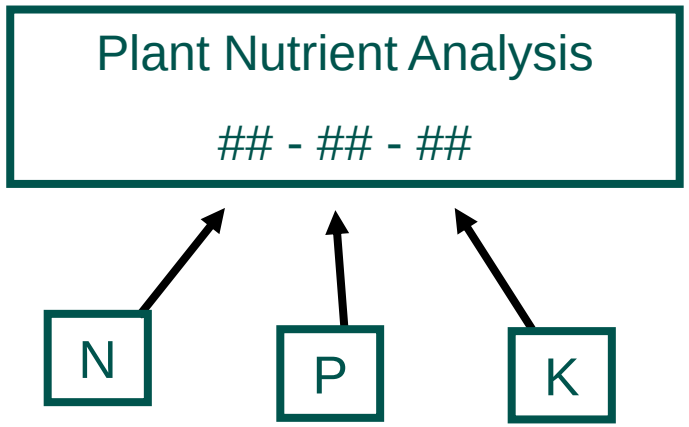
Reminder: Commodity Markets are Cyclical



Price data thru November 20, 2020

Plant Nutrients

- Plant nutrients are plant food (and common chemical elements)
- 17 chemical elements are required for plant growth
- N-P-K: the carbohydrates-protein-fat in a plant's diet
- Growing importance of secondary nutrients and micronutrients, especially in high yield systems
- Each plant nutrient product is identified by three numbers, referred to as its "analysis" – the percentage of each primary nutrient contained in a unit of the product



The Nutrient Challenge: Maintaining Soil Fertility AND Safeguarding the Environment

- Soil fertility is maintained by replenishing the nutrients removed by crops each year by following best practices and the 4-Rs

4 nutrient stewardship

Nutrient Removal by Crop

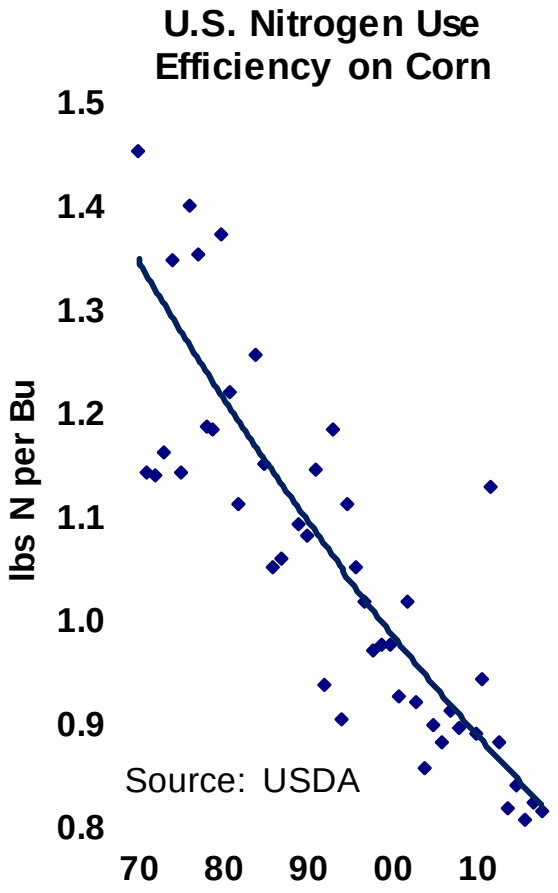
lbs Acre	N	P_2O_5	K_2O	S
Corn - 200 Bu Acre Yield				
Grain	180	76	54	16
Stalks	90	32	220	14
Total	270	108	274	30
Soybeans - 70 Bu Acre Yield				
Grain	266	59	91	13
Stover	77	17	70	12
Total	343	76	161	25
Wheat - 80 Bu Acre Yield				
Grain	120	48	27	8
Straw	56	13	96	11
Total	176	61	123	19

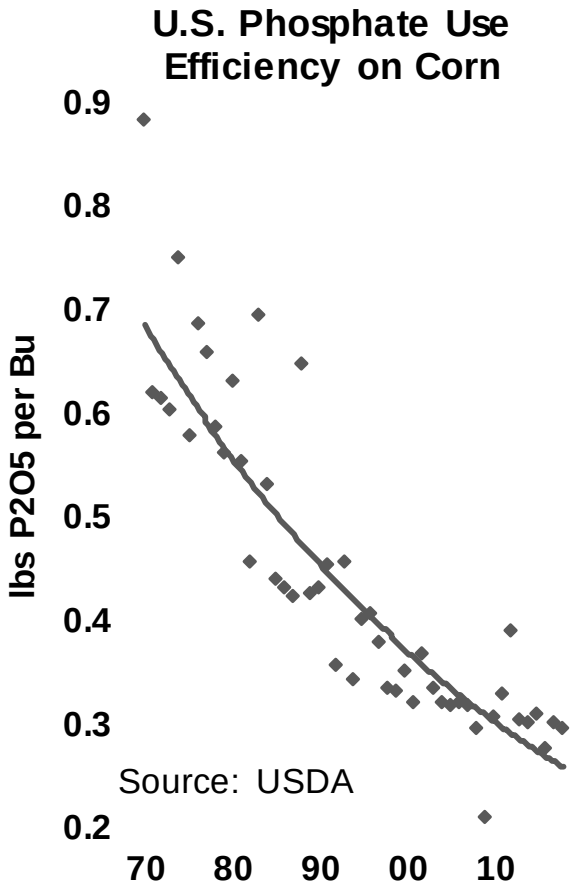
Source: IPNI

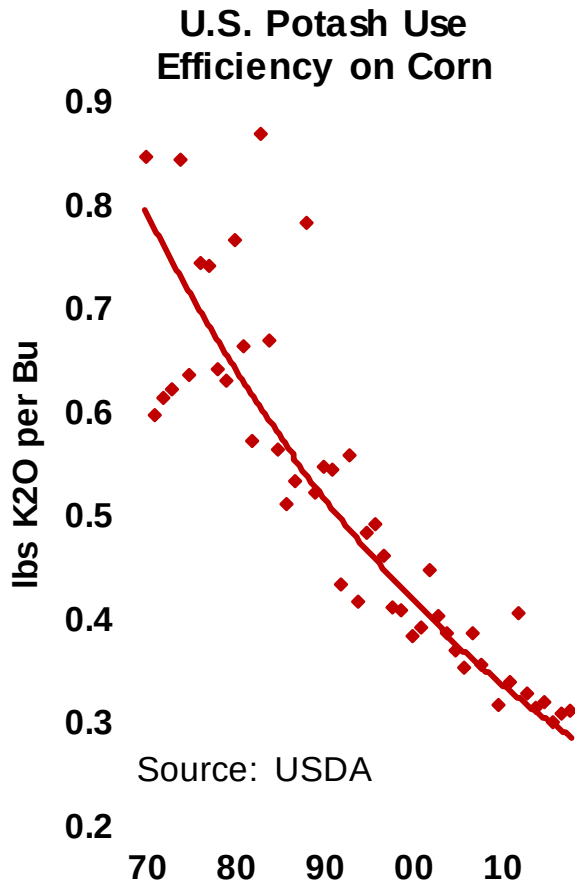
Mosaic

Increasing Efficacy of Plant Nutrient Use (nearing maximum efficiency in the U.S.)

U.S. farmers today are harvesting >100 bushels more of corn per acre with about the same amount of commercial plant nutrients applied per acre in 1970!





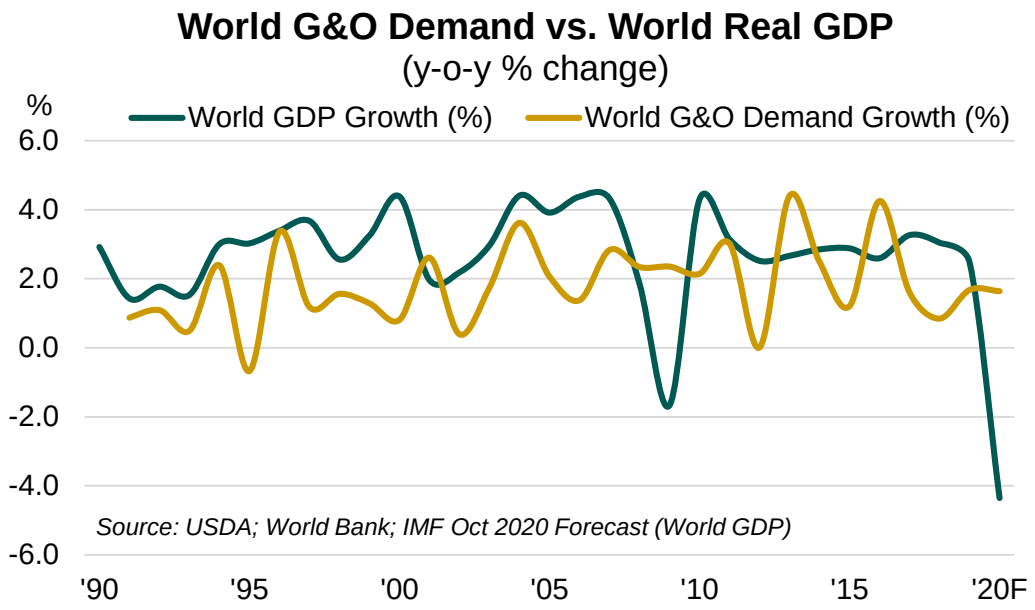


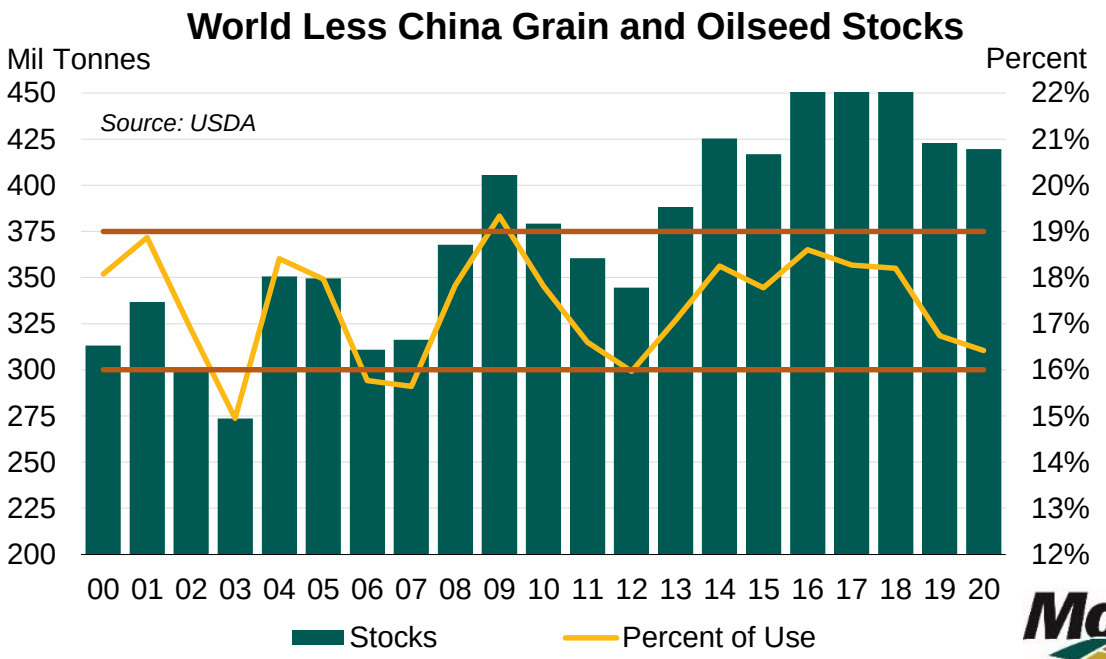
Positive Demand Driver: Continued Ag Growth

The Food Story remains intact – The world will continue to need to plant more area and increase yields to meet grain and oilseed demand.

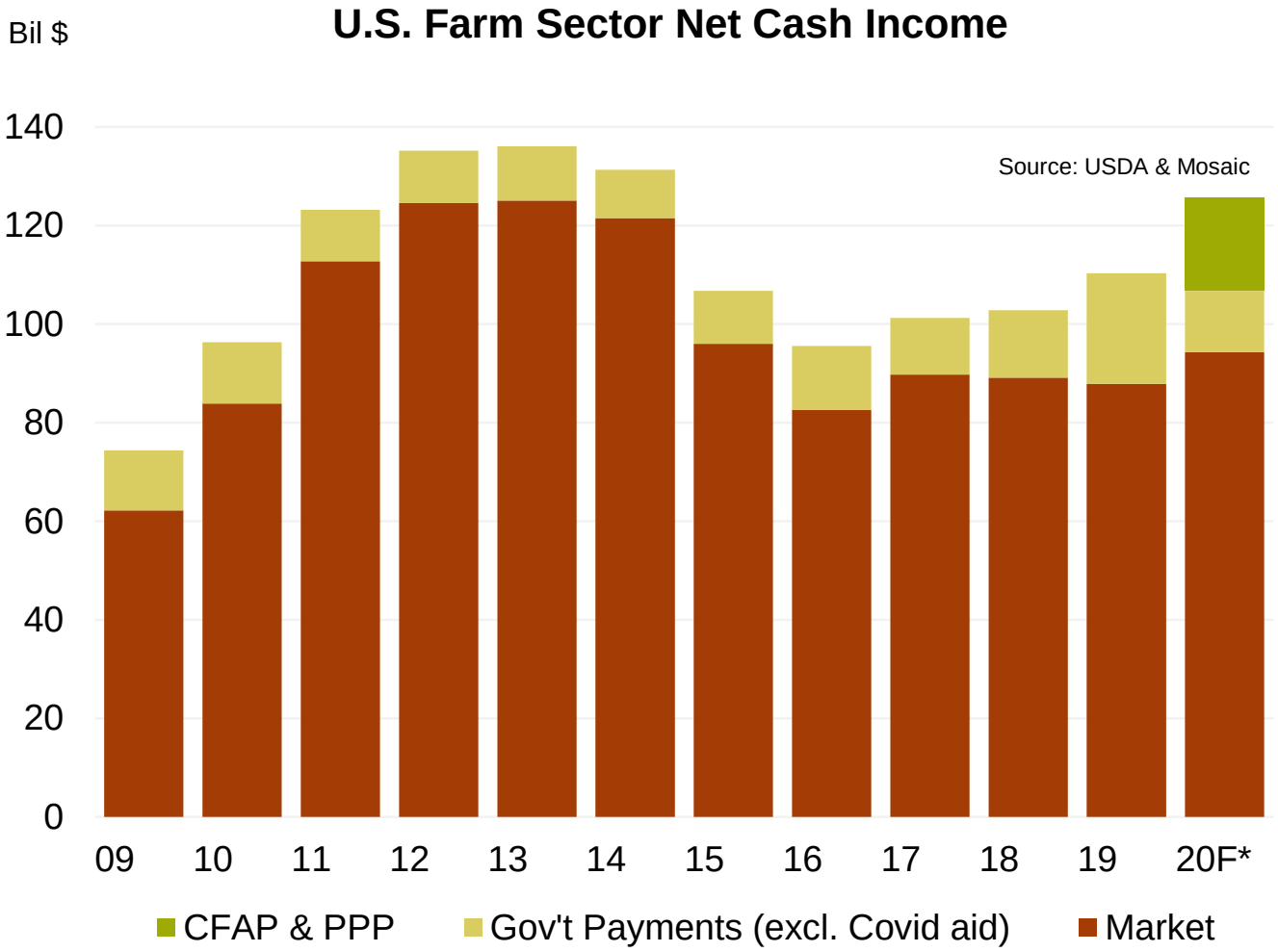
- World grain and oilseed demand has risen in 2020 despite the impacts of COVID-19 and the notable world economic downturn.

- Despite increased production in 2020, global stocks remain below average
  - The Stocks:Use ratio (world less China) is projected to drop to 16.4% in 2020/21, the lowest level since 2012.





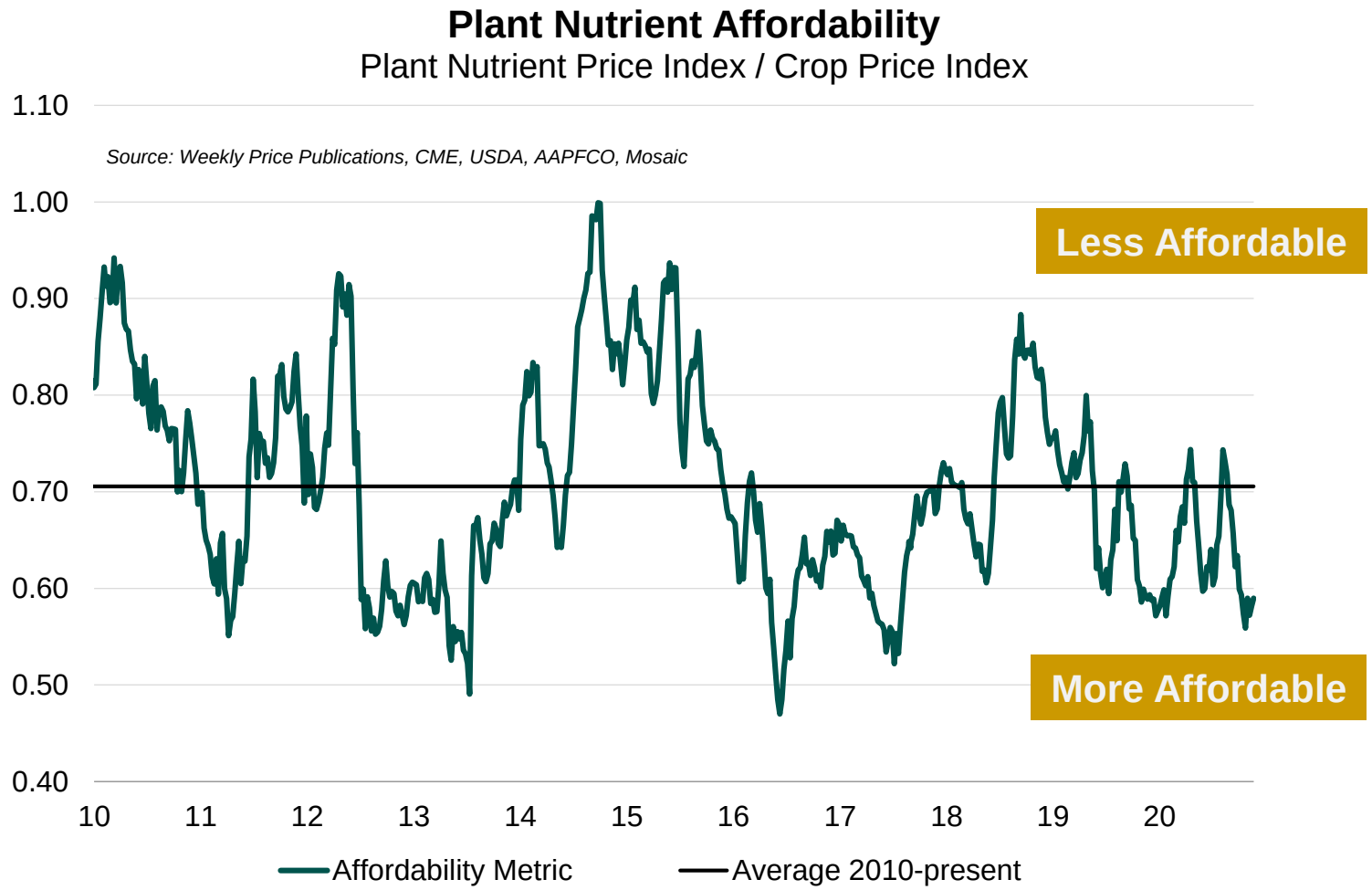
Farmer economics look solid around the world; U.S. farm income supported by ag price rally + gov't payments



- U.S. farmer income boosted by additional government payments, while crop/livestock receipts have also recovered.

Positive Demand Driver: Affordable Nutrients

- Total plant nutrient costs are lower y-o-y.
- A tightening grain market has supported recent run-ups in crop prices.
  - Corn is up 8% YTD (vs -21% early August)
  - Soybeans are up 25% YTD (vs -10% early August)
  - Wheat is up 13% YTD (vs -15% in early August)
- The phosphate affordability index also remains less than the long term average despite the NOLA rally seen in 2020.

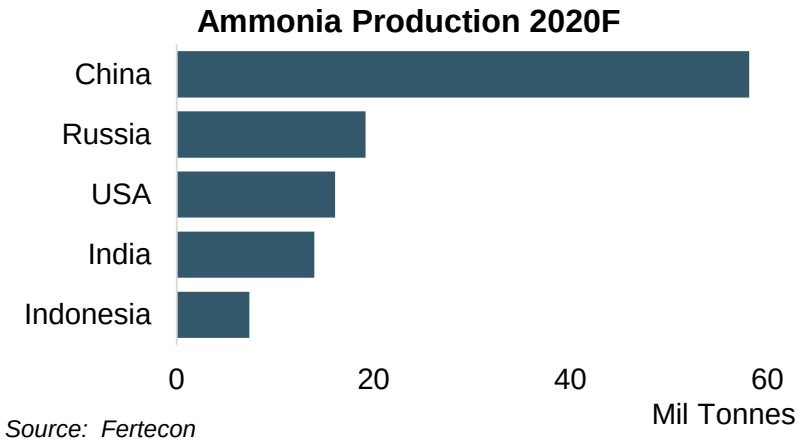


Price data through November 20, 2020

Nitrogen

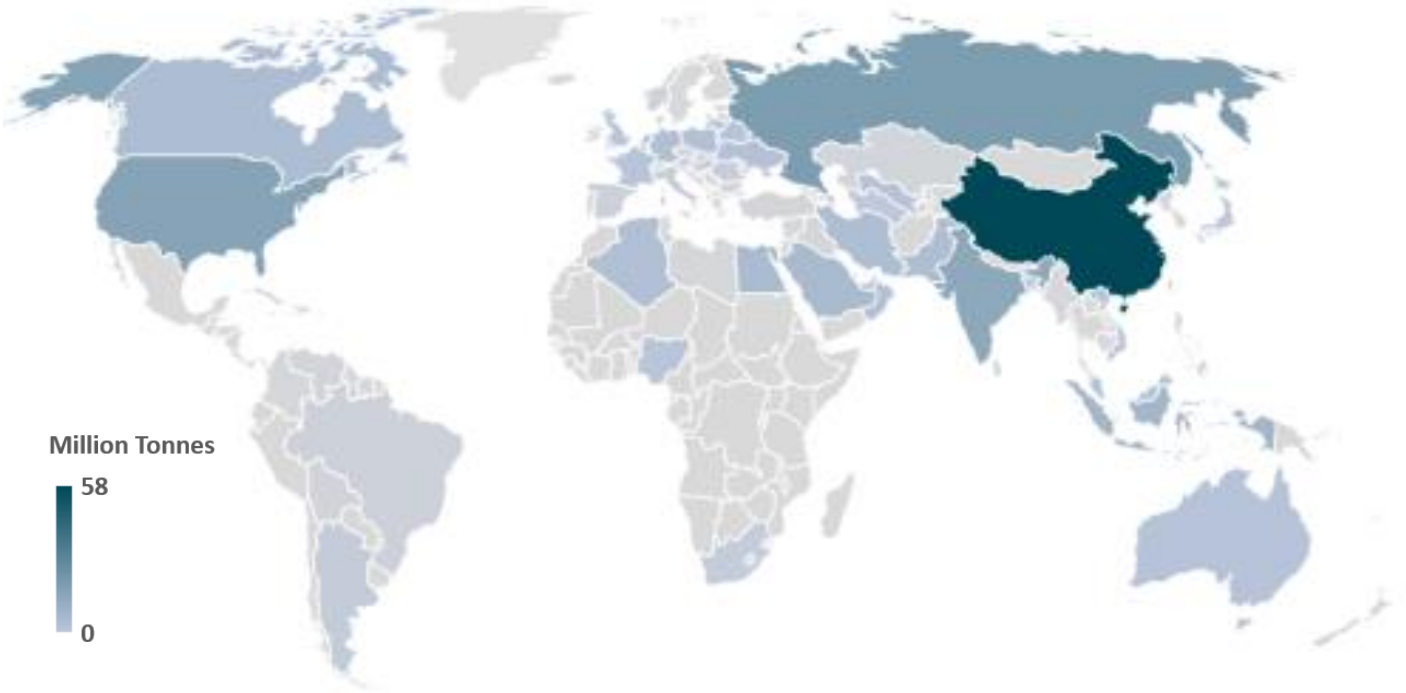
Primary Nutrient Overview: Nitrogen (N)

- **Production process**: Energy intensive Haber-Bosch process to synthesize ammonia (NH_3) from:
  - Inert atmospheric N + H that is typically sourced from hydrocarbon feedstock (~3/4 is natural gas)
- **2020 global use estimates** (Fertecon)
  - About 186 million tonnes ammonia produced, with ~75% used for fertilizers

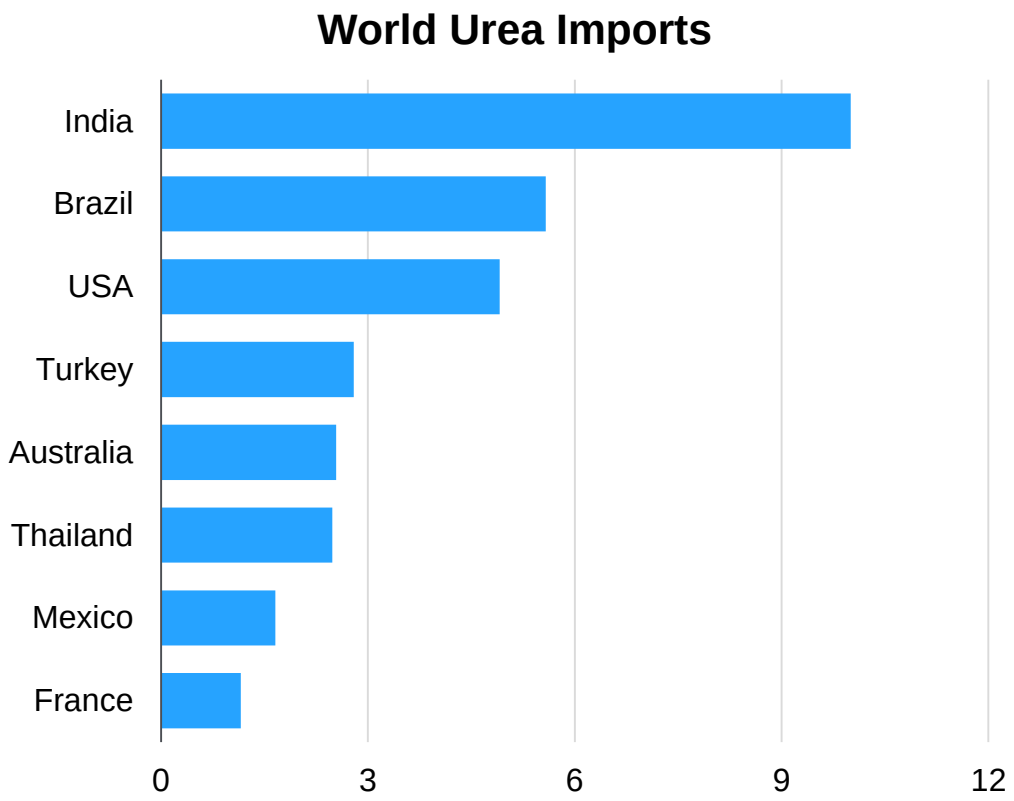


Source: Fertecon

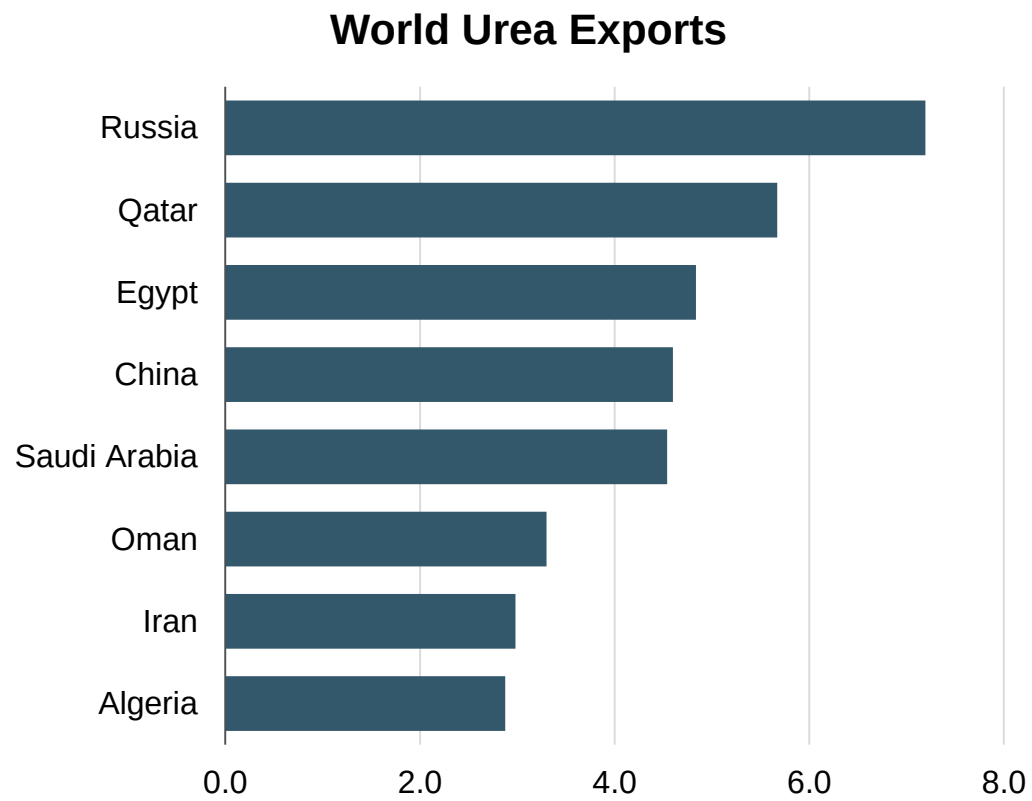
Global Ammonia Production



Key 2020 Nitrogen Trade Flows (Urea)



Source: CRU and Mosaic



Source: CRU

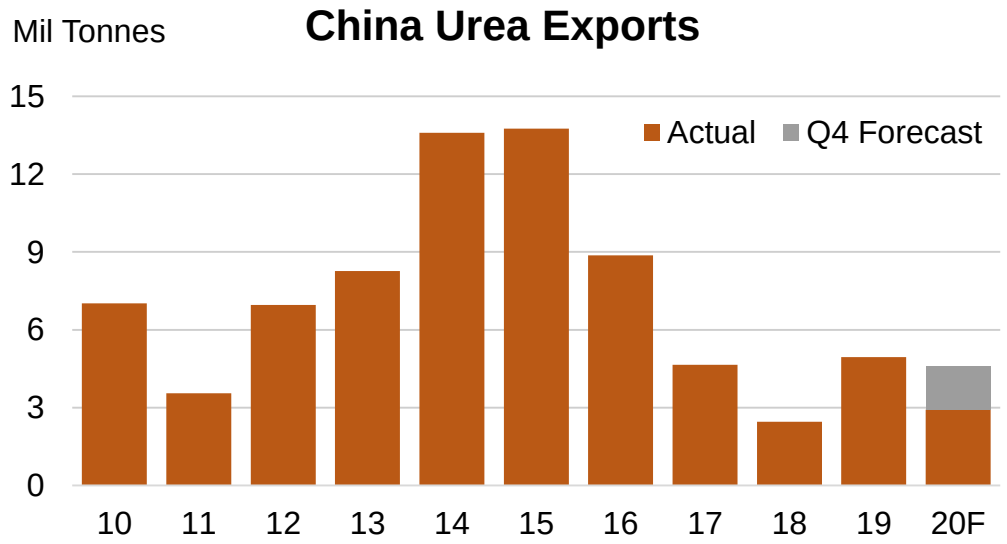
Top 8 countries represent 60% of imports

Top 8 countries represent 69% of exports

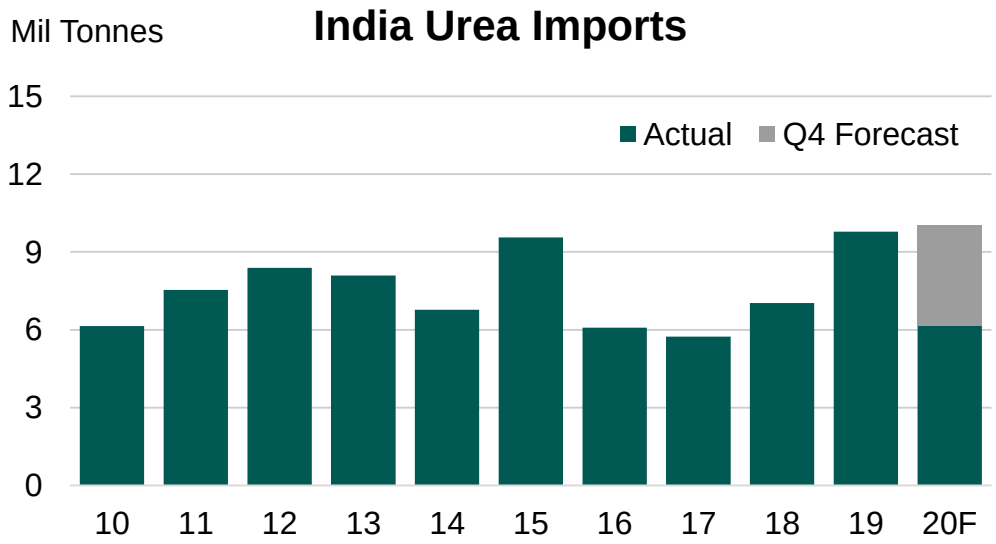
Nitrogen Factors to Watch

- **Chinese urea production** and exports, with the latter expected to be flat to lower in 2020
  - Coal prices
  - Decontrol of natural gas prices
  - Environmental regulations
  - Domestic nitrogen demand

- **Green Ammonia**
- **Demand drivers**
  - Agricultural commodity prices
  - Nitrogen use efficiency gains in China / India
  - New technologies / uses
- **Indian policies**
  - Subsidy and the restart of idled plants



Source: China Customs, Mosaic



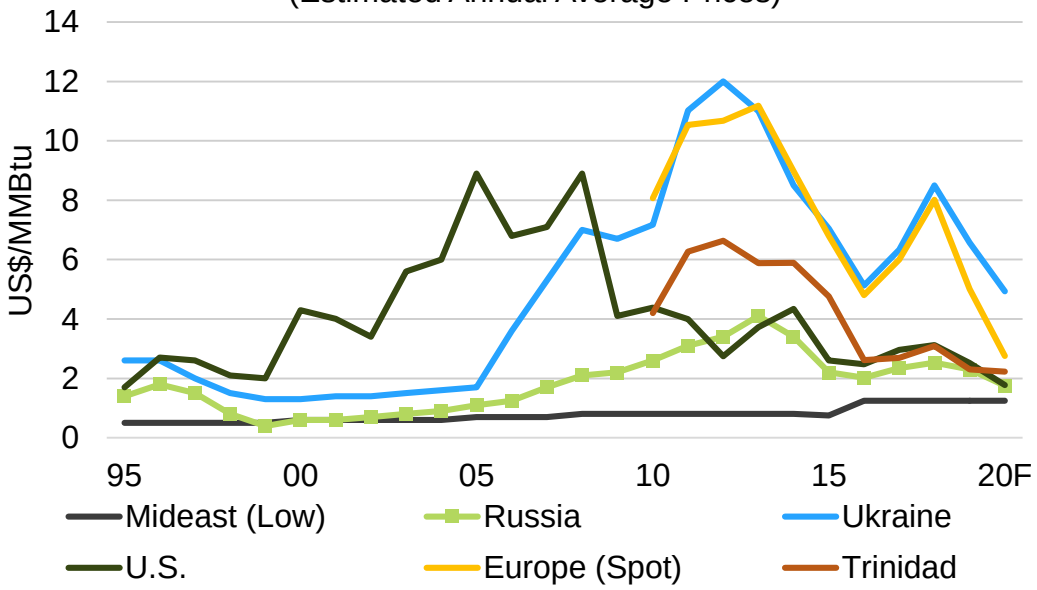
Source: FAI, Mosaic

Nitrogen Factors to Watch

- **Feedstock Costs**
  - COVID-related impact on energy/gas prices
  - Convergence of different benchmarks
- Absorption of **new capacity**
  - USA – a new normal at ~16mmt
  - Ramp ups in FSU, Africa and India

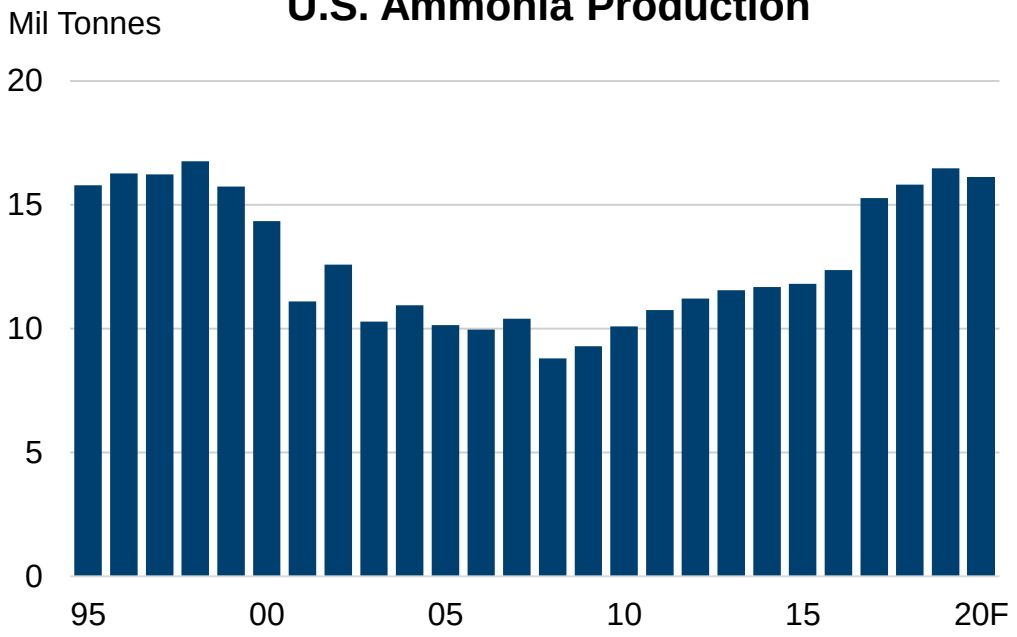
Natural Gas Costs in Key N-Producing Regions

(Estimated Annual Average Prices)



Source: Fertecon

U.S. Ammonia Production

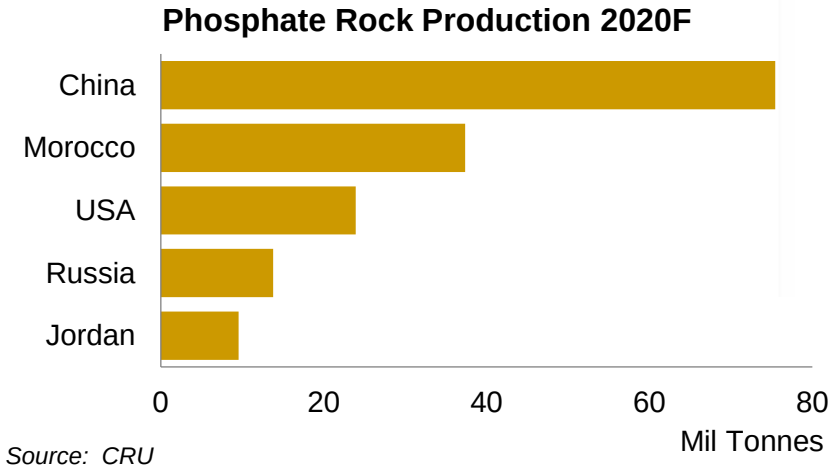


Source: Fertecon

Phosphates

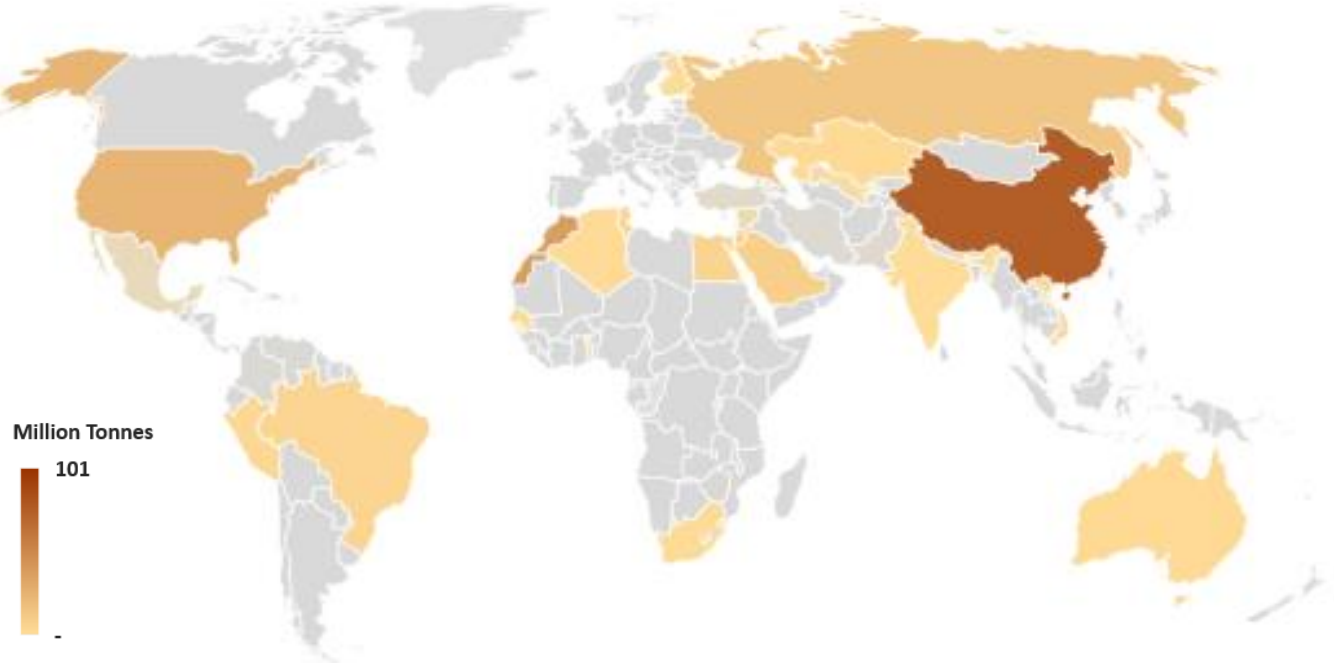
Primary Nutrient Overview: Phosphorus (P)

- Production process – making phosphorus water soluble
- Key inputs: phosphate rock mineral ore, sulphur and ammonia
- Intermediate product: phosphoric acid (for most products)
- 2020 global use estimates (CRU)
  - Ag: ~47 mmt P_2O_5 or ~87% of total
  - Feed/Industrial: ~7 mmt P_2O_5 or ~13% of total

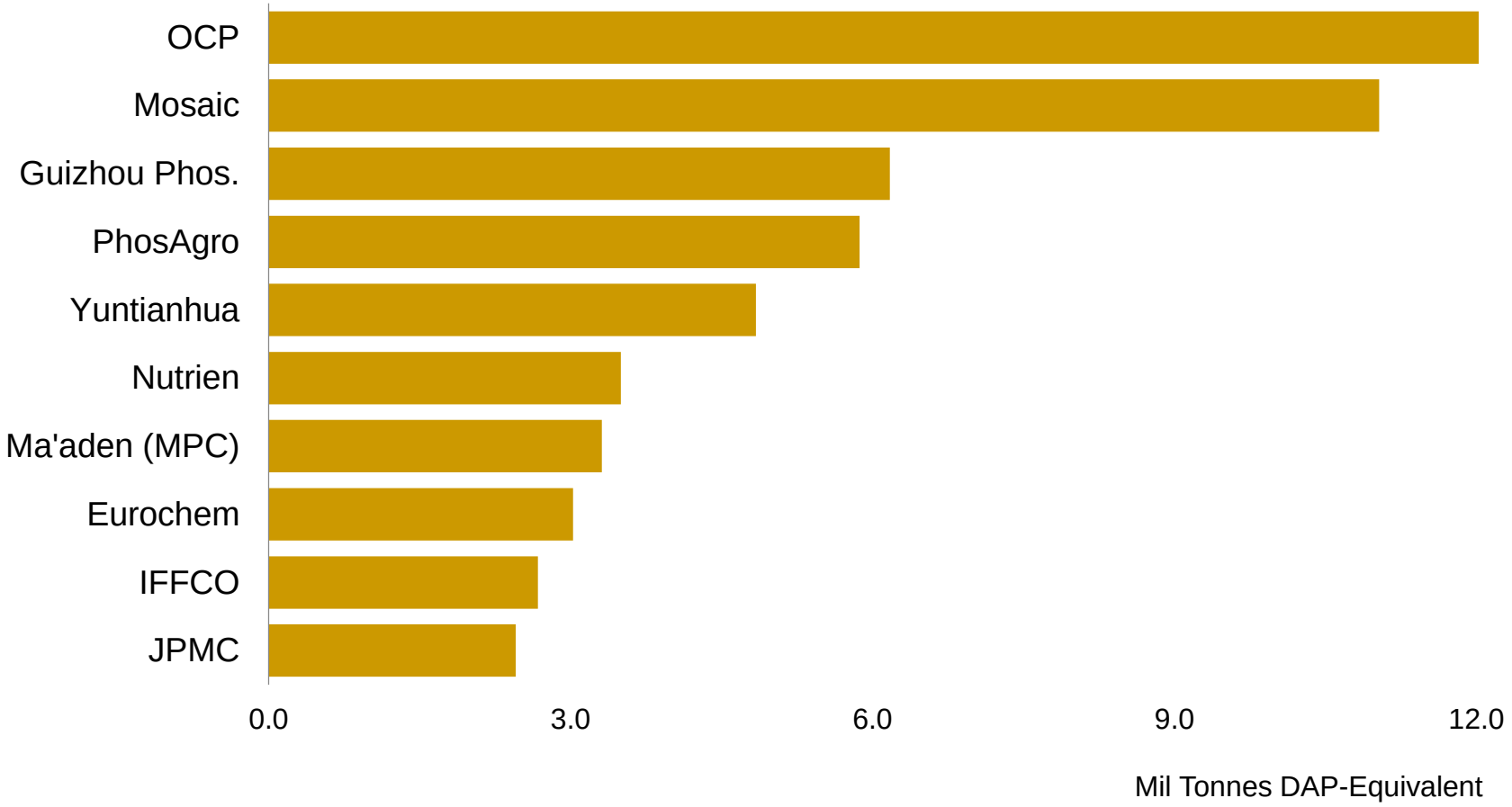


Source: CRU

Global Phosphate Rock Production

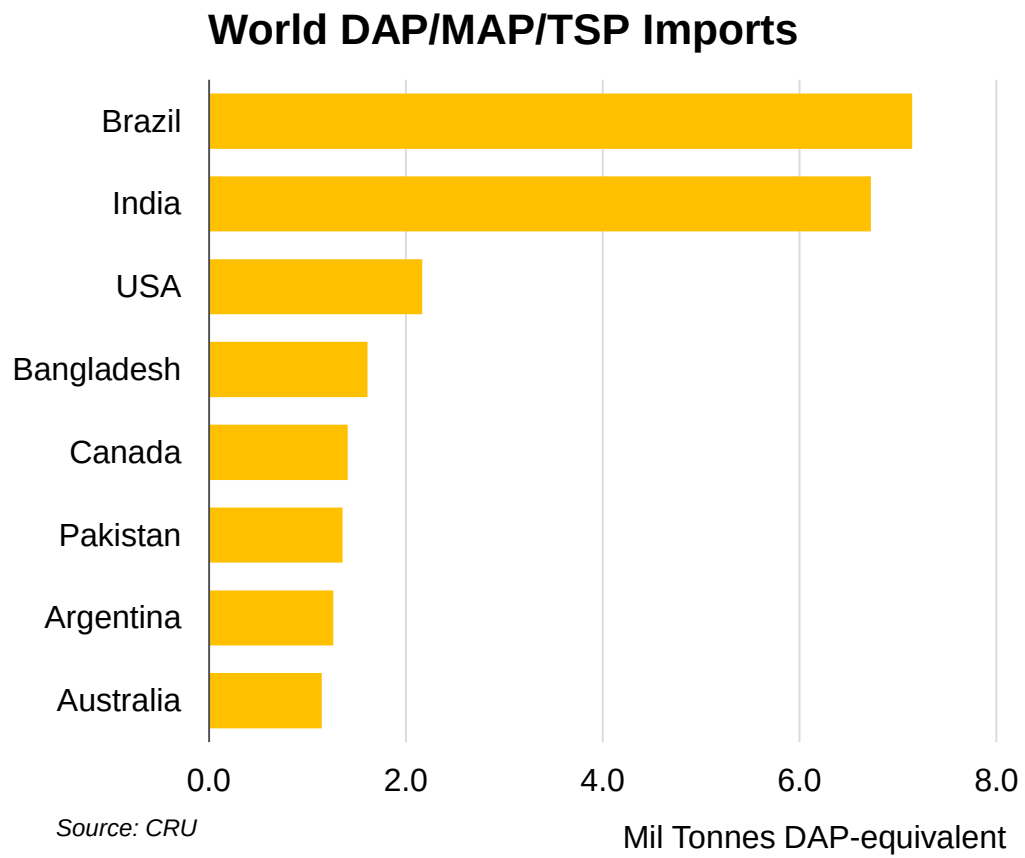


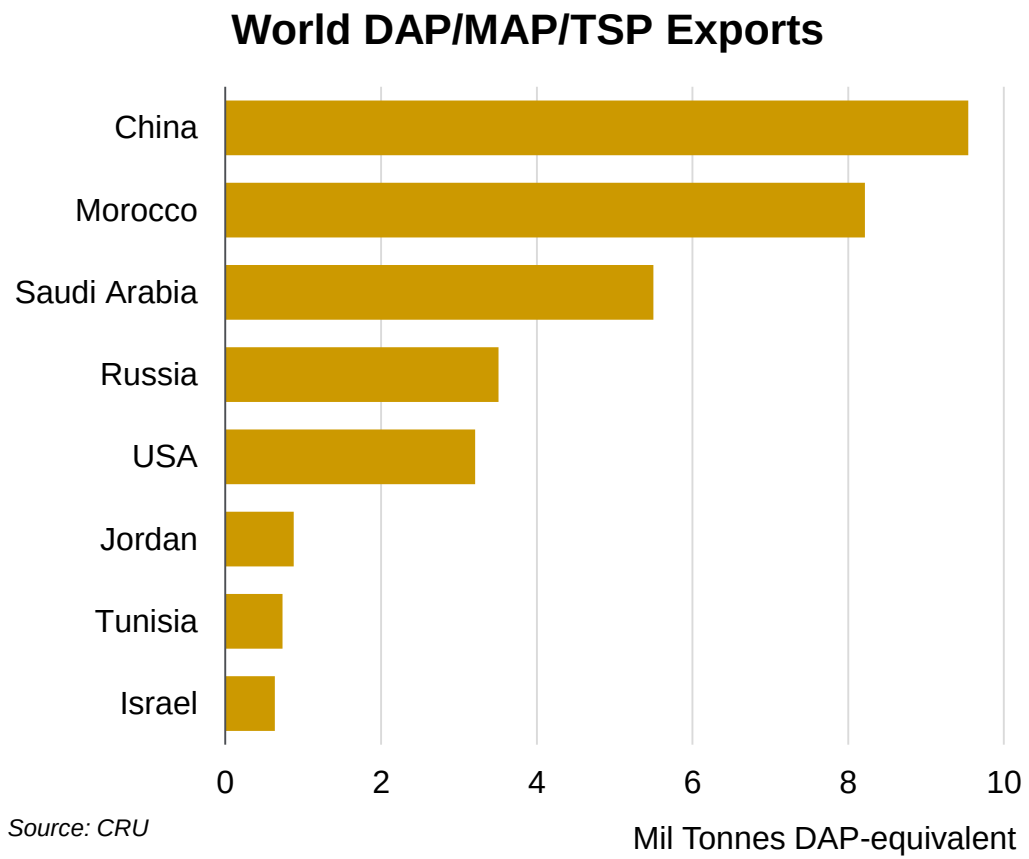
Phosphate Fertilizer Producers Top 10



Based on 2019 production
Sources: Company reports, IFA, CRU, and Mosaic estimates

Forecast Key 2020 Phosphate Trade Flows (DAP/MAP/TSP)

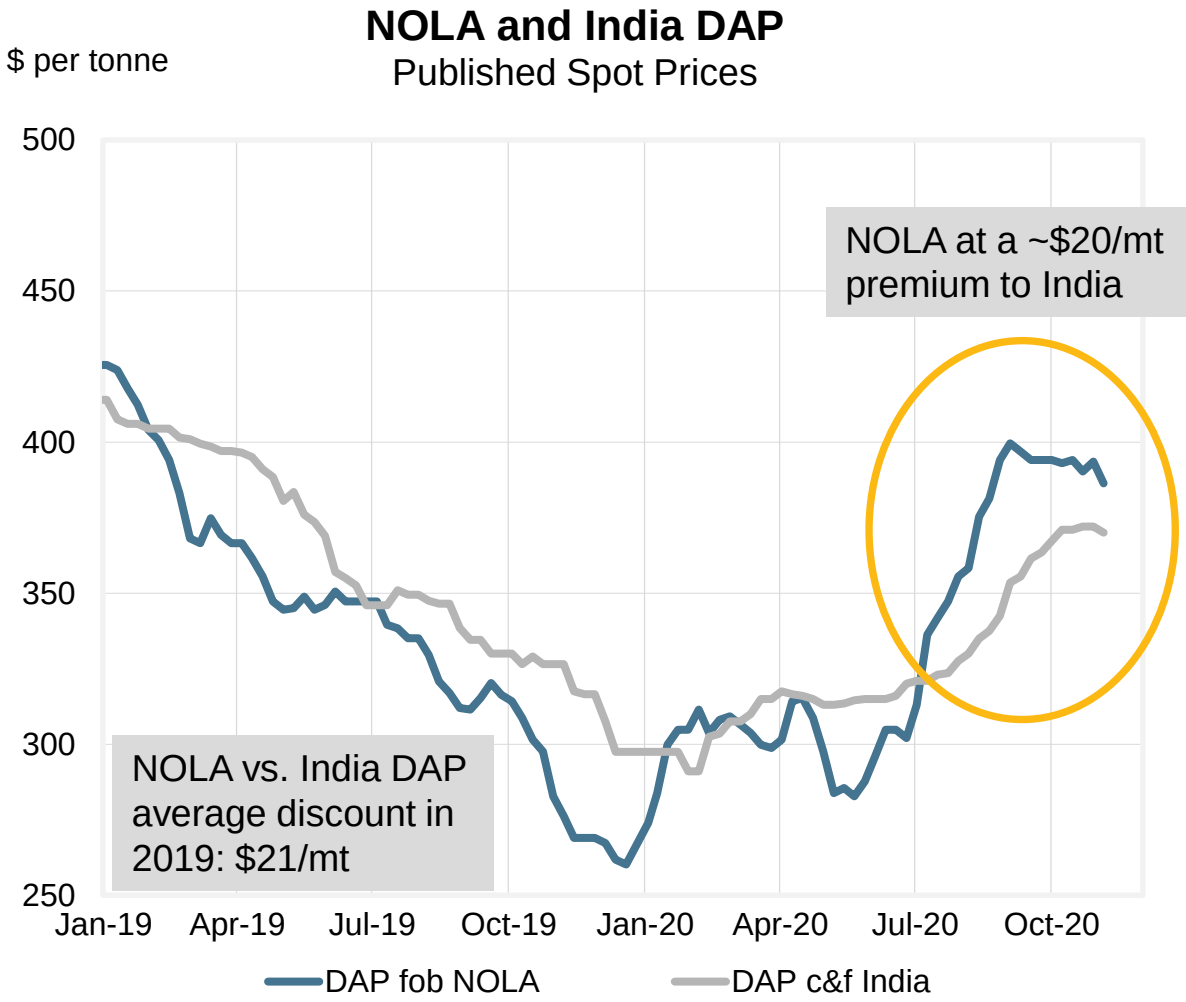


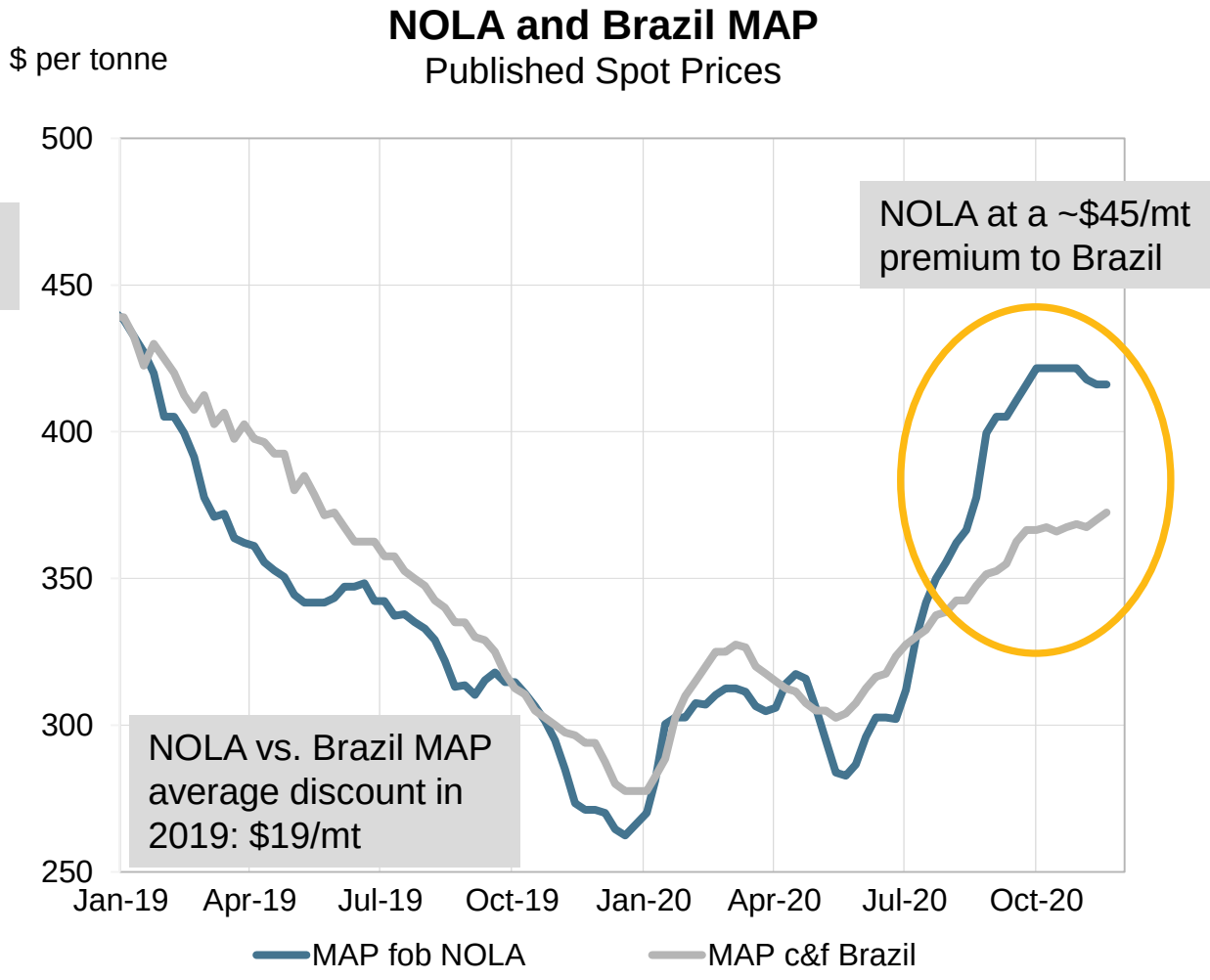


Top 8 countries represent 64% of imports

Top 8 countries represent 91% of exports

Phosphate Price: Tightening 2020 S/D drives global prices higher, not the CVD Petition



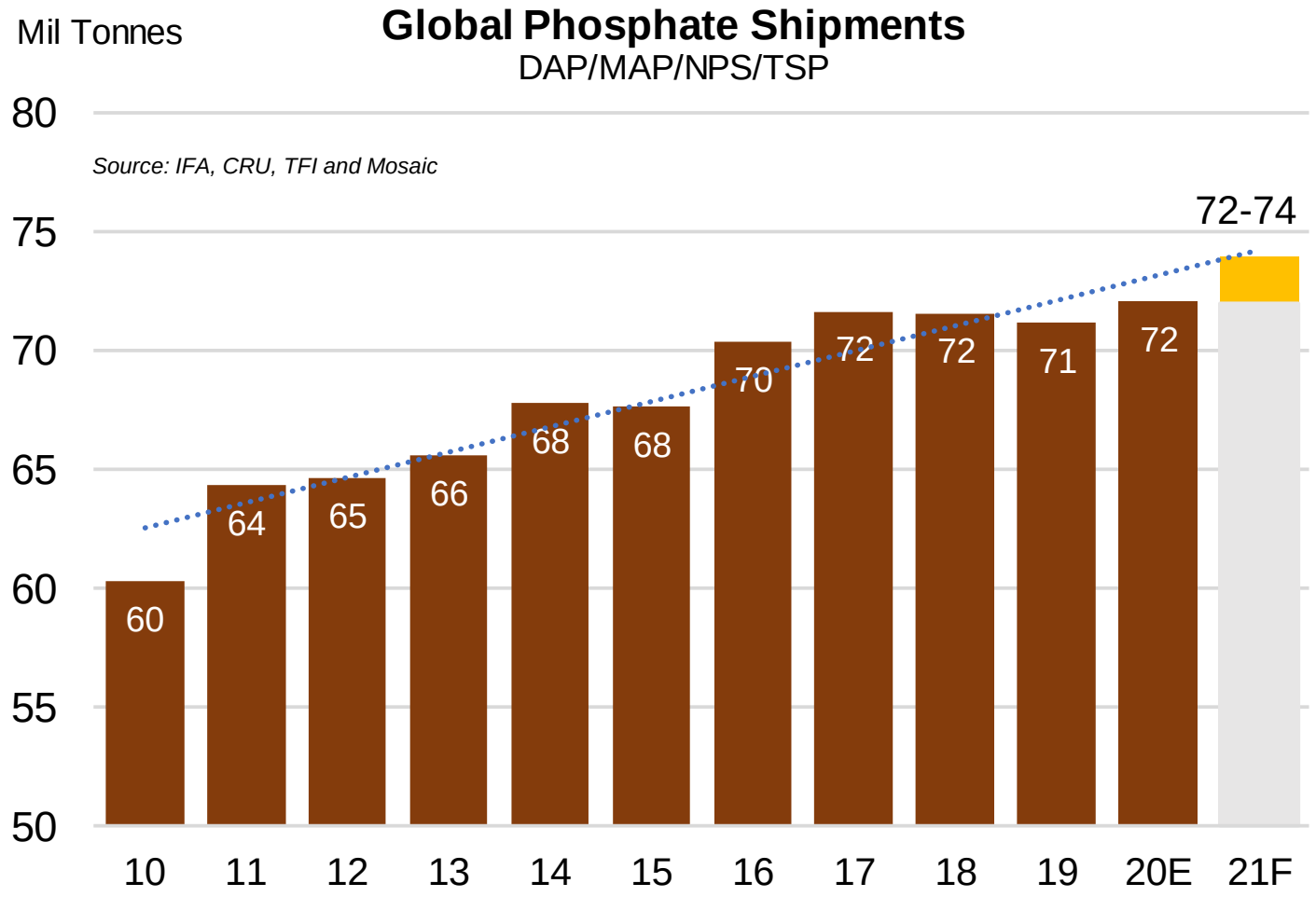


Source: Argus, Green Markets

**weekly average reported spot pricing for prompt delivery*

Data through November 20, 2020

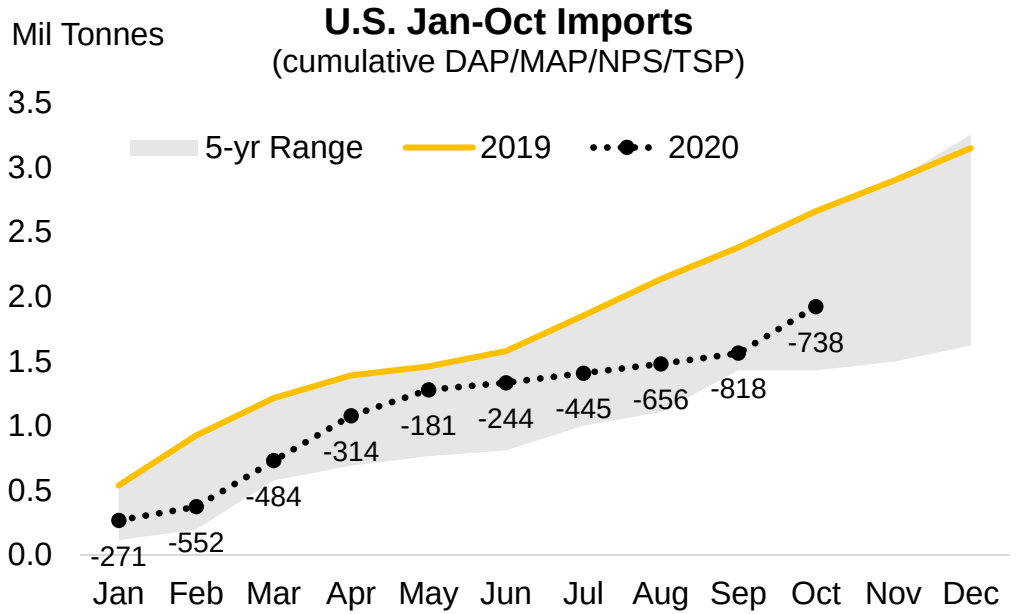
Phosphate Demand: Moderate and broad-based growth anticipated in 2021



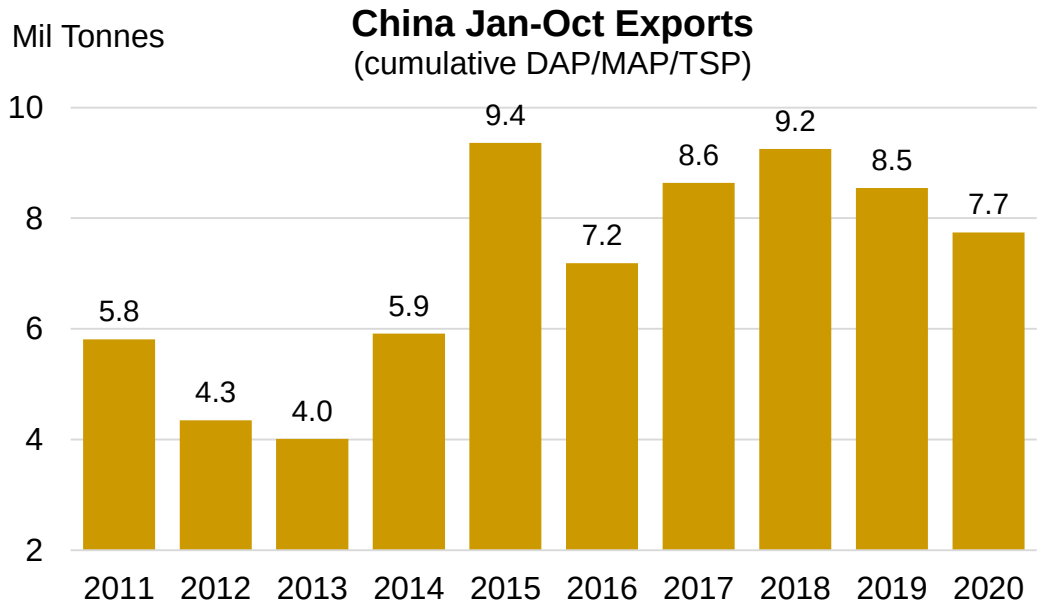
* NPS products included in this analysis are those with a combined N and P_2O_5 nutrient content of 45 units or greater.

Phosphate Factors to Watch

- **U.S. imports**
  - U.S. MOP imports through October 2020 were over 700,000 tonnes lower y-o-y, helping channel stocks to clear
  - Final CVD determination will influence trade flows
- **Chinese production and exports**
  - Market- and regulation-driven restructuring
  - Pace of DAP/MAP/TSP exports is slowing, with Jan-Oct exports down ~800,000 tonnes or -9% y-o-y



Source: Genscape and Mosaic

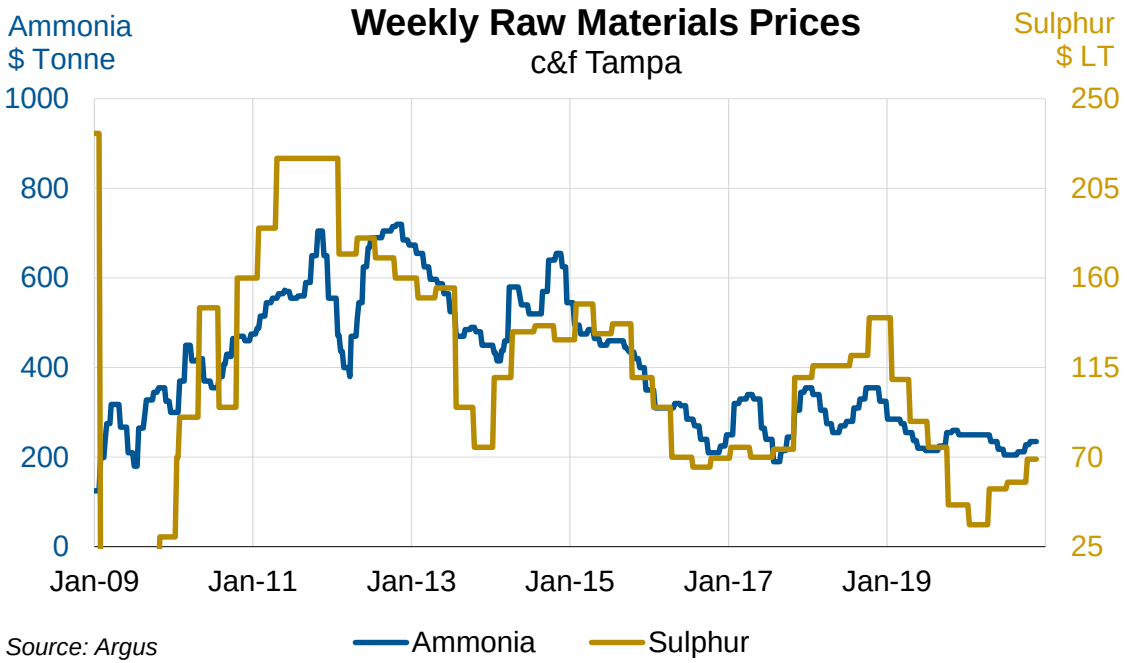


Source: China Customs

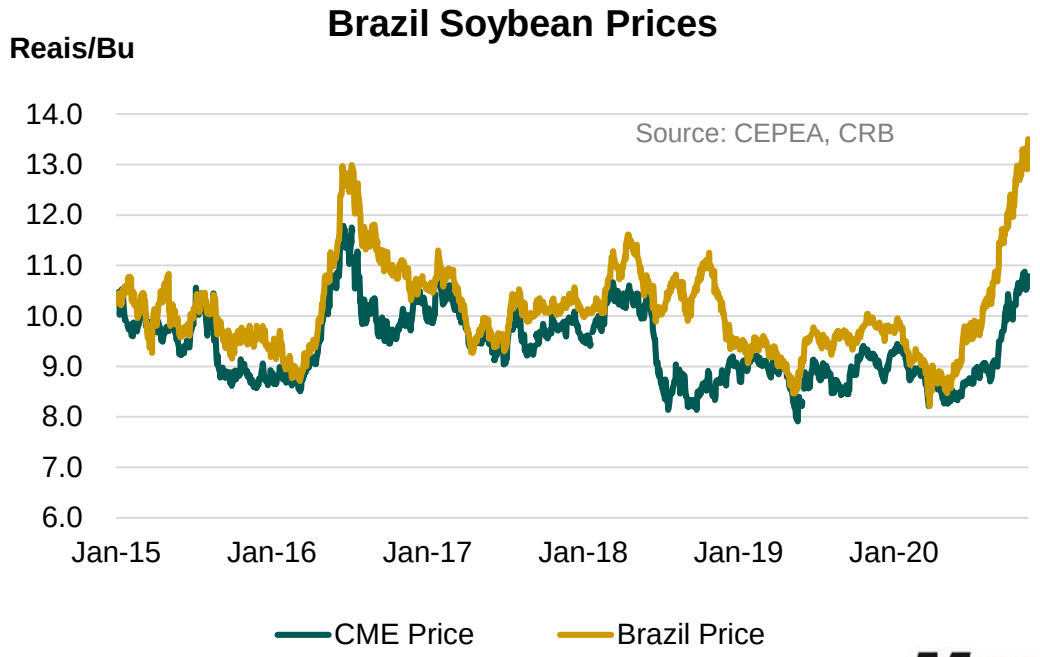
Phosphate Factors to Watch

- **Capacity ramp ups and new supply**
  - Little new capacity for the next few years
- **Raw materials costs**
  - Both sulphur and ammonia still have upside price risk going into 2021

- **Demand** trends / drivers
  - Brazil keeps growing, plus gains elsewhere
  - Balanced nutrient use initiatives
  - U.S. ag economy remains healthy
  - Farmer economics are solid worldwide



Source: Argus

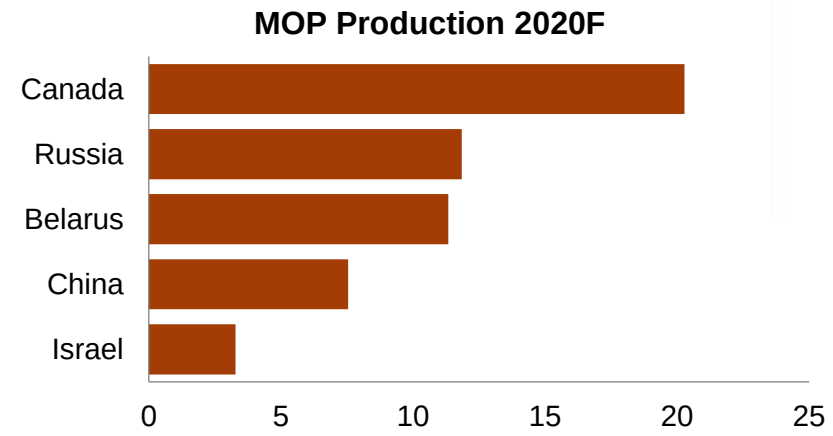


Data through November 20, 2020

Potash

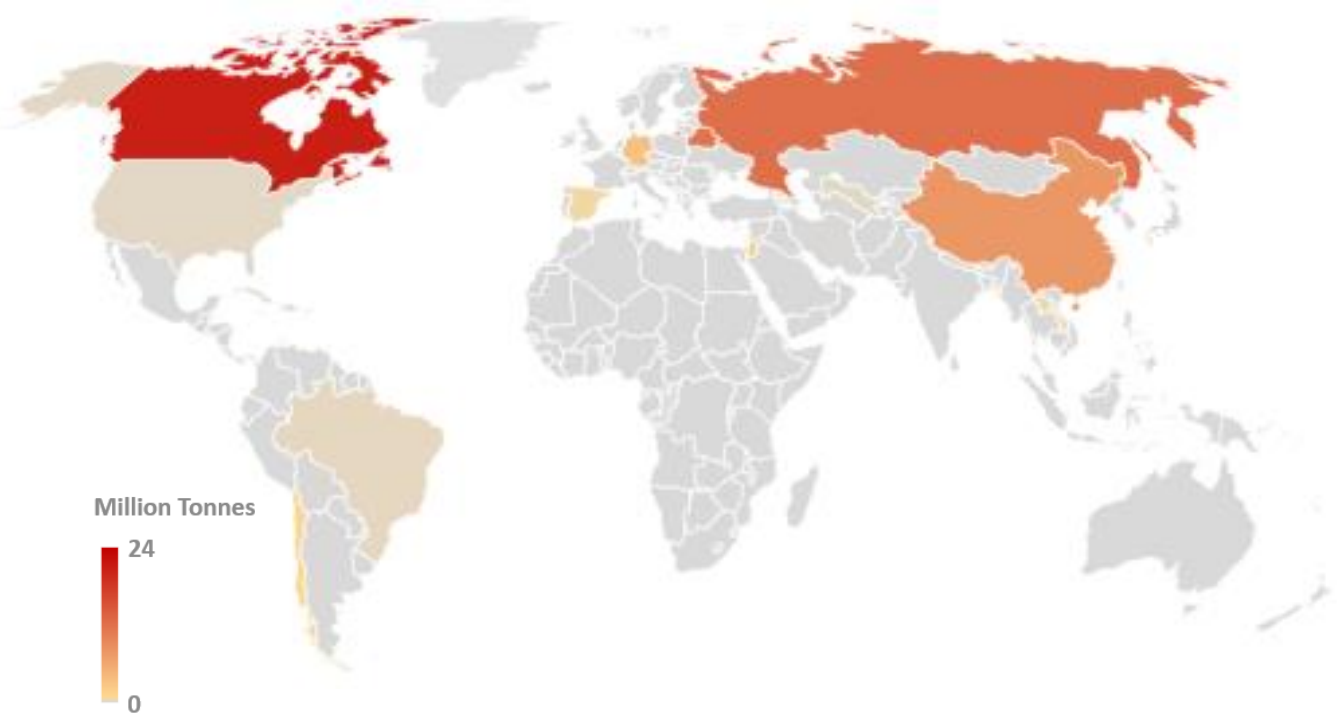
Primary Nutrient Overview: Potassium (K)

- Production process: separation processes with no chemical reaction
  - For sylvinite ore, KCl typically is separated from NaCl using flotation
- Key input: potash mineral ore
  - Shaft mines (~70% production)
  - Solution mines (~4% of production)
  - Surface brines (~26% or production)
- 2020 global use estimates (CRU)
  - Ag: ~37 mmt K_2O (~92% of demand)
  - Industrial: ~3.4 mmt K_2O (~8% of demand)

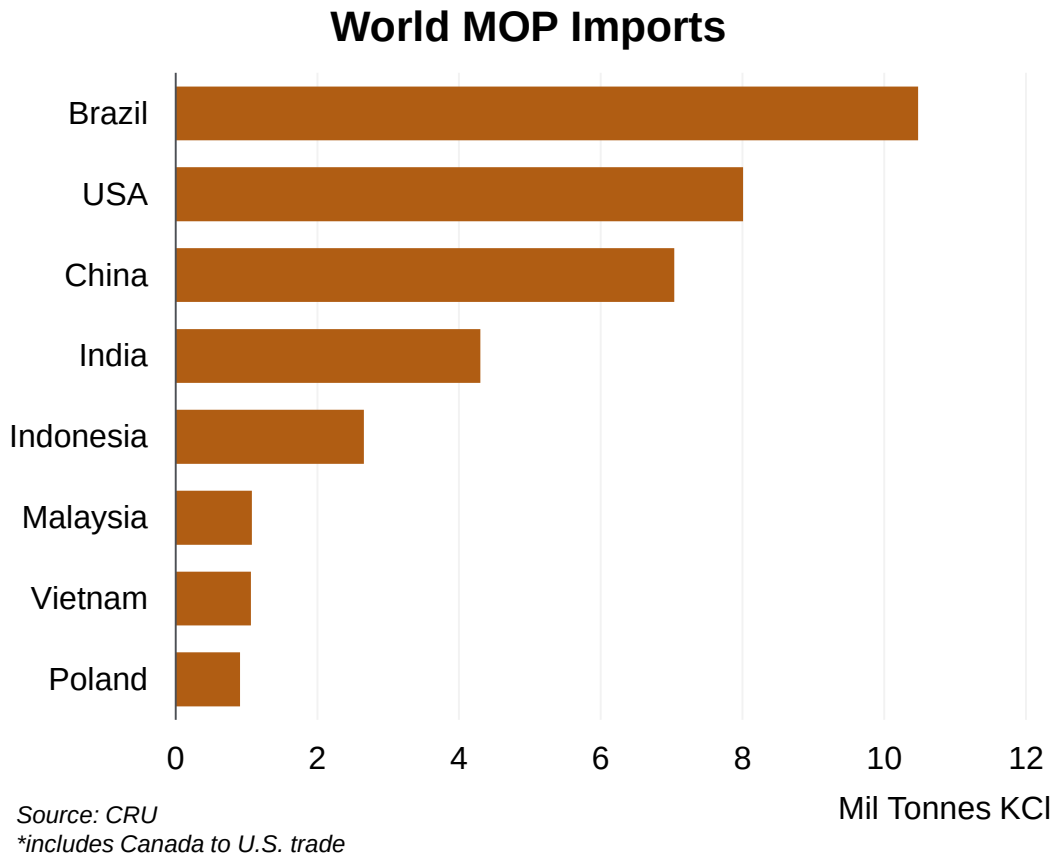


Source: CRU

Global MOP Production

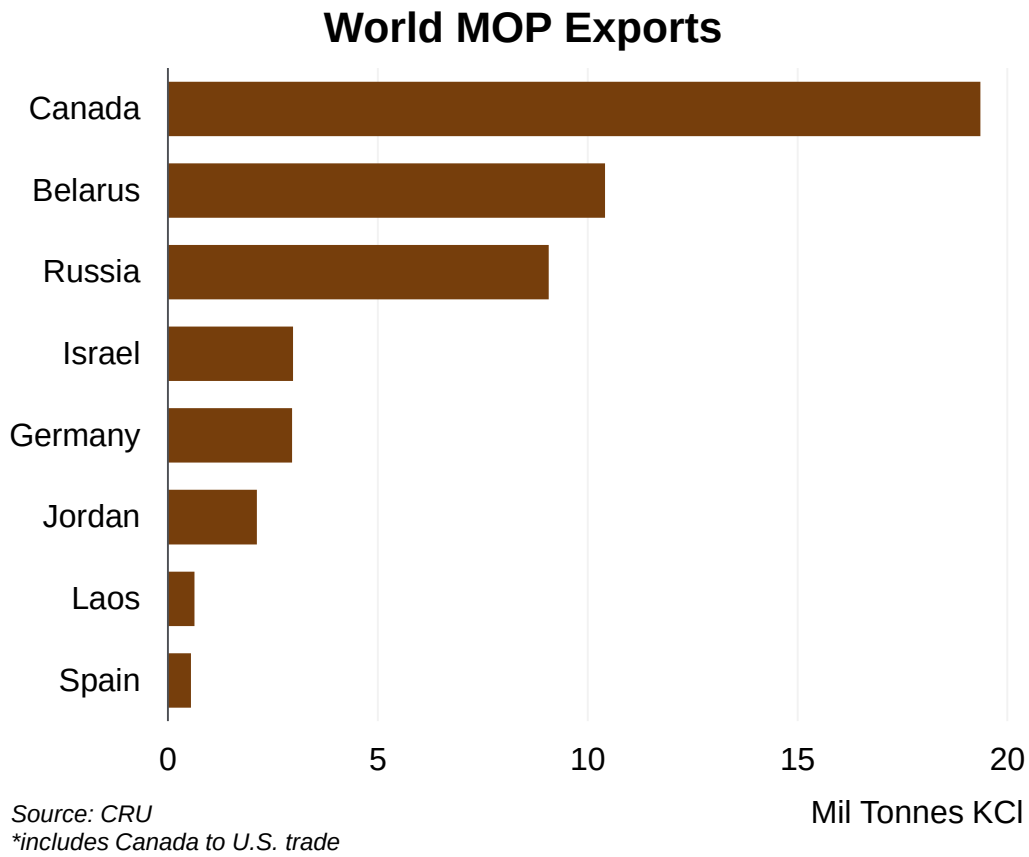


Key 2020 Potash Trade Flows (MOP)



Source: CRU
**includes Canada to U.S. trade*

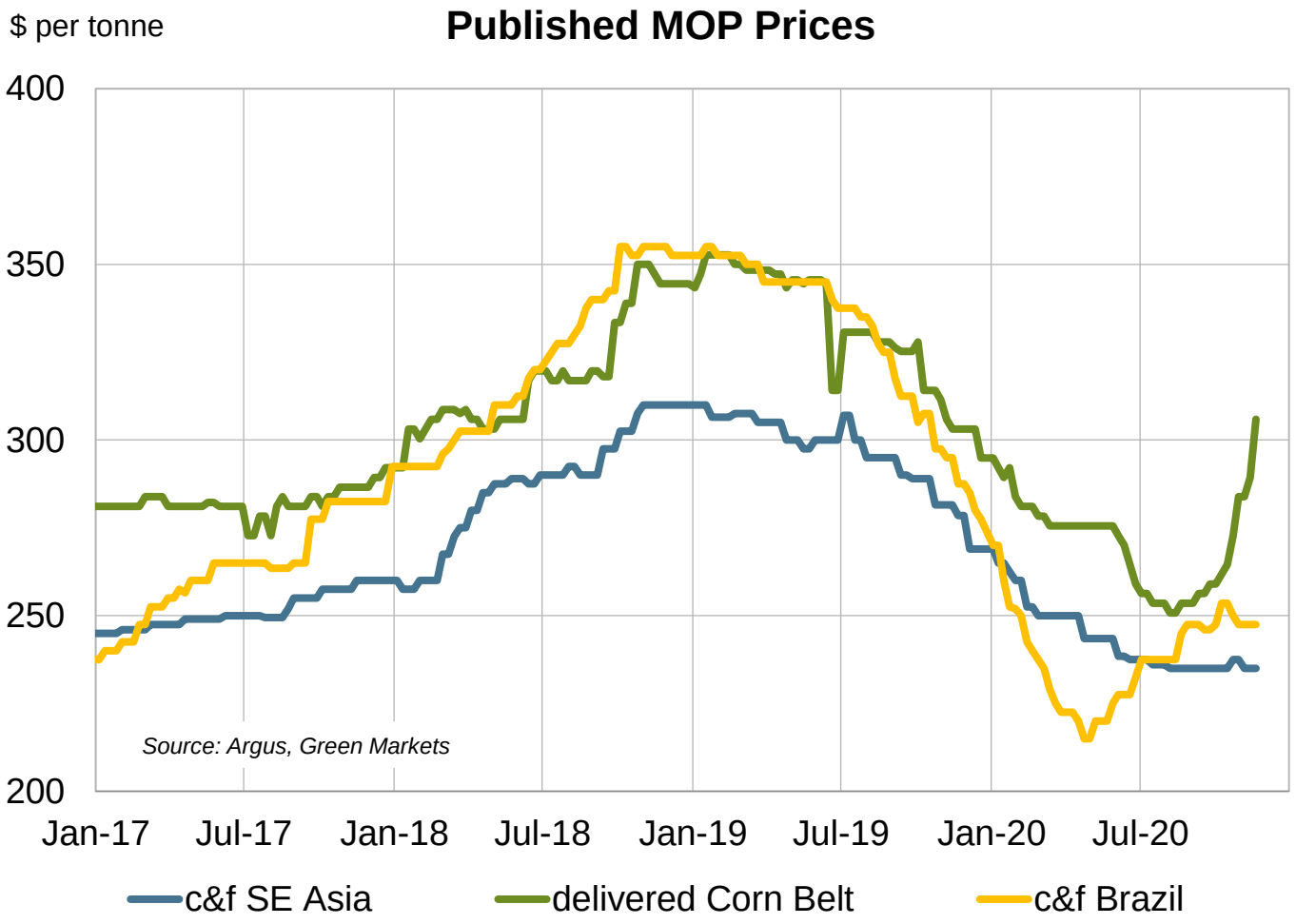
Top 8 countries represent 73% of imports



Source: CRU
**includes Canada to U.S. trade*

Top 8 countries represent 99% of exports

Seasonal demand and tight supply support price recovery, starting in granular markets

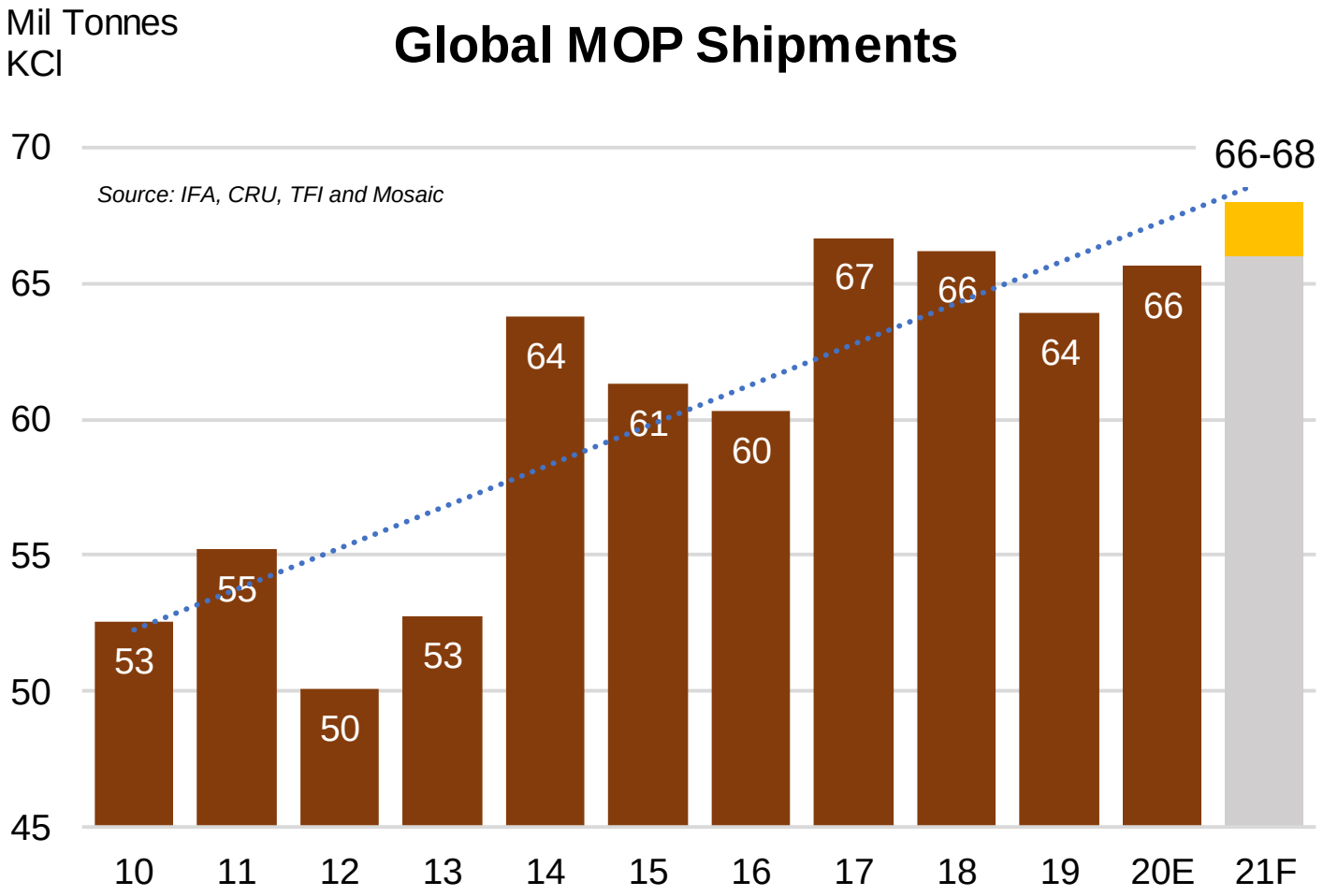


- Granular prices have rebounded, led by Brazil and then the US Midwest
- Brazil prices have rebounded more ~$30/mt from the decade-low level seen in April
- US prices have also moved up over $50/mt since mid-August
- Standard prices in SE Asia started to inch up in mid-October
- Prices ex-warehouse at Chinese ports have also moved steadily higher over the past 3 months.

**weekly average reported spot pricing for prompt delivery*

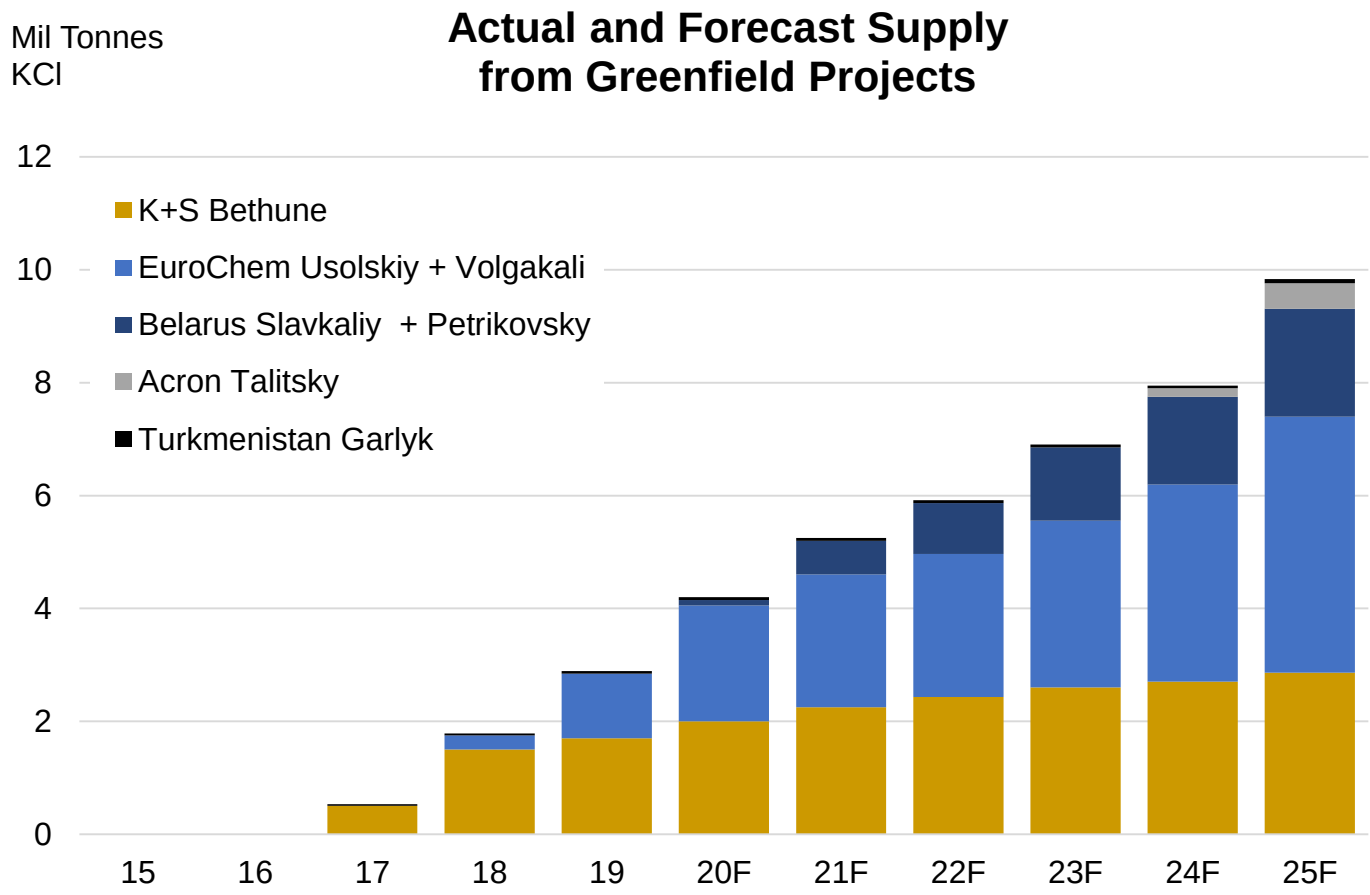
Price data thru November 19, 2020

Potash Demand: The shipment recovery journey is expected to continue in 2021



Potash Factors to Watch

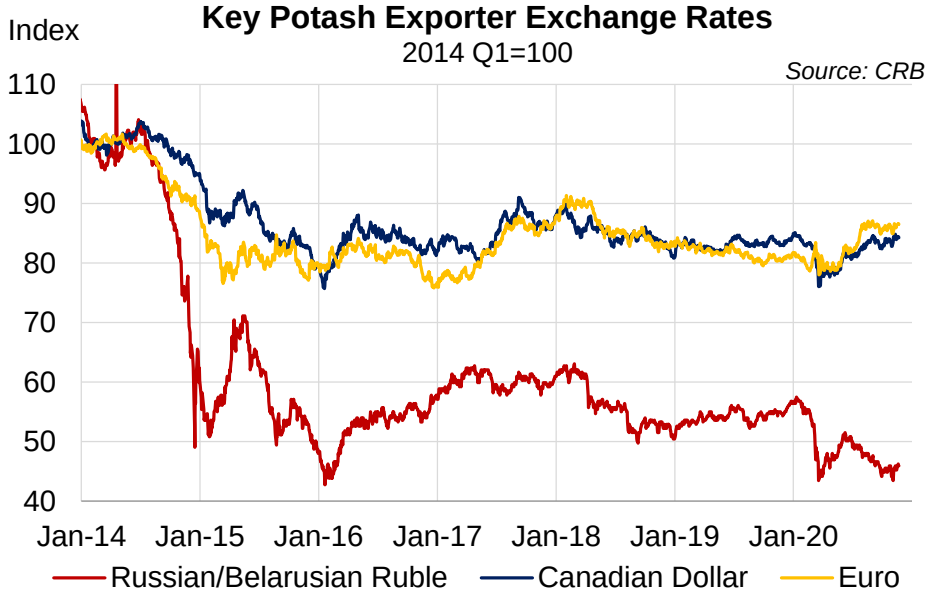
- **Ramp-up/start-up of new greenfield capacity**
  - Canada (K+S Bethune)
  - Russia (EuroChem Usolskiy and Volgakaliy)
  - Belarus (Belaruskali Petrikovsky and Slavkaliy Lyuban)
  - Other
- **Supply risk seems asymmetric to the downside (i.e. ramp ups underperform expectations)**

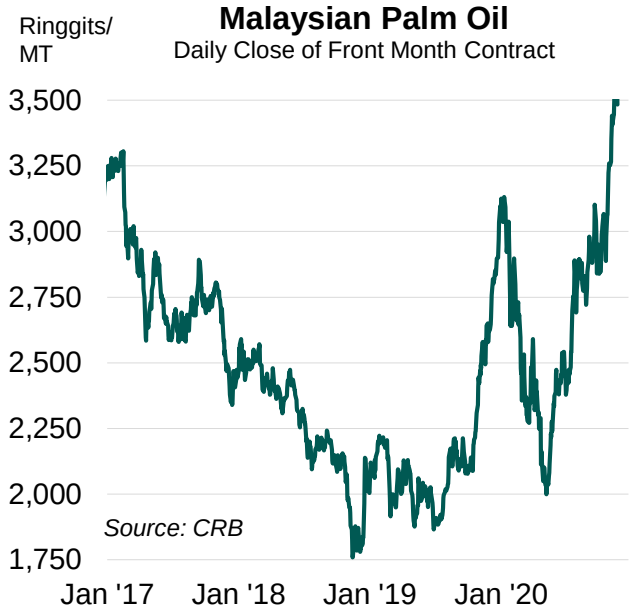


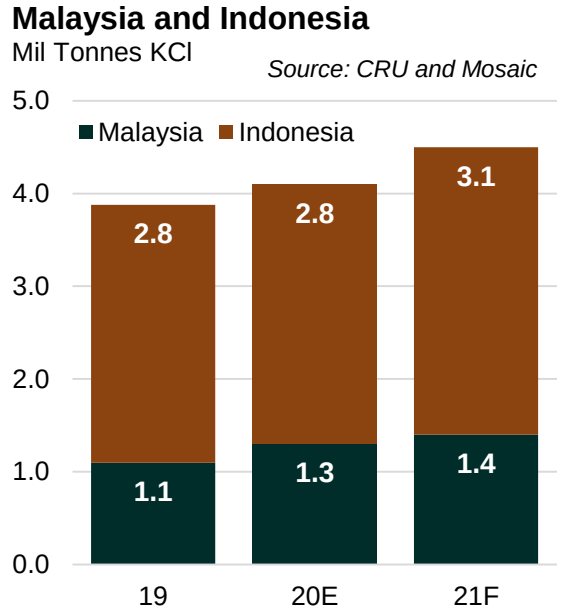
Sources: company reports, IFA, CRU and Mosaic

Potash Factors to Watch

- **Demand** trends / drivers
  - Broad-based growth around the world (potential for a “shipment surge”)
  - Agricultural commodity prices
  - Balanced nutrient use initiatives
- **Exchange rates**
- Palm oil prices and **recovery of SE Asia shipments**
- **Contract** negotiation/settlement in China and India
- **Potential supply disruption** (Belarus)







Price data thru November 20, 2020

Thank You!

Questions?

Chemicals for the Non-Chemist

Plant Nutrients and Plant Nutrient Markets

Citi Basic Materials Conference
November 30, 2020

Andy J. Jung
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