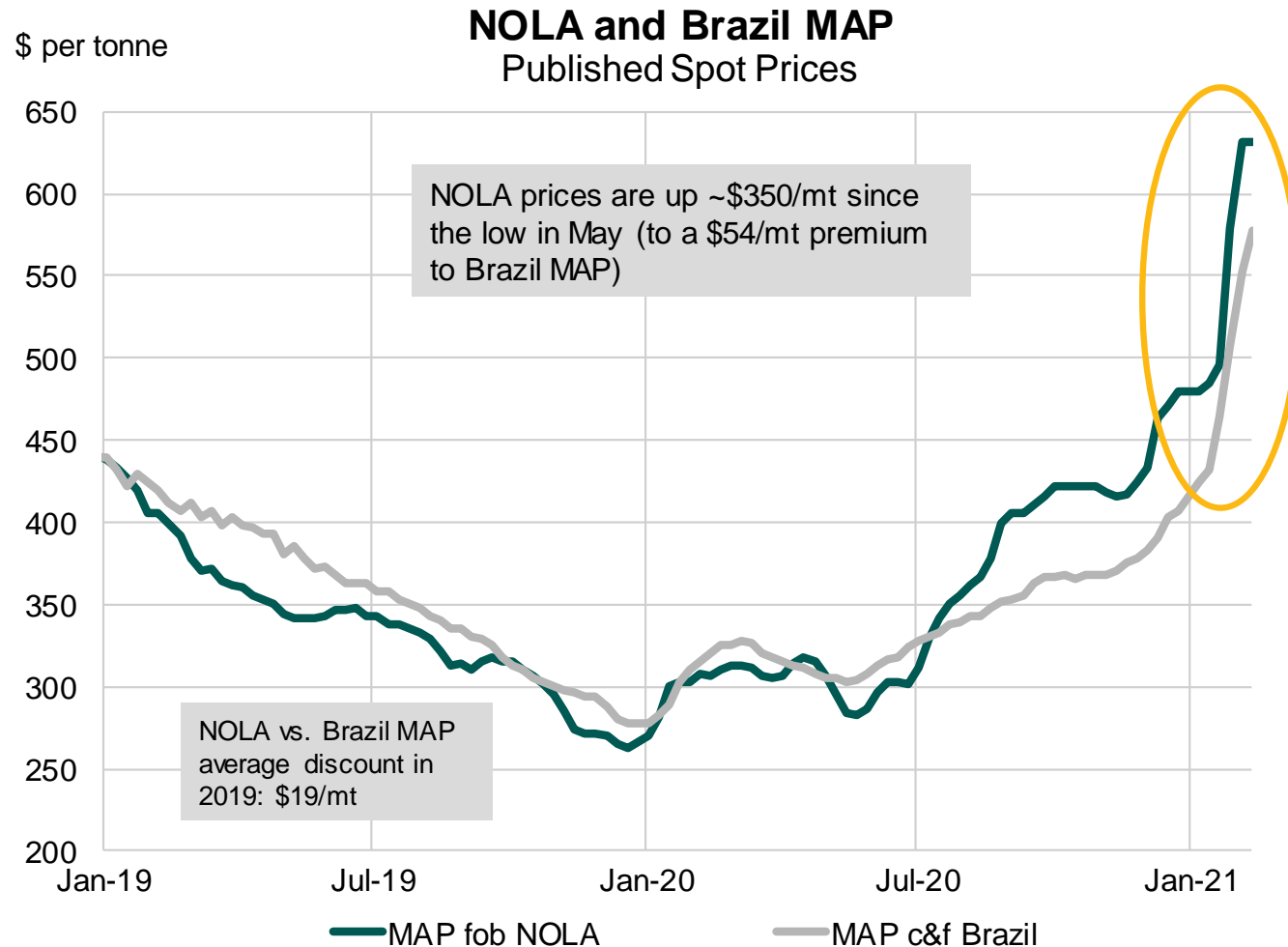


# February 2021 – Market Update



# Phosphate: Price rally continues

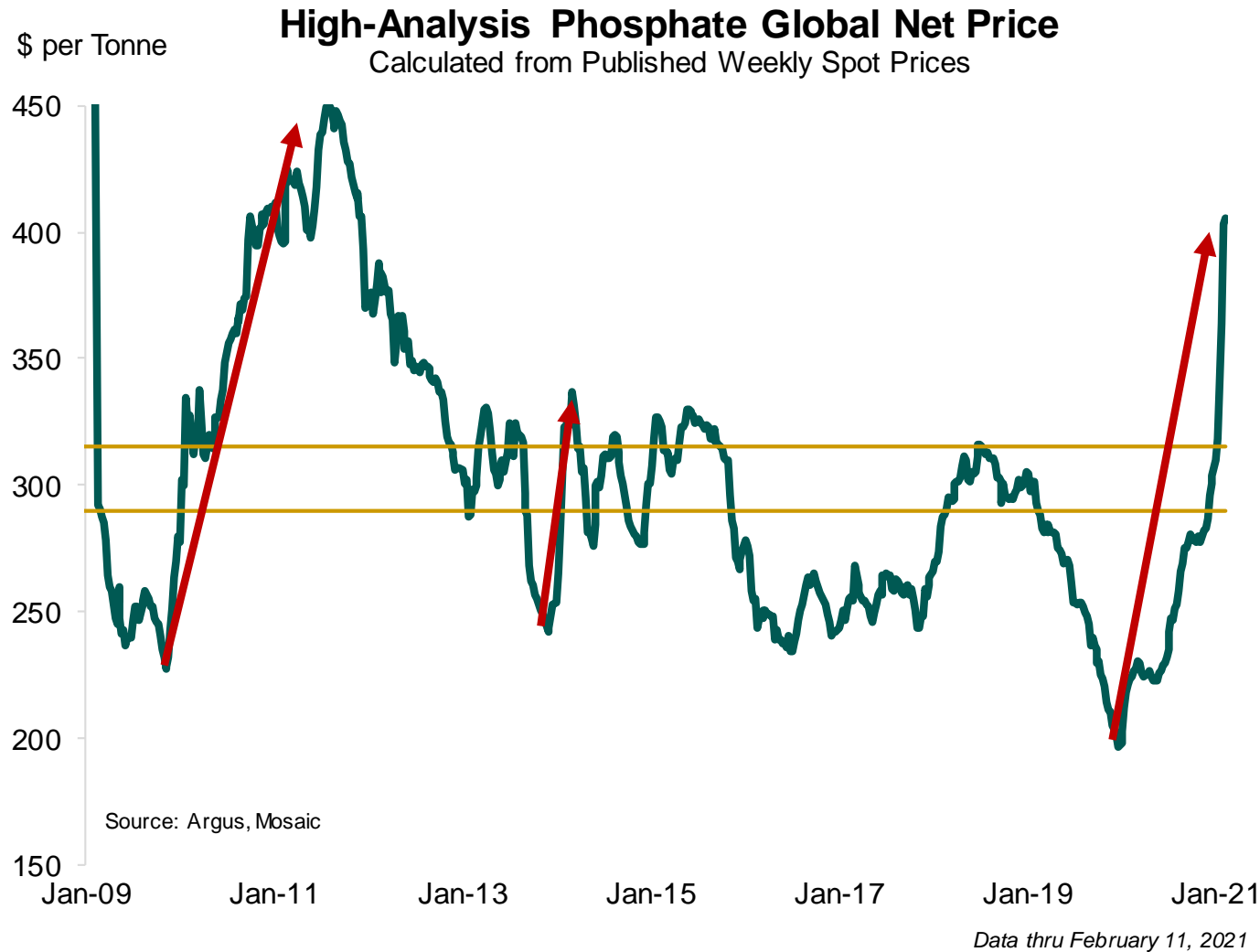


- Global prices are rising rapidly in the face of healthy demand prospects and tight supply.
- U.S. prices shifted to a premium to international benchmarks following the filing of the CVD petition.

Source: Argus, Green Markets

\*weekly average reported spot pricing for prompt delivery  
Data thru February 11, 2021

# Phosphate: Industry health has improved markedly

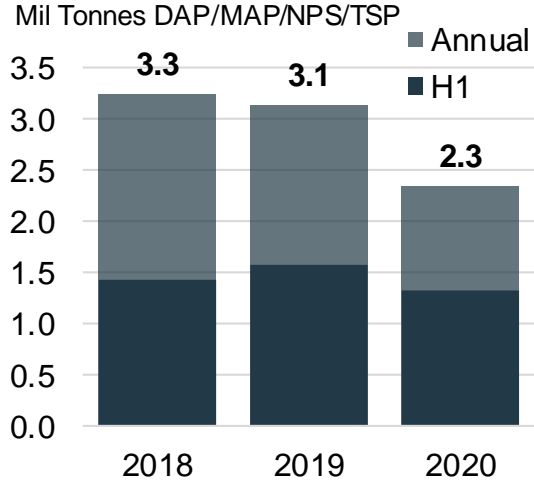


- Phosphate industry margins have risen rapidly in the face of healthy demand prospects and post-CVD petition impacts.
- Such a rapid change in benchmark margins has multiple precedents from the past dozen years.

Global net price averages several global price benchmarks for finished phosphates and raw materials. It does not include any handling, storage, transportation or conversion costs.

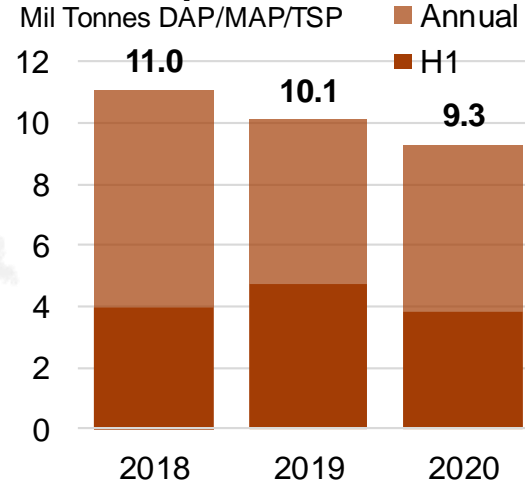
# 2020 Regional Phosphate Roundup

## U.S. Offshore Imports



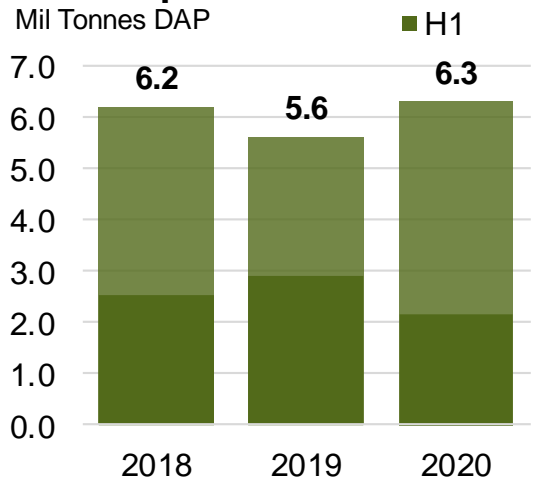
U.S. imports from offshore sources remained subdued during H2 despite a marked uptick of non-Moroccan/Russian origin shipments in Q4. 2020 imports were down 25% (or almost 800kt) y-o-y.

## China Exports



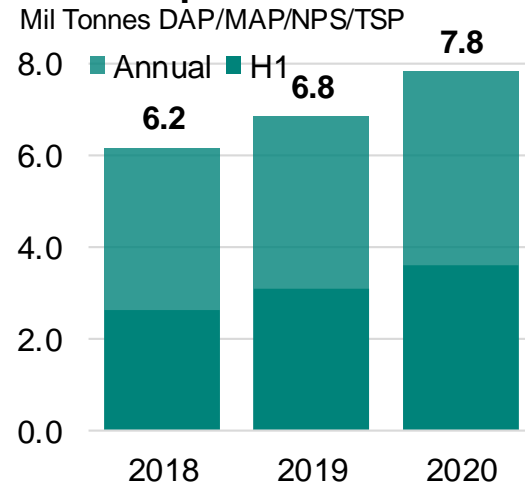
Chinese exports in H2 did not offset the y-o-y decline in H1 and ended 2020 down 8% (783kt) y-o-y, in-line with expectations.

## India Imports



DAP arrivals rebounded sharply in H2. Total India DAP imports exceeded 6.3mmt (+12% or 680kt y-o-y) in 2020.

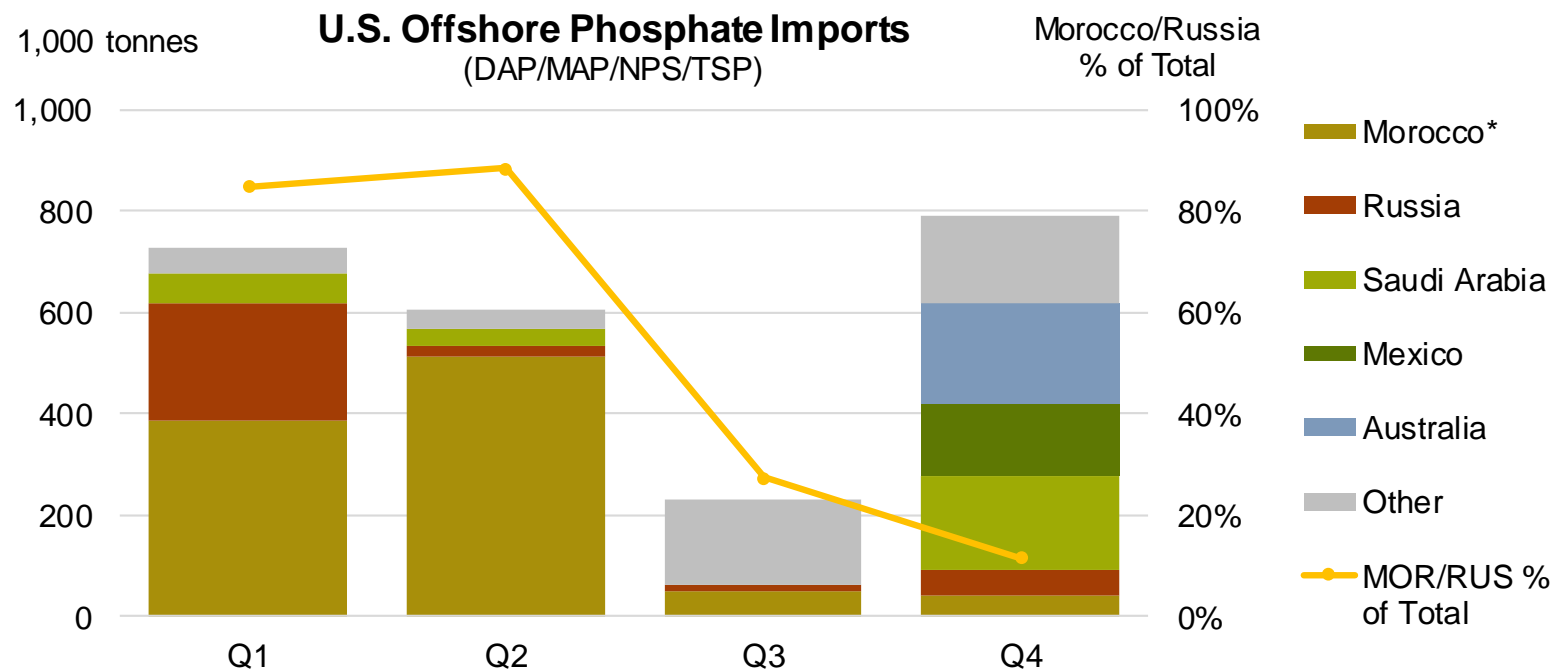
## Brazil Imports



With Q4 imports stronger than expected, Brazilian phosphate imports were up 991kt or 15% y-o-y.

Source: FAI, India Department of Fertilizer, Genscape, China Customs, Siaesp, Mosaic

# U.S. Phosphate Fertilizer Imports



- Trade flows are adjusting as the CVD petition progresses.
- Expect a new normal to develop subsequent to the final determination from the ITC in March.

Source: Genscape; Mosaic

\* Estimated volume from Morocco in Q4 was for bonded shipment to Canada via the U.S.

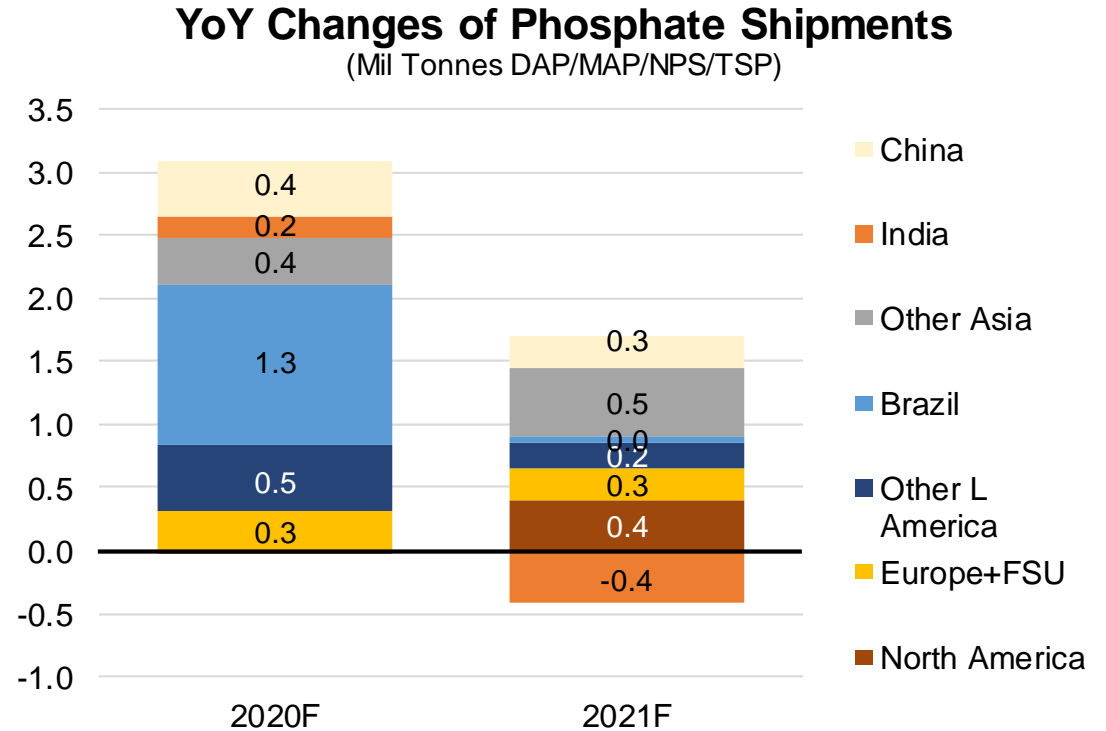
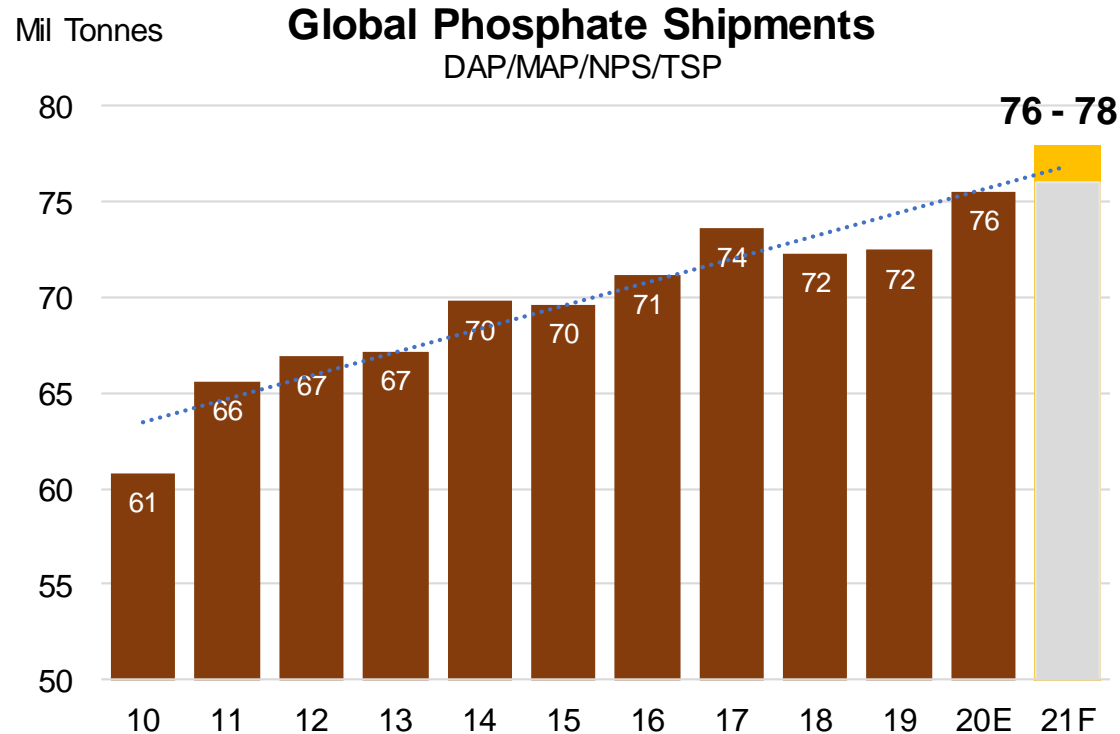
► Petitions filed with DOC & ITC to request initiation of CVD investigations on June 26<sup>th</sup>

► Affirmative decision received from ITC on August 7<sup>th</sup>

► Affirmative decision received from DOC on November 23<sup>rd</sup>

► DOC issues final affirmative countervailing duty determination on February 9<sup>th</sup>, 2021

# Global Phosphate Demand



\* NPS products included in this analysis are those with a combined N and P<sub>2</sub>O<sub>5</sub> nutrient content of 45 units or greater.

- We revised up our estimate of global phosphate shipments in 2020. The revision also included updates to historical estimates of NP/NPS products. After very strong shipment growth in 2020, we forecast global demand to increase at more moderate rate of 1.0-2.0 million tonnes in 2021.
- Demand growth is supported by continued constructive agricultural fundamentals, while rising fertilizer prices could curb demand in certain regions. We've thus taken a conservative stance versus the growth seen last year, despite channel inventories estimated to be well below average.

# Global Phosphate Shipment Forecasts by Region

February 2021

DAP/MAP/NPS*/TSP Mil Tonnes	2019	2020E	Low 2021F	High 2021F	Comments
China	17.8	18.3	18.4	18.6	Domestic phosphate shipments in 2020 increased for the first time in five years, and higher ag commodity prices are expected to spur further growth in 2021. This reversal removes the largest headwind to global phosphate shipments. Domestic DAP/MAP production in 2020 declined by nearly 0.4mmt (as per CPFIA data), illustrating the continued structural changes taking place in their industry, while CPFIA's producer DAP/MAP inventory figures showed a drop of nearly 1.1mmt y-o-y at the end of December. DAP/MAP/TSP exports in 2020 were nearly 0.8mmt lower y-o-y. Despite the rally in international prices, we expect 2021 export volume to remain constrained, driven in part by a further modest increase in domestic demand.
India	11.3	11.4	10.8	11.2	2020 shipments were revised higher on solid Q4 imports (as well as being rebased higher to include additional NP products). DAP imports ended the year up by nearly 700kt to 6.3mmt, while production fell by over 600kt to 4.1mmt. This, along with a strong domestic sales pace pushed total DAP inventories down by ~1.3mmt y-o-y. Looking ahead to 2021, higher international prices and the potential for limited additional subsidy could see MRPs increase sharply and curb demand, and we have lowered our shipment and import forecasts to reflect this. We continue to look for further guidance on the subsidy, while farmeconomics and the monsoon outlook continue to look favorable.
Other Asia/Oceania	9.4	9.7	10.2	10.4	Farm economics continue to be conducive to a more meaningful rebound in demand, particularly given the strength of ag commodity prices and generally benign weather. Fertilizer demand, however, continues to lag due to continued issues with labor movement restrictions, and we have pared back our demand growth expectations to reflect this.
Europe and FSU	6.6	7.0	7.1	7.3	Shipments in Europe/FSU are expected to continue to see moderate y-o-y growth in 2021, led by growth in Russia, while demand in the EU is expected to be stable. Dry conditions continue to be monitored in Germany/Poland.
Brazil	8.4	9.7	9.9	10.2	Strong imports in Q4 have resulted in a further upward revision to our 2020 shipment estimate. DAP/MAP/NPS/TSP imports were nearly 1mmt higher y-o-y, while channel stocks were little-changed (i.e. higher imports were a demand-pull paradigm). The ag sector continues to be lifted by higher prices and still-weak FX, and purchasing activity continues to run ahead of historical norms. We expect this robust demand pattern to persist through 2021.
Other Latin America	3.9	4.5	4.5	4.8	Similar to Brazil, favorable farmeconomics resulted in strong growth in 2020 (note the rebased figures include additional NP products). Our forecast for 2021 continues to show a slower, yet still robust demand growth across most countries.
North America	9.8	9.8	10.0	10.3	Normal spring and fall weather, increased acreage, lower imports (down ~25% y-o-y) and improved farmer balance sheets (in part due to improving crop prices) led to a recovery of on-farm demand in 2020. This strong demand allowed channel inventories to clear and put availability in the spotlight as the market turned to 2021. The recent rally in ag commodity prices portends strong on-farm demand in 2021 and with a depleted channel is expected to necessitate an increase in shipments y-o-y.
Other	5.2	5.2	5.1	5.3	We have revised our 2020 estimate higher due to the inclusion of additional NP products. Demand growth is expected to be constrained in 2021 due to higher prices curbing demand, most notably in Africa.
<b>Total</b>	<b>72.5</b>	<b>75.5</b>	<b>76.0</b>	<b>78.0</b>	Rebased global shipments are estimated to have increased 3.0mmt or 4.2% in 2020, to 75.5mmt. Our forecast range for 2021 is rebased and revised higher to 76-78mmt with a point estimate of 77.3mmt. This represents demand growth of 2.4% y-o-y.

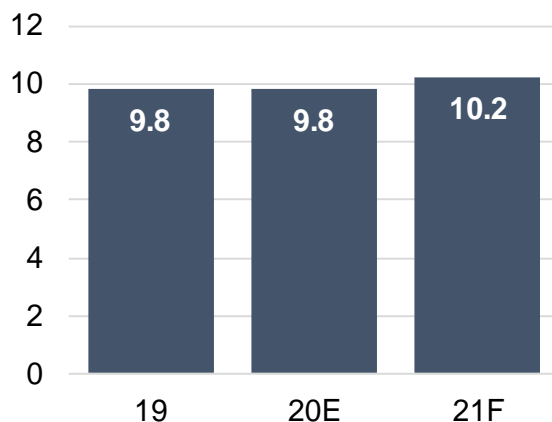
Source: IFA, CRU and Mosaic  
(regional figures may not sum to total due to rounding)

\* NPS products included in this analysis are NP and NPS products with a combined N and P<sub>2</sub>O<sub>5</sub> nutrient content of 45 units or greater.

# 2020E & 2021F Major Phosphate Market Summary

## North America

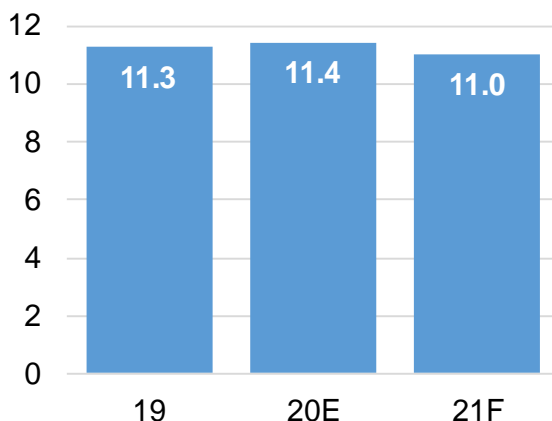
Mil Tonnes DAP/MAP/NPS/TSP



Despite lower imports, **NA** phosphate shipments were largely unchanged in 2020. Positive acreage prospects next year and strong farm economics are expected to result in healthy demand. The 2021 baseline forecast is up 4% y-o-y.

## India

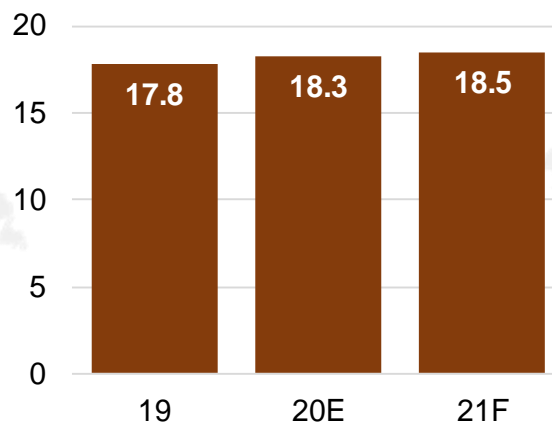
Mil Tonnes DAP/MAP/NPS/TSP



**India's** ag sector grew in 2020 and DAP/NPS shipments were up 2%. However, the baseline 2021 forecast is down 4% y-o-y based on upwardly-revised MRP expectations amid a potentially lower (preliminary) P subsidy.

## China

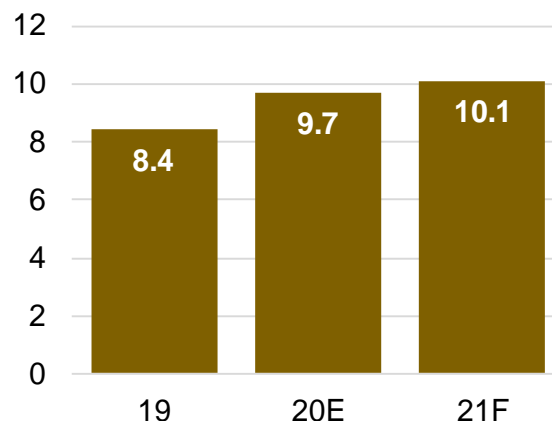
Mil Tonnes DAP/MAP/NPS/TSP



The historic trend of declining phosphate demand in **China** reversed in 2020, with shipments up 2% y-o-y. The 2021 baseline forecast is up another 1% y-o-y due to favorable farm economics and higher acreage; this could keep more supply home and constrict exports.

## Brazil

Mil Tonnes DAP/MAP/NPS/TSP



**Brazil** phosphate fertilizer shipments are estimated to have grown an astounding 15% in 2020 due to favorable farm economics, supported by a weak currency. This trend is expected to continue (moderated) in 2021, though our forecast could prove conservative.



# Phosphate S/D: More balanced market as we move through 2021 (but risk appears asymmetric to further tightness)

## Phosphate Supply / Demand Forecast

(Incremental Y-o-Y Change)

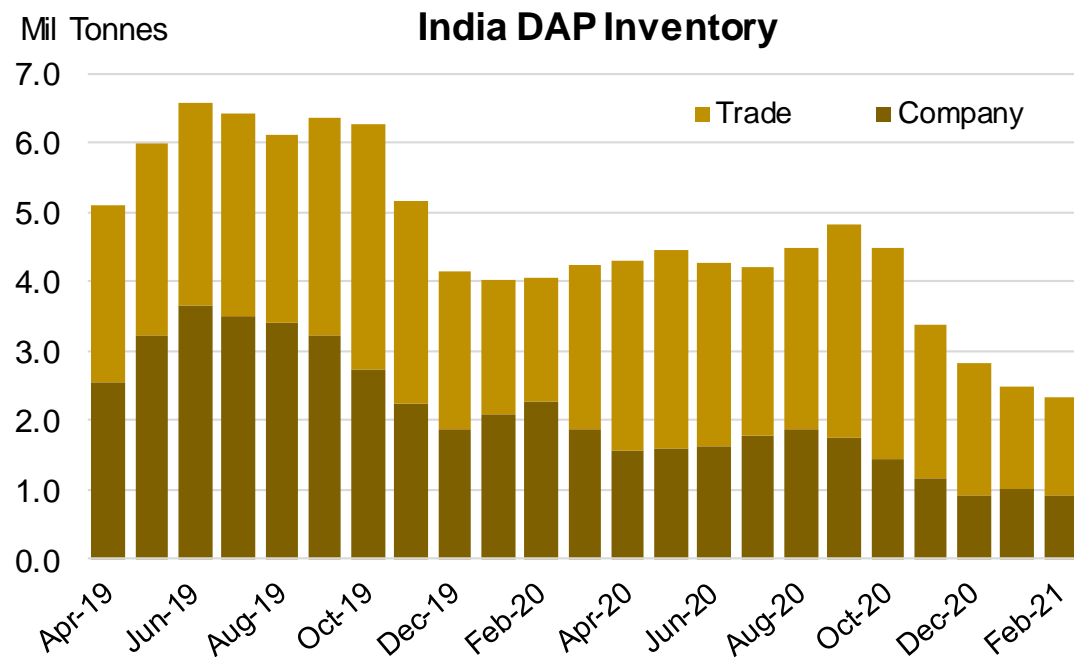
Mil Tonnes DAP/MAP/NPS/TSP	2020E	2021F	Comments
<b>Projected Shipment Changes</b>	<b>3.06</b>	<b>1.78</b>	Moderate demand growth forecast, as higher prices may curb strong growth seen in 2020 (through a depleted channel will act as an offset)
<i>Percent Change</i>	4.2%	2.4%	
<b>Potential Supply Changes</b>	<b>0.19</b>	<b>1.97</b>	
Base Case China Export Change	-0.81	0.01	Broadly flat exports despite higher margins (constrained by strong domestic demand)
OCP Line F Ramp-Up and Debottlenecking	1.50	0.30	Line F full capacity in 2022
MWSPC Ramp-Up	-0.11	0.34	Production recovers to ~2.4mmt DAP-equivalent after setback in 2020.
GCT Mdilla Commissioning / Ramp-up	0.00	0.09	Notable uncertainty if this will occur.
Turkey/Egypt Greenfields	0.28	0.19	Both projects achieve full utilization in 2021.
FSU Expansions	0.00	0.15	Incremental volumes from PhosAgro Volkhov.
Other Ramp-Ups / Closures	-0.13	0.09	NTR Redwater resid. ('20); CIL-India expansion ('20/21); Philphos restart ('21)
Misc. Known Operational Changes	0.55	0.00	Primarily the production rebound at IPL-Australia ('20)
Curtailments (COVID-19 & Voluntary)	-1.10	0.80	Production recovery of ~2/3's of volume lost in 2020.
<b>S/D Surplus (+) / Deficit (-)</b>	<b>-2.88</b>	<b>0.19</b>	

The large “deficit” in 2020 was offset by a correspondingly large drawdown in producer inventories (to historically low levels); channel inventories were also pulled lower (though not addressed in the table above)

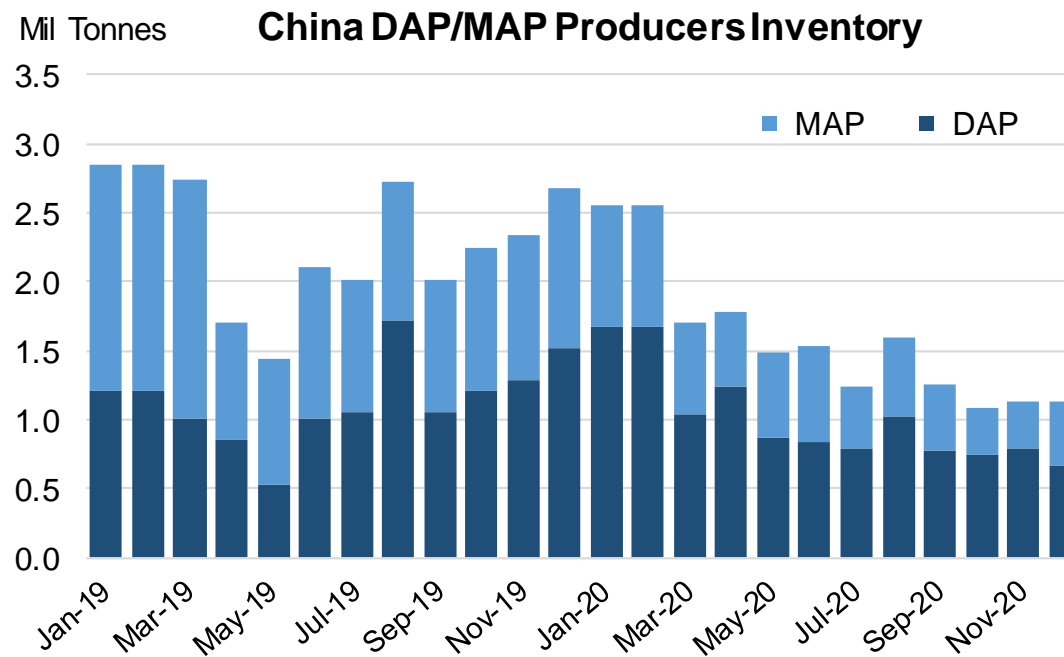
The generally balanced market depicted in 2021 is achieved if demand growth moderates y-o-y and production increases are achieved; note that these estimates do not allow for inventory restocking (producer or channel)

- We revised our estimate of global phosphate shipments in 2020 higher, including rebasing / updates to historical estimates of NP/NPS products.
- After very strong shipment growth in 2020, we forecast global demand to increase a more moderate 1.5-2.0 million tonnes in 2021.
- Growth is supported by continued constructive agricultural fundamentals, while rising prices could curb demand in certain regions. We’ve thus taken a conservative stance versus the growth seen last year, despite channel inventories estimated to be well below average.

# Inventory at both producer and channel levels has declined: India and China examples



Source: India Department of Fertilizer and CPFIA



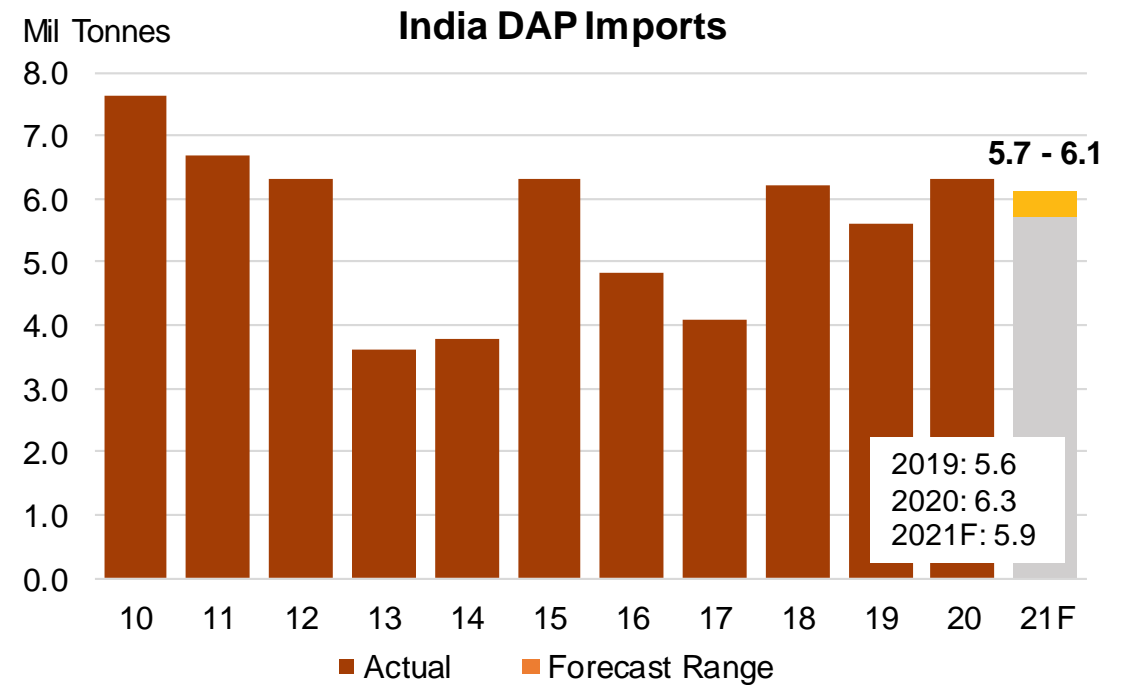
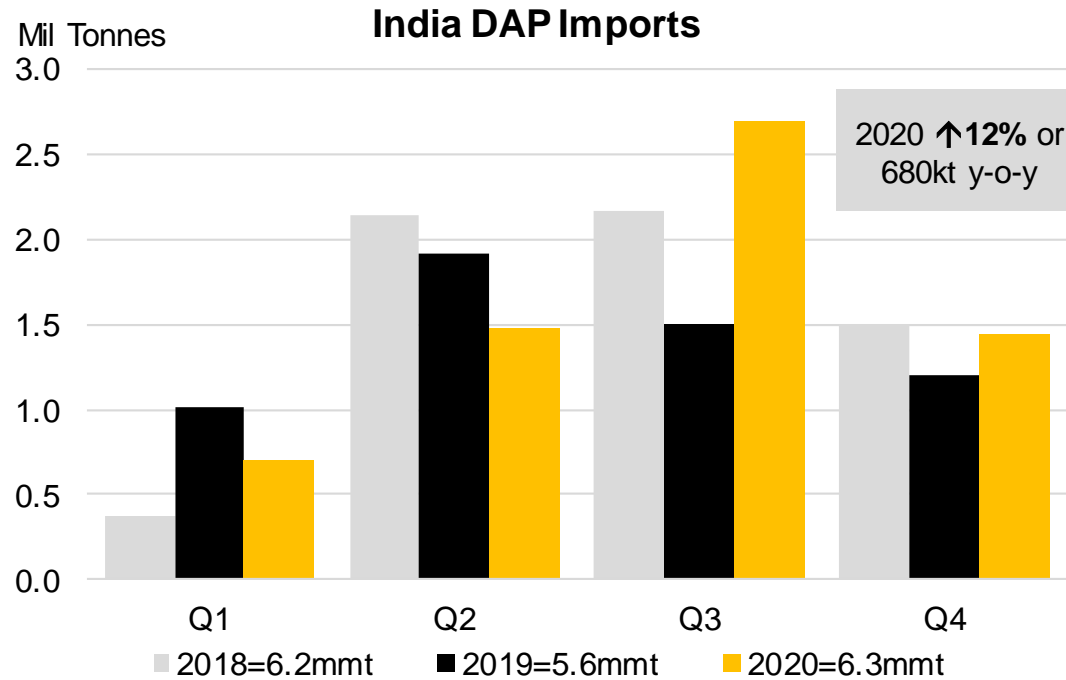
**Channel Inventory:** India inventory figures provide a proxy for how global channel inventories have evolved:

- Trade inventories in mid-February of 1.4mmt are 25% lower y-o-y.
- Company inventories in mid-February of 0.9mmt are 57% lower y-o-y.
- Total inventories in mid-Feb are 1.7mmt lower y-o-y.

**Producer Inventory:** China producers inventory figures provide a proxy for how global producer inventories have evolved:

- Inventory as of the end of December of 1.1mmt were 58% lower y-o-y (-1.6mmt).

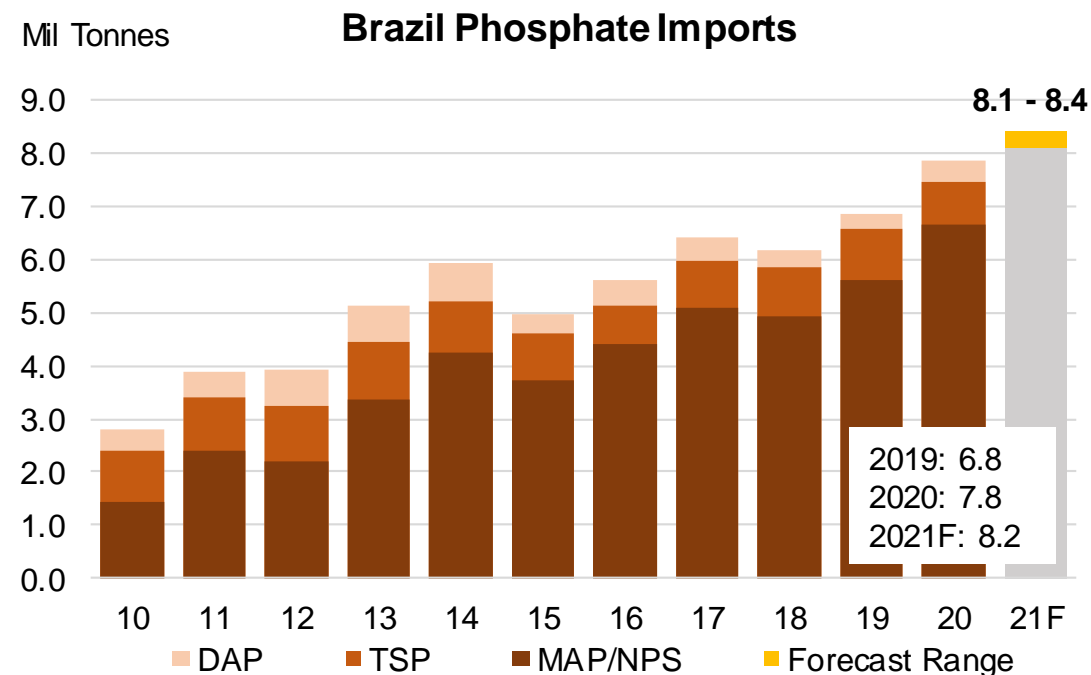
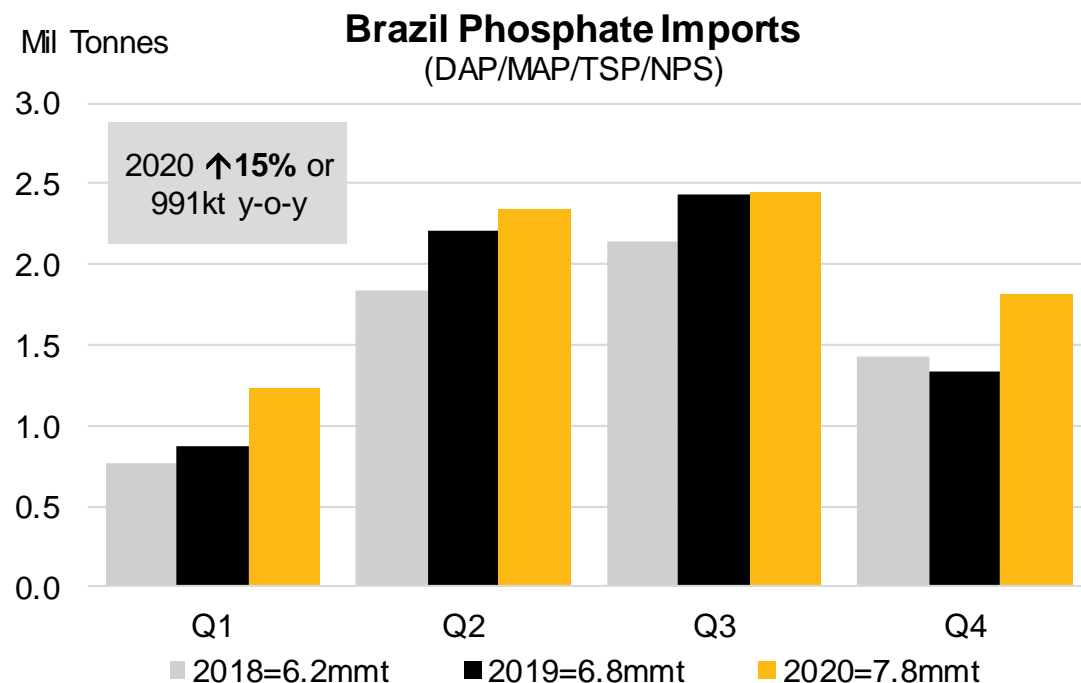
# India DAP



Source: FAI, India Department of Fertilizer, Mosaic

- We expect DAP imports to range 5.7-6.1mmt in 2021, assuming normal monsoon developments.
- DAP pipeline inventories continue to decline, as expected, in the face of strong demand pull and low imports.
- **Subsidy policy changes remain a key factor as retail prices are expected to rise due to higher international prices and a proposed cut to the P subsidy.**

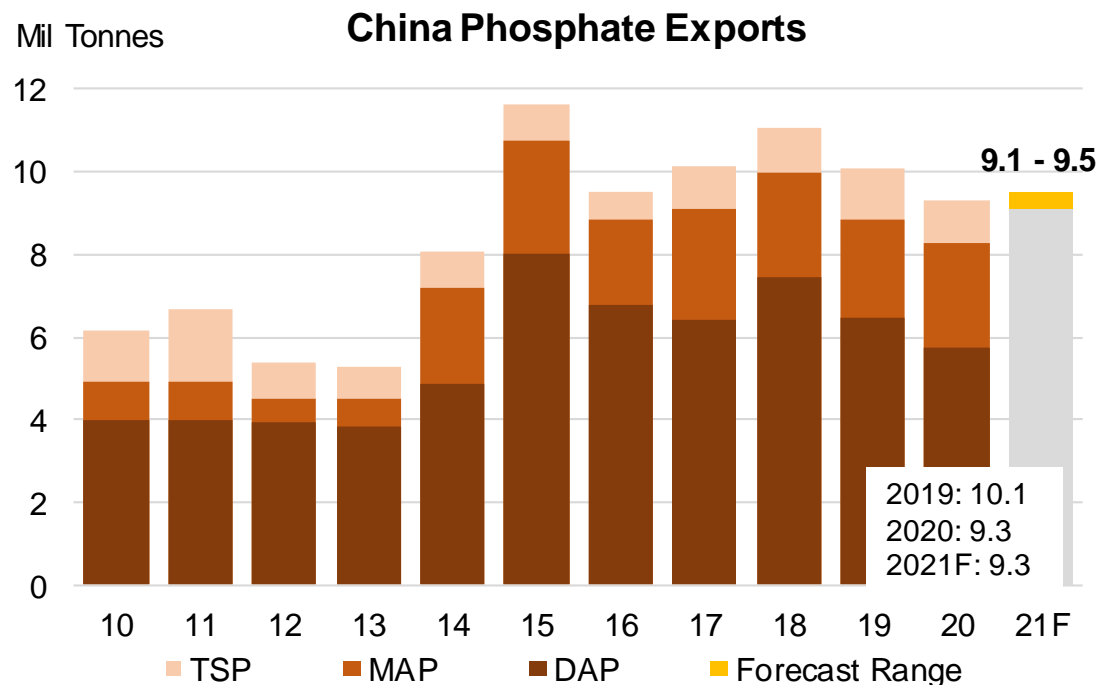
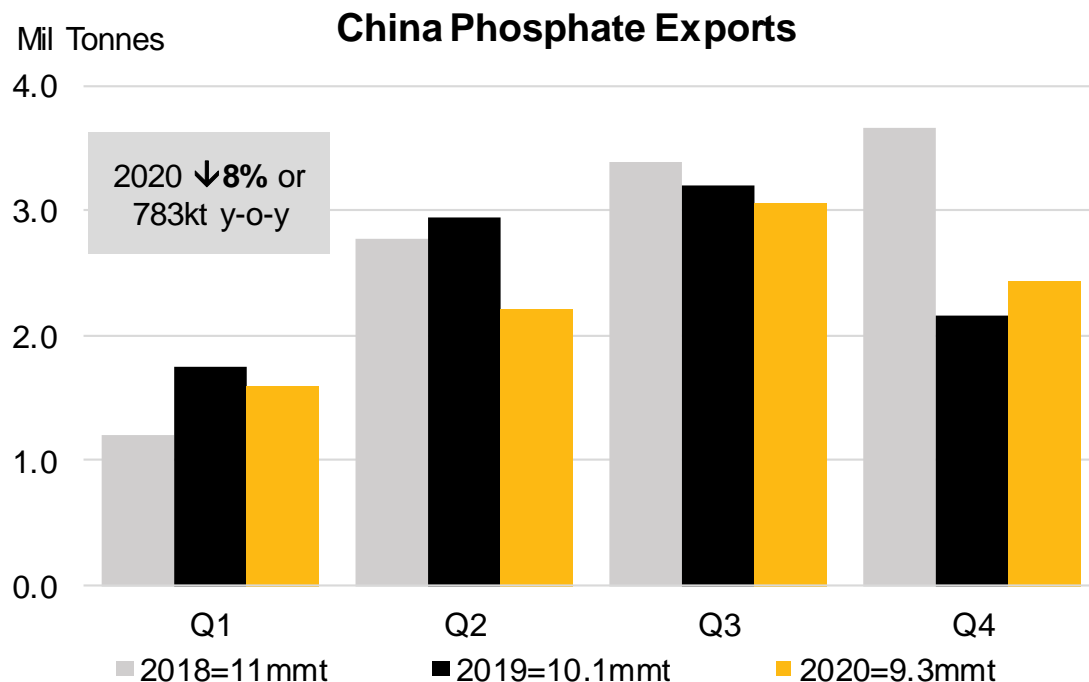
# Brazil Phosphates



Source: ANDA, Siacesp, Mosaic

- The Brazilian fertilizer market is estimated to have grown ~4% to 37.8mmt in 2020, driven by favorable farm economics. Phosphate imports surged 15% to 7.8mmt last year.
- Positive prospects on corn prices and corn exports incentivize farmers to increase safrinha planting.
- Phosphate import volumes are expected to stay at elevated levels well into 2021.

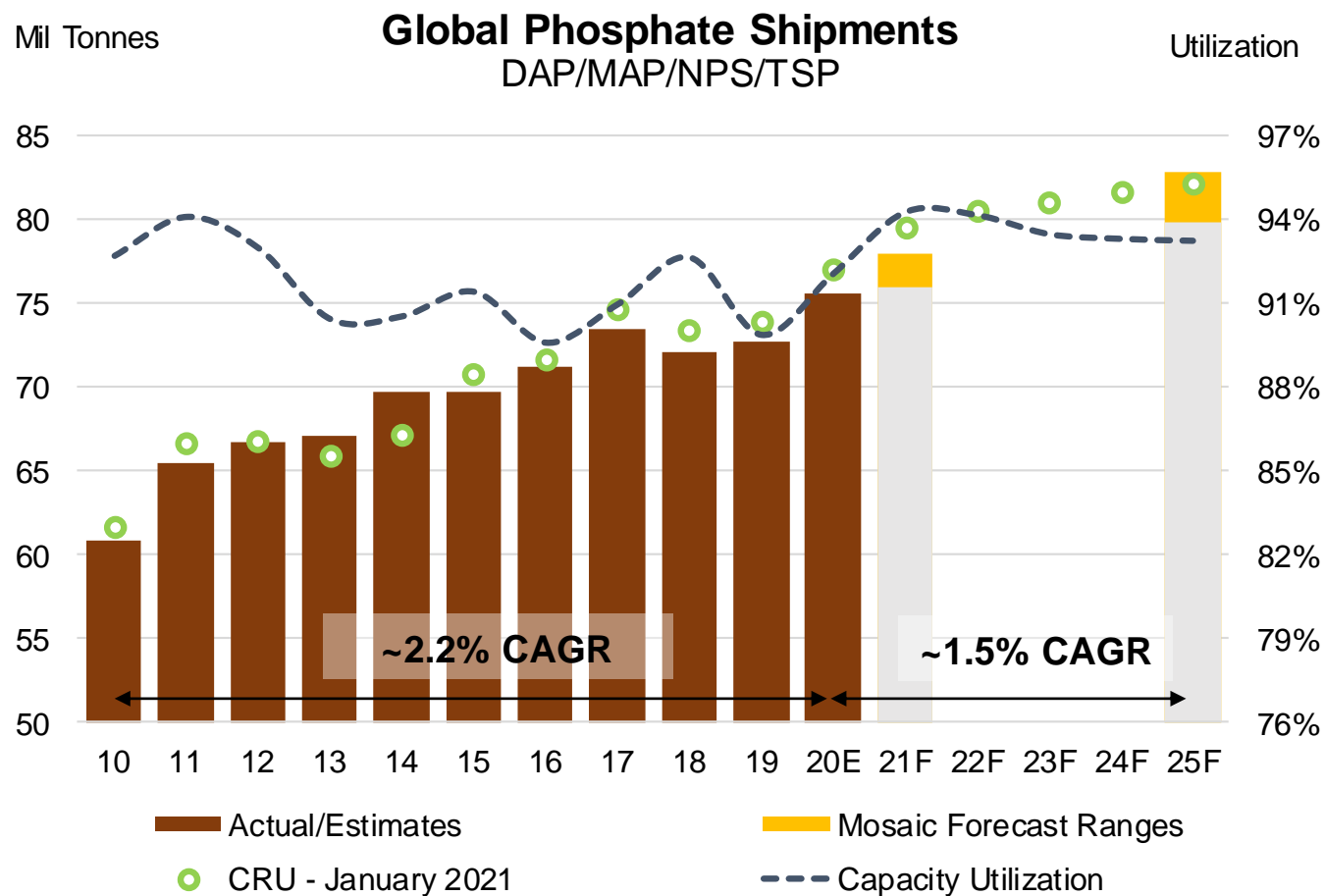
# China Phosphates



Source: China Customs and Mosaic

- After declining for 2 consecutive years, we expect Chinese phosphate exports to remain flat at ~9.3mmt in 2021.
- The Chinese market remained tight entering into Chinese New Year with low producer/channel inventories.
- There is upside risk to China's export capability in H1 as the export price premium is rising rapidly, but offset by what is anticipated to be a very strong domestic spring season. Questions remain as to whether China will be able to increase production to meet expected domestic demand growth in the face of continued industry restructuring, and therefore maintain (or potentially increase) exports.

# Phosphate Outlook: Even our modest demand growth forecast is expected to fully offset new supply

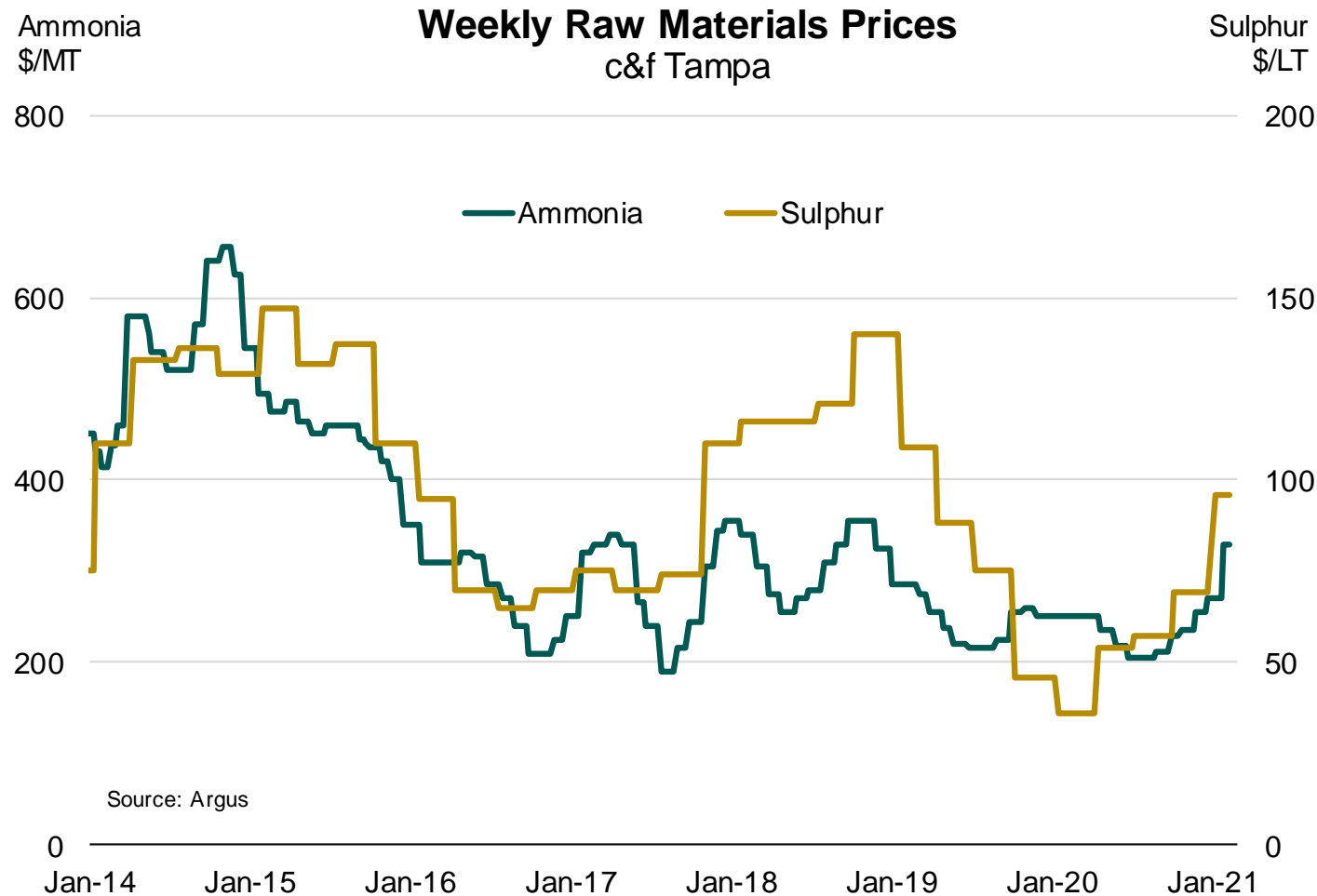


- We expect an increase in 2021 capacity utilization, and expect the industry to hold relatively stable at this historically elevated rate unless additional new projects are announced/commissioned later in the forecast period.

Source: IFA, CRU and Mosaic

\* NPS products included in this analysis are those with a combined N and P<sub>2</sub>O<sub>5</sub> nutrient content of 45 units or greater.

# Raw materials prices are rising, providing a cost push to phosphate fertilizer prices



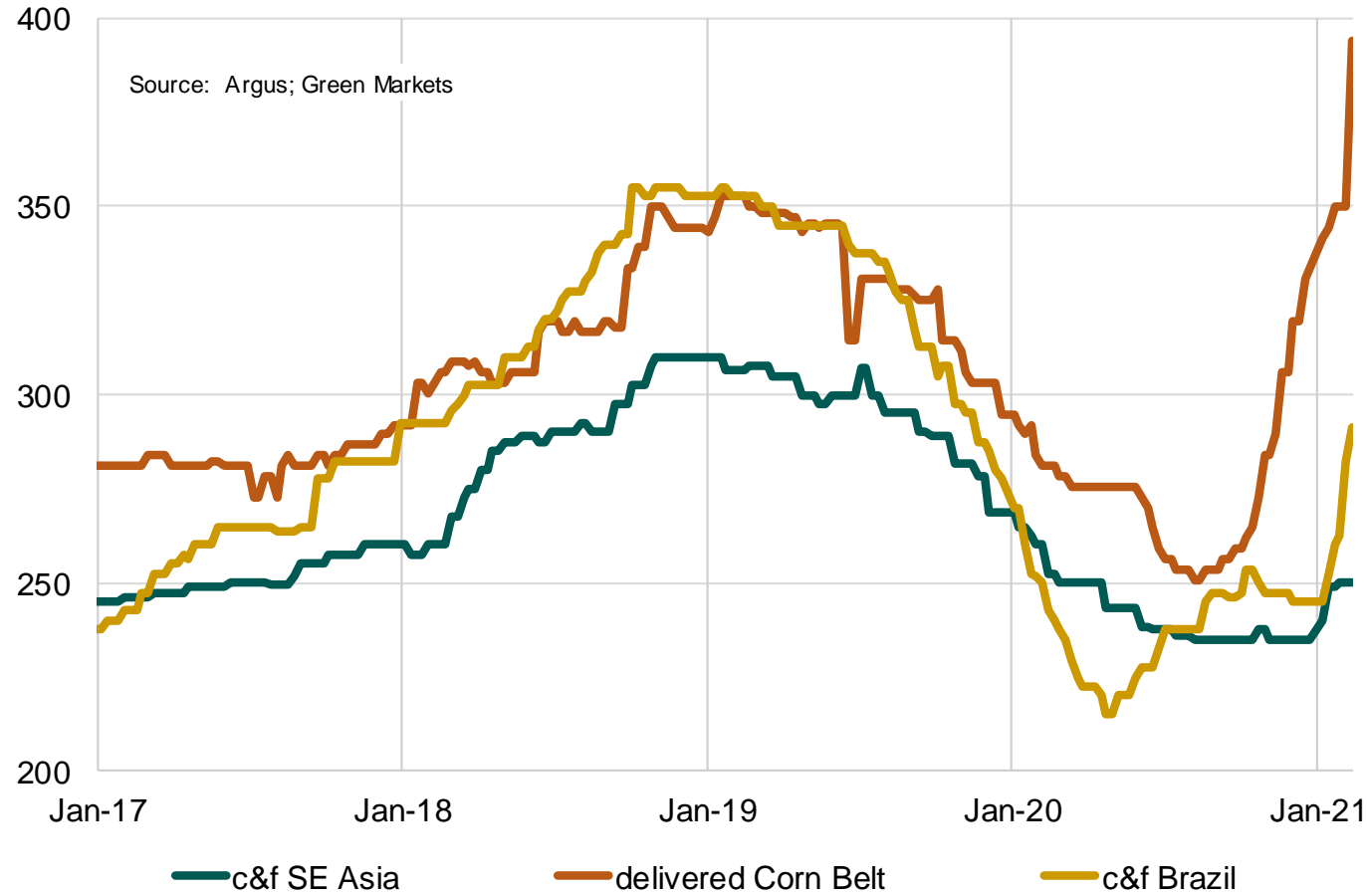
Data thru February 11, 2021

- Both sulphur and ammonia have upside price risk in H1 2021.
- Some recovery of refining rates should curb sulphur prices in H2.
- Expect ammonia prices to ease in H2 2021 as well:
  - Additional N capacity will be coming on line mid-year,
  - Current unexpected outages should return to normal production,
  - While cost pressures should ease post-winter.

# Potash: The bull run on granular prices continues

\$ per tonne

## Published MOP Prices



- U.S. prices are rising rapidly in the face of healthy demand prospects and renewed concerns of spring availability.
- Cornbelt granular prices are up circa \$140/mt since August 2020.
- Prices in SE Asia are up ~\$15/mt since the beginning of the year, and Brazil prices are up ~\$45/mt.

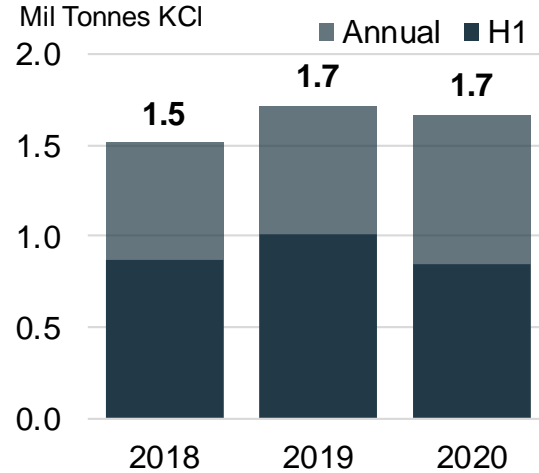
\*weekly average reported spot pricing for prompt delivery  
Data February 11, 2021





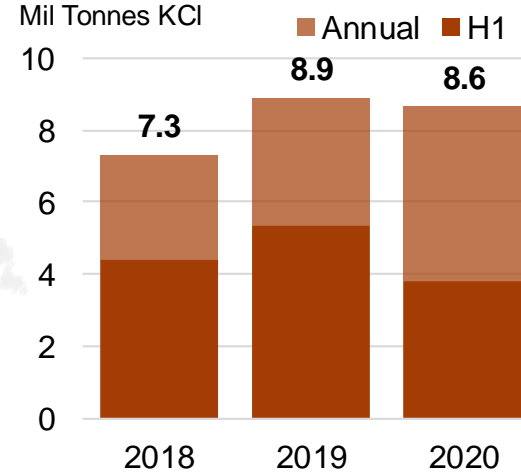
# 2020 Regional Potash Roundup

## U.S. Offshore Imports



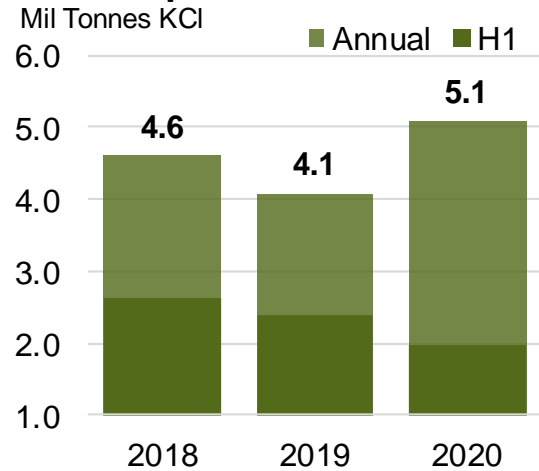
**U.S.** offshore imports surged in December and helped pull 2020 annual volume up towards last year's level. Volume was down 3% (-46kt) y-o-y.

## China Net Imports



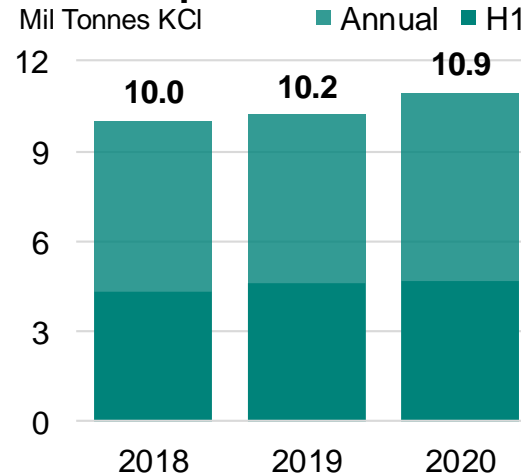
**Chinese** MOP imports partially recovered in H1 on a strong rebound of shipments from Belarus and Russia. 2020 net imports were down 3% or 257kt y-o-y.

## India Imports



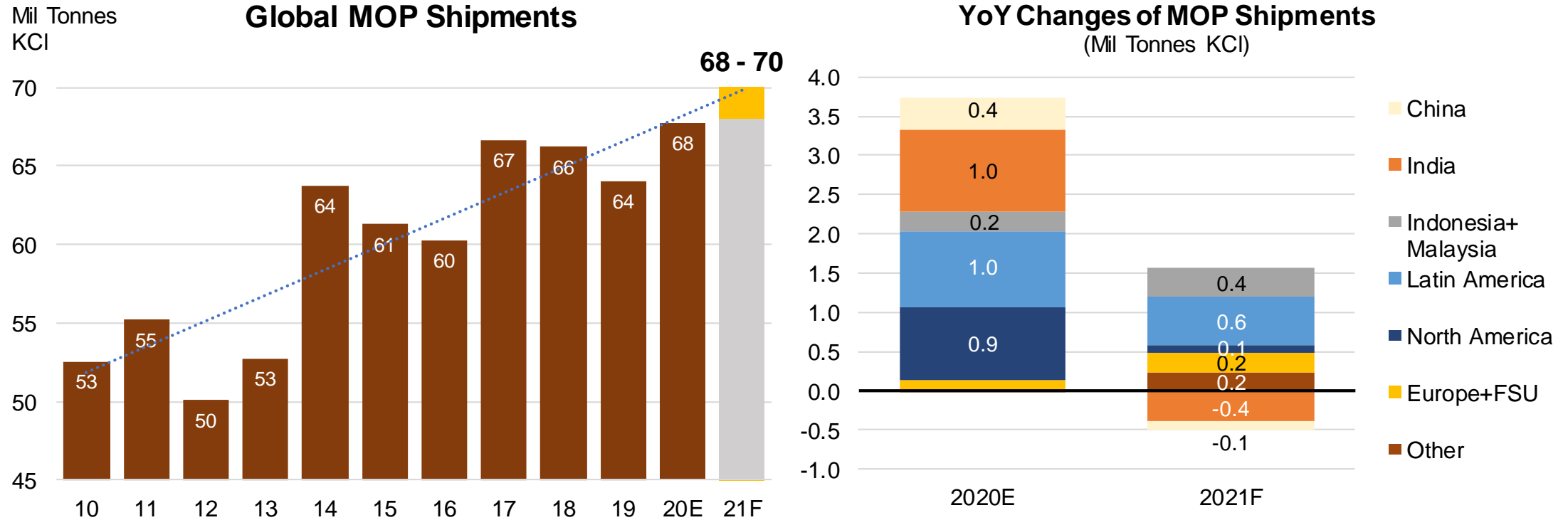
A strong recovery of **Indian** import demand in H2 resulted in a ~1.0mmt increase in total imports in 2020 (+24% y-o-y).

## Brazil Imports



**Brazilian** imports remained above average in Q4. Total imports ended the year up 7% or 753kt y-o-y.

# Global Potash Demand



Source: IFA, CRU, TFI and Mosaic

- 2020 global MOP shipments bested our expectations at well over 67mmt.
- Our 2021 global forecast range is now 68-70mmt, as we continue to anticipate broad-based growth in most markets except India which could be a major drag on global K demand this year.

# Global Potash Shipment Forecasts by Region

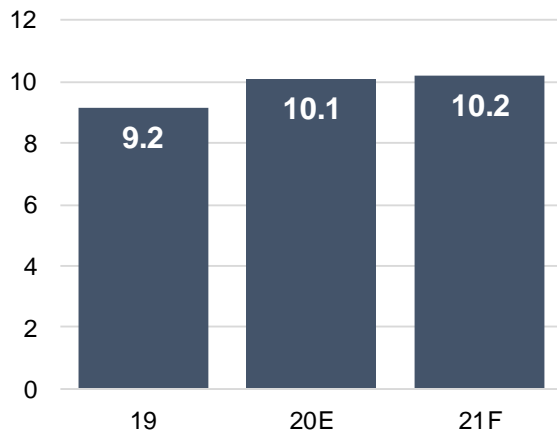
February 2021

Muriate of Potash Mil Tonnes KCl <sub>2</sub> .	2019	2020	Low 2021F	High 2021F	Comments
					Source: IFA, CRU and Mosaic (numbers may not sum to total due to rounding)
China	15.8	16.2	16.1	16.4	China MOP imports recovered in H2 2020 and ended the year down only 3% y-o-y, while port inventories declined meaningfully in Q4 (and were <3.0mmt at the end of January 2021). Strong agricultural fundamentals, boosted by high crop prices, are expected to support potash demand in 2021. We revised our shipment forecast to higher in 2021, with domestic production stable at ~7.5mmt (though sales slightly higher than that) and imports down slightly at 8.6mmt (as suppliers may be unwilling to commit large volumes at the BPC-settled contract price).
India	4.0	5.1	4.5	4.8	India MOP imports reached the 2 <sup>nd</sup> highest level in a decade and exceeded 5.0mmt in 2020 (up 24% or 1.0mmt y-o-y), due to an excellent monsoon and kharif season. However, a lower subsidy allocation and expectations of higher MRP (and with P taking a larger share of farmer wallet) may result in lower potash demand this year and greater nutrient use imbalance. We have cautiously revised our forecast lower for '21.
Indonesia & Malaysia	3.9	4.1	4.4	4.7	We expect MOP imports to continue to recover more meaningfully in 2021, driven by the strength of palm oil prices (currently ~3900 Rngt/tonne) and generally benign weather. Tight palm oil supply/demand fundamentals continue due to disappointing production (-4% y-o-y in January 2021) and low inventories (-25% y-o-y), particularly in Malaysia.
Other Asia	4.4	4.4	4.6	4.8	Import demand in the region is estimated to be broadly flat in 2020, versus our previous expectations of moderate growth. Preliminary trade statistics suggested that higher imports in Vietnam and Thailand were offset by lower imports from Japan and other small markets. Demand prospects in the area remain positive, however, and we expect moderate growth in 2021 on improved farm economics and good weather.
W. Europe	4.8	4.8	4.7	5.0	Shipments in 2020 appear to have come in slightly ahead of our expectations and we have slightly increased our forecast for 2021.
E. Europe & FSU	5.8	6.0	6.1	6.3	Our estimate/forecast for 2020 and 2021 are unchanged. Russian demand continued to grow, and agricultural expansion there and a few other key markets in the region, coupled with elevated wheat prices, are expected to support higher potash demand in 2021.
Brazil	10.5	11.4	11.7	12.0	The strength of the Brazilian market was exceptional and supported by very favorable farm economics in 2020. The overall fertilizer market is estimated to have grown to 37.8mmt and MOP shipments surged to a record 11.4mmt last year. We expect Brazilian MOP shipments to expand another 4% in 2021 on top of the 8% increase in 2020. Fertilizer sales for both the corn and soybean crops are ahead of last year's pace and we expected strong farm economics, driven by elevated crop prices, to sustain shipment growth in 2021.
Other L. America	2.6	2.7	2.7	3.0	Potash demand has yet to recover to its peak level of ~3.1mmt a few years ago, but we continue to expect imports to grow gradually, underpinned by strong agricultural fundamentals.
North America	9.2	10.1	10.2	10.4	Strong demand continued into Q4 and tight market situation resulted in rising prices and an uptick in offshore imports to bring the full-year total to ~1.7mmt, in line with 2019. Positive acreage prospects (90+ million acres of both corn and soybean) in 2021 and strong farm economics are expected to result in healthy demand.
Other	2.8	2.8	2.9	3.1	We have pared back our estimate for 2020 slightly, which has carried through to a slightly lower forecast for 2021.
<b>Total</b>	<b>63.8</b>	<b>67.5</b>	<b>68.0</b>	<b>70.5</b>	Our estimate of global shipments in 2020 has been revised nearly 2mmt higher on a stronger-than-expected Q4 and other adjustments, representing nearly 6% y-o-y growth. We expect shipments to increase again in 2021, though at a more moderate 2.2% or 1.5mmt. We have thus increased our 2021 forecast range from 66-68 to 68-70mmt, with a point estimate of 69.0mmt.

# 2020 & 2021F Major Potash Market Summary

## North America

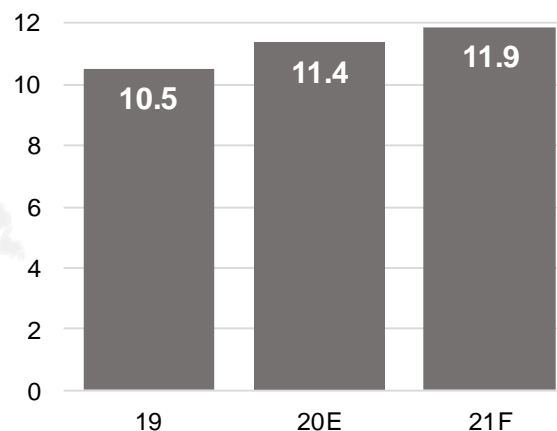
Mil Tonnes KCl



Despite relatively stable imports, total **NA** MOP shipments were up 0.9 million tonnes in 2020.

## Brazil

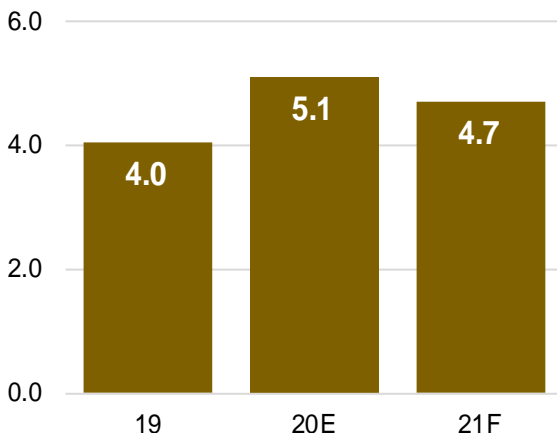
Mil Tonnes KCl



Favorable farm economics in **Brazil** supported a ~1.0 million tonne increase in potash demand in 2020. Demand growth is expected to moderate in 2021, though that thesis could prove to be too conservative.

## India

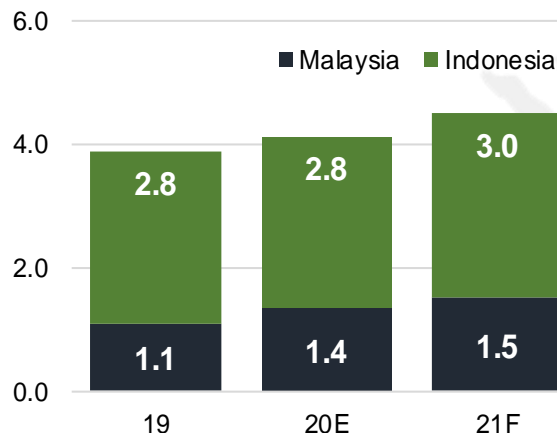
Mil Tonnes KCl



**India's** MOP imports increased >25% in 2020. Below-average year-end inventories would be expected to keep imports at a relatively high pace in H1 2021, but offset due to the announced cut to K subsidy.

## Malaysia and Indonesia

Mil Tonnes KCl



Despite very healthy palm oil prices, labor and logistical challenges related to Covid-19 limited the upswing of **Malaysia and Indonesia** MOP imports in 2020, but a more meaningful recovery is expected in 2021.

Source: CRU and Mosaic

# Limited new supply may struggle to meet expected demand growth in 2021

## Projected MOP Supply/Demand Changes

Mil Tonnes KCl	2020E	2021F	Comments
<b>Projected Shipment Changes</b>	<b>3.70</b>	<b>1.46</b>	Moderate demand growth forecast after big upturn in 2020
<i>Percent Change</i>	5.8%	2.2%	
<b>Projected Supply Changes</b>	<b>2.99</b>	<b>1.26</b>	
SQM Production Adjustments	0.29	0.10	Production returns to ~1.25mmt in 2020; incremental increase going forward
K+S Bethune Ramp-Up	0.25	0.05	Production estimated at 1.8mmt in 2020; pond production to slowly ramp going forward
Eurochem Usolskiy Ramp-Up	1.08	0.03	Phase 1 capacity of 2.3mmt in 2021; Phase 1.1 0.5mmt capacity ramping from 2023
Eurochem Volgakaliy Ramp-Up	0.04	0.06	Limited production in 2020-2021; Phase 1 capacity of 2.3mmt in 2025
Uralkali Production / Ramp-Ups	-0.30	0.20	Incremental increases from existing sites and S-3 expansion
Belaruskali Petrikovsky	0.15	0.45	Commissioning of 1.5mmt mine in 2020 (first trial MOP production in August)
Other Changes	0.28	0.37	Includes ramp-up at ICL Dead Sea/Suria in 2020/21, closing down of ICL Sallent
Other Existing Utilization	1.20	0.00	Primarily a rebound of Canadian production in 2020
<b>S/D Surplus (+) / Deficit (-)</b>	<b>-0.72</b>	<b>-0.20</b>	

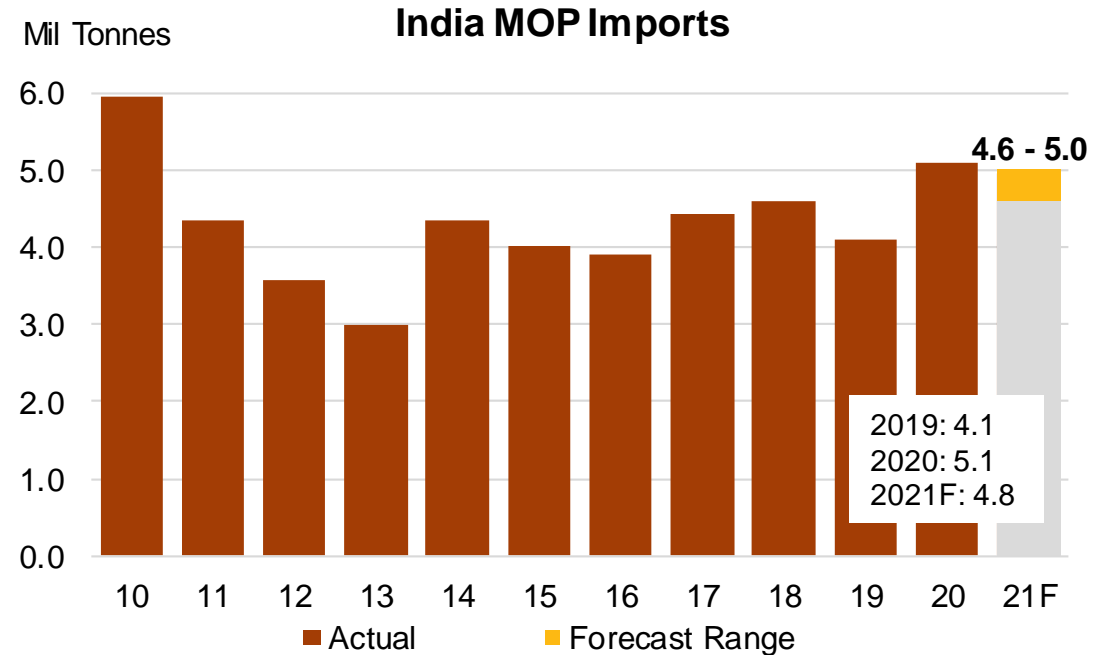
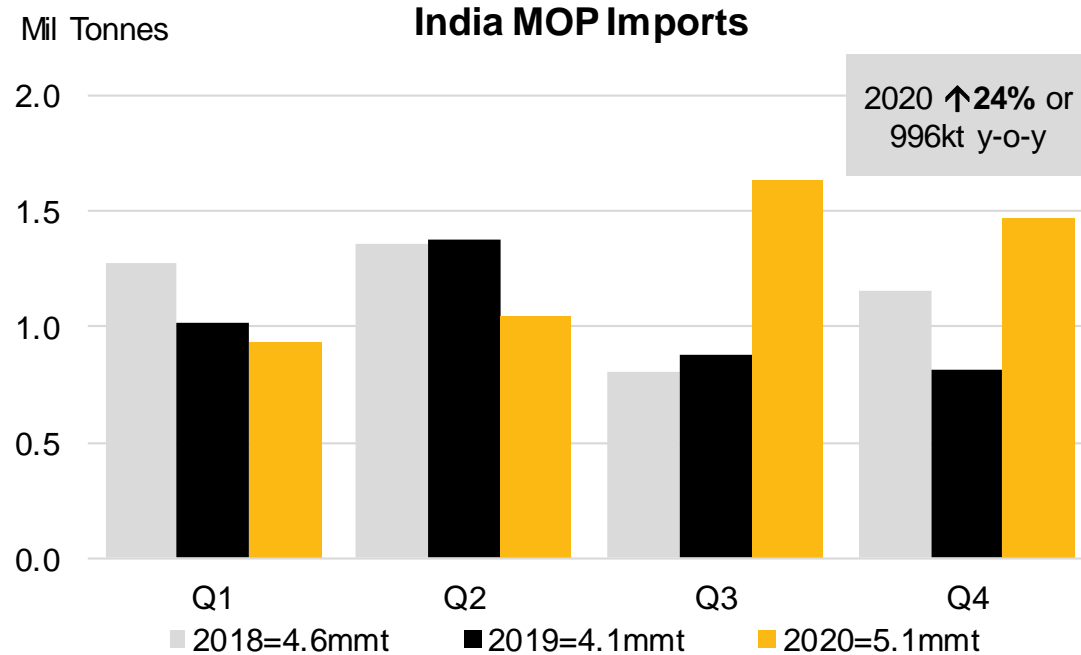
Source: Mosaic

- We revised our estimate of global potash shipments in 2020 sharply higher, with y-o-y growth of nearly 4 million tonnes.
- After very strong shipment growth in 2020, we forecast global demand growth to moderate to ~1.5 million tonnes in 2021, but given the affordability of MOP we may be conservative, particularly if there is a restocking of the channel in advance of further price increases.

The moderate “deficit” in 2020 was offset by drawdowns of producer inventories; channel inventories were also believed to kept circa average levels

While the market appears more balanced for 2021, it is still in “deficit” with fewer opportunities globally to increase output from existing capacity (and without producer stocks to draw upon).

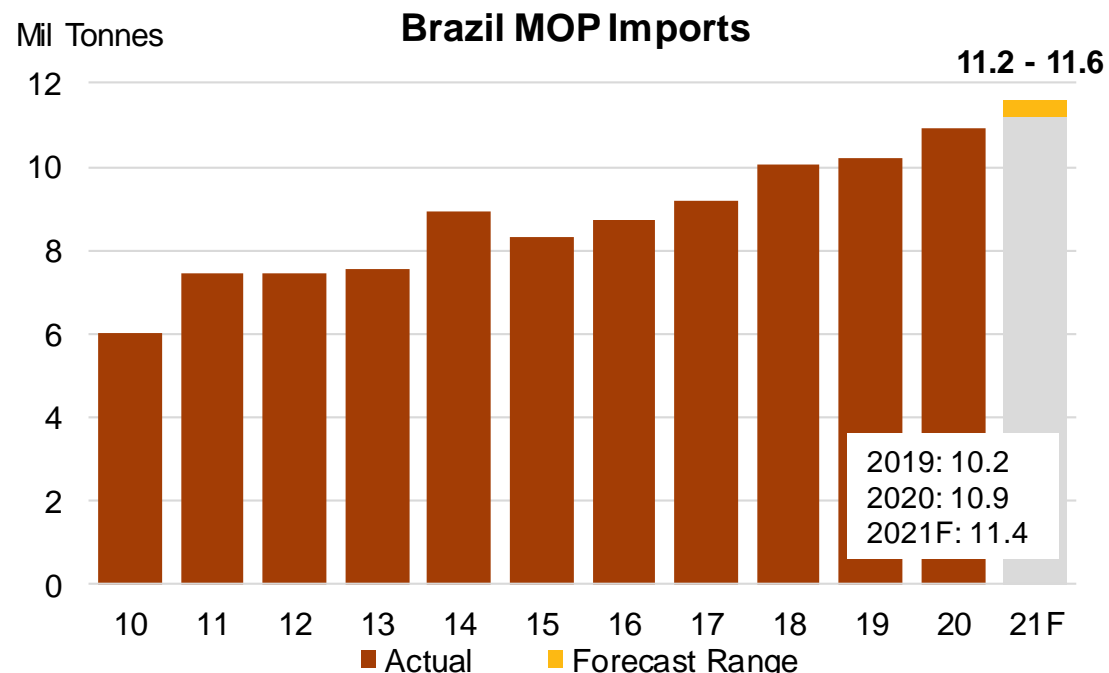
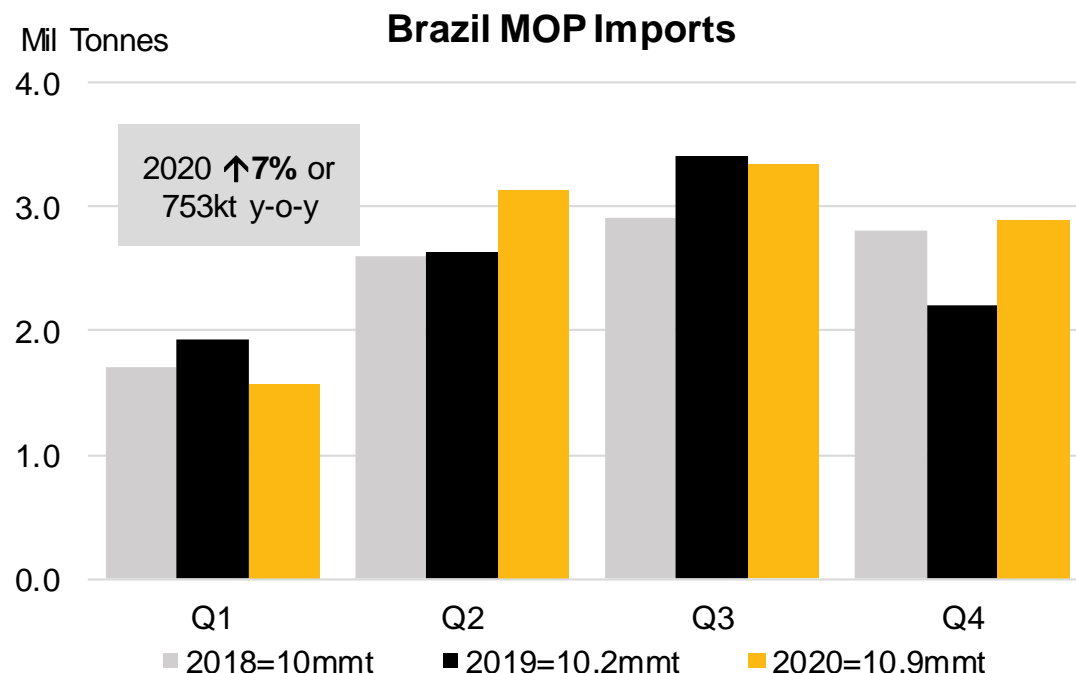
# India Potash



Source: FAI, India Department of Fertilizer, Mosaic

- Strong H2 demand, favorable domestic pricing and importer margins pulled total imports up by almost 1.0mmt to over 5.0mmt in 2020 without boosting year-end inventories.
- MOP vessel arrivals are slightly ahead of last year's low levels in January/February, partially due to the (correct) expectation that prices would be higher in the new fertilizer year.
- The uncertainty around subsidy and MRP is a major swing factor in 2021. We now expect MOP imports to range 4.6-5.0mmt in 2021.

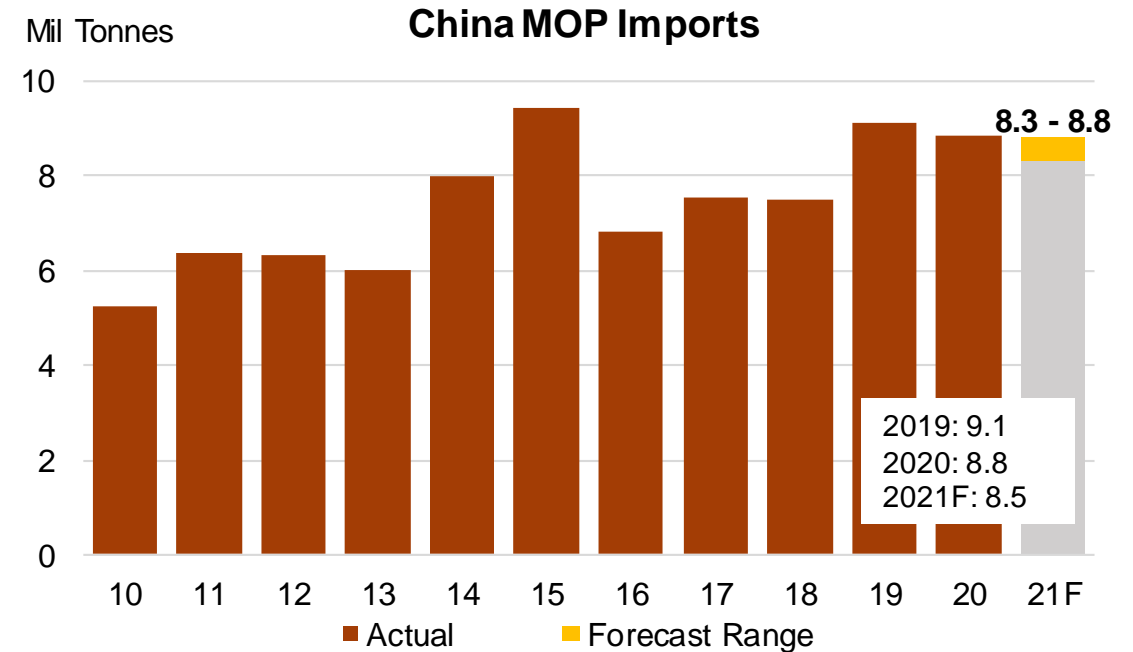
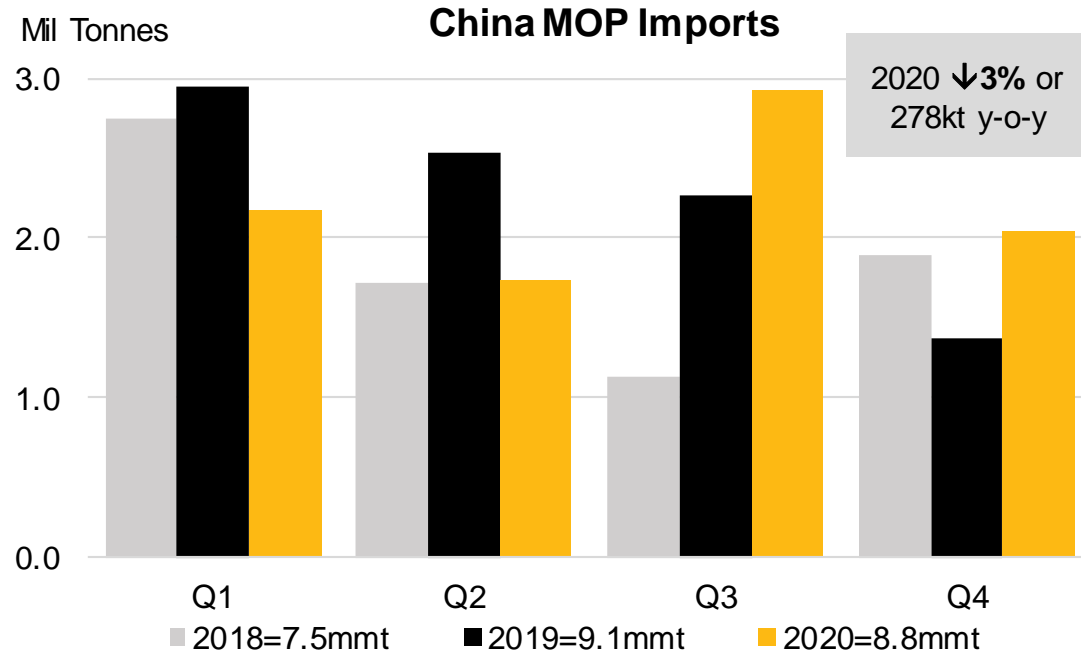
# Brazil Potash



Source: ANDA, Siacep and Mosaic

- The same positive agricultural fundamentals that drove up phosphate demand also had meaningful impacts on potash demand in 2020.
- MOP arrivals were stronger than expected in Q4, pushing total imports to a record of 10.9mmt in 2020 (up 7% y-o-y), while the year-end 2020 stocks-to-use ratio of 14% fell from 16% in 2019.
- MOP imports are forecast to increase again in 2021, though at a more moderate pace.

# China Potash

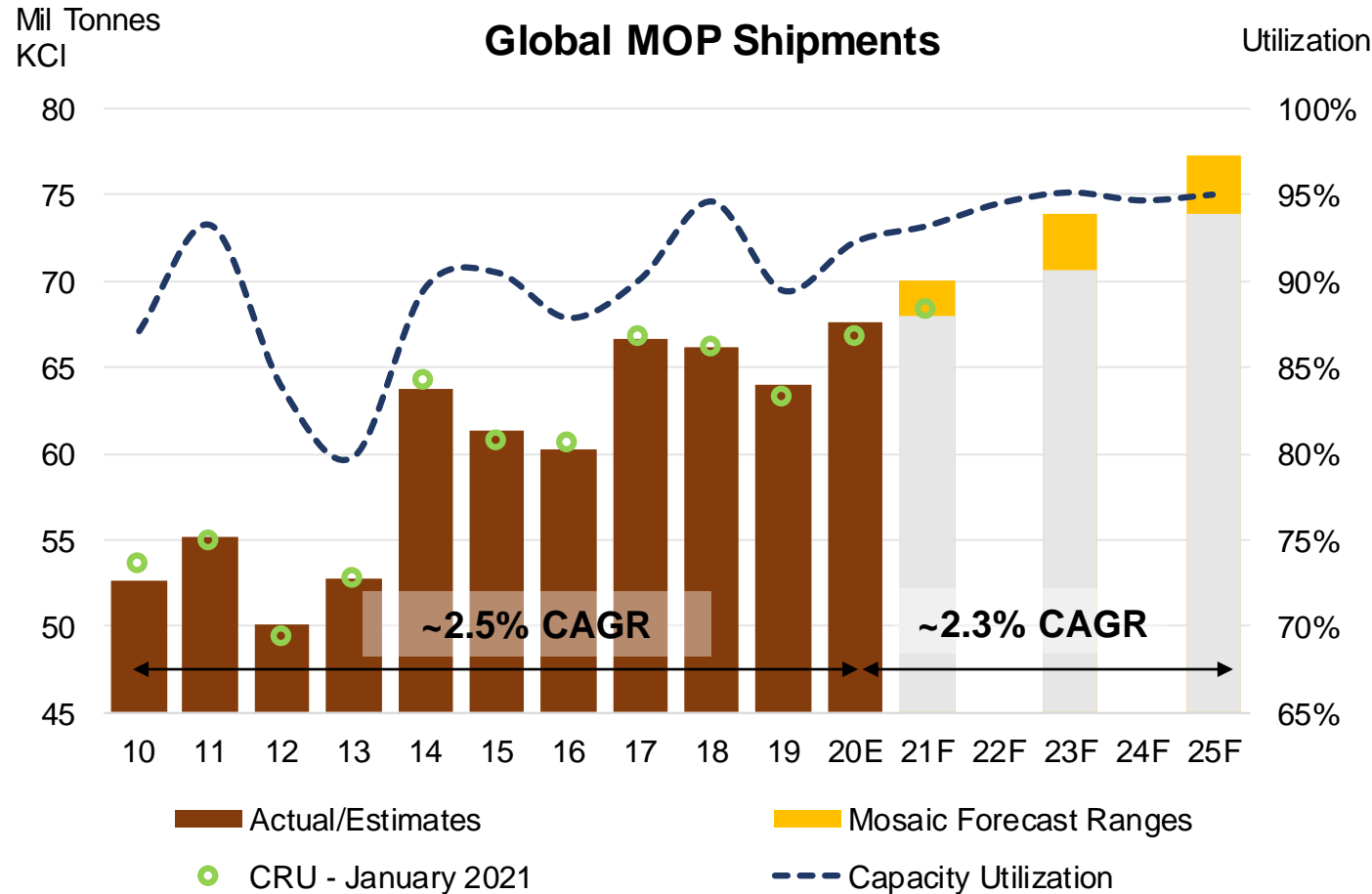


Source: China Customs and Mosaic

- MOP import arrivals in China leveled off, but were higher than expected in Q4 2020. This, coupled with a healthy pull from inland demand and maintenance turnaround at QSL, allowed port inventories to gradually decline to under 3.0mmt by end of January 2021.
- Imports are expected to be flat to lower in 2021, as some suppliers may curtail volumes in light of the lower-than-desired contract price settled by BPC and Chinese buyers in February. This could push port stocks lower year-over-year at the end of 2021.



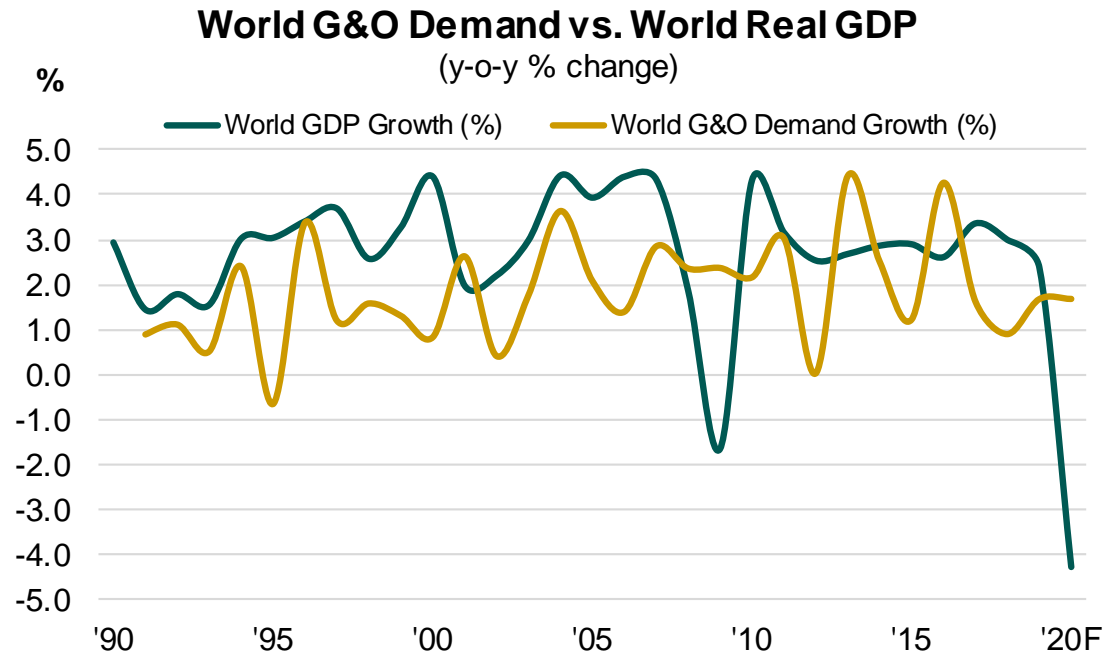
# Potash Outlook: New supply expected to slightly trail demand, leading to higher industry operating rates



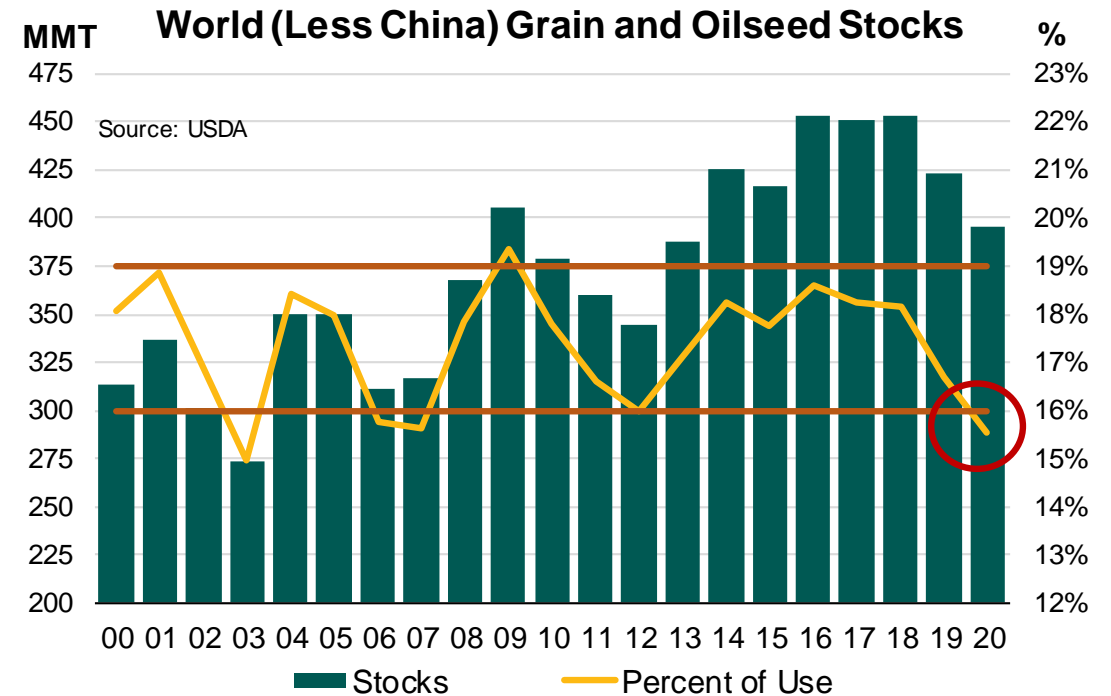
- We expect a gradual, modest increase in global capacity utilization over the next couple of years, though this will depend on the timing of the commissioning and ramp-up of greenfield projects.

Source: IFA, CRU and Mosaic

# Ag remains resilient during economic downturns & global balance sheets are snug

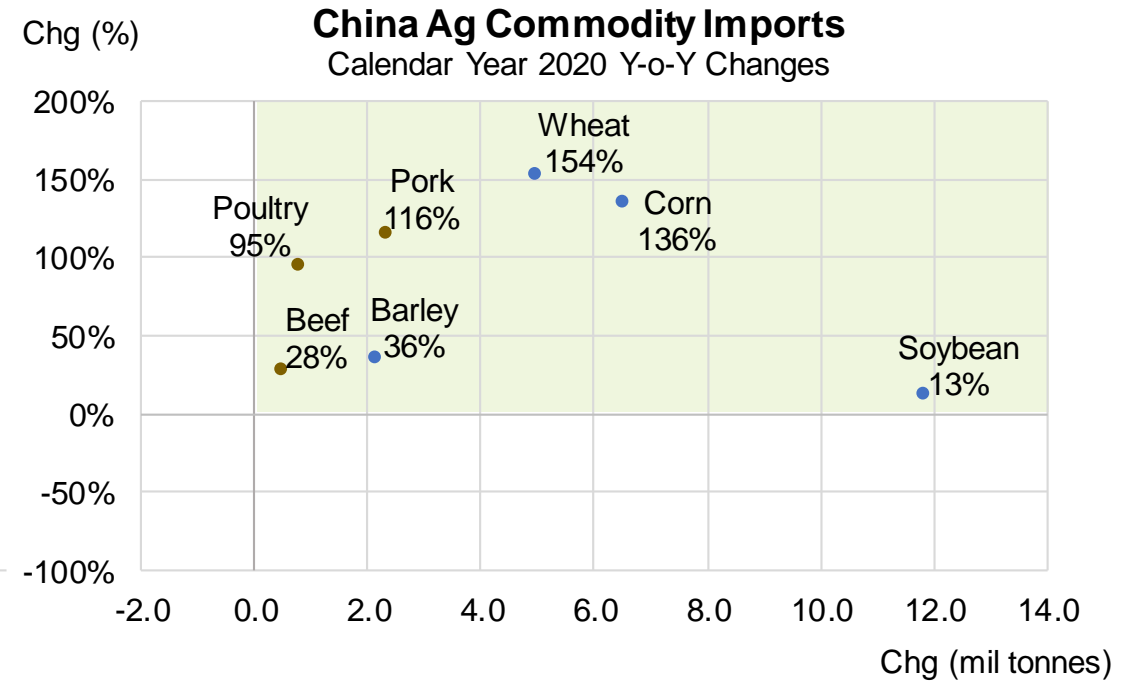
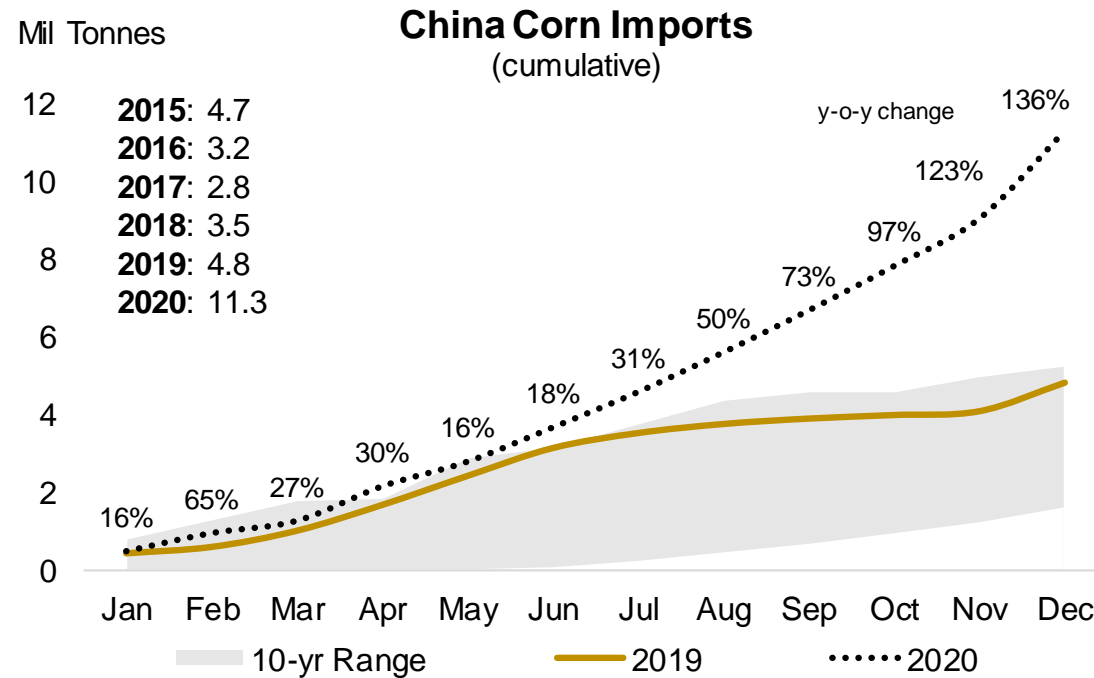


Source: USDA, World Bank (Jan 2021 – Global Economic Prospects)



- World grain and oilseed demand has been relatively stable in 2020 despite the impacts of COVID-19 and the notable world economic downturn.
- Global grain and oilseed balance sheets are snug – supporting farm economics.
  - Despite increased production in 2020, global stocks are estimated to have been pushed below their historical lower bound.
  - The global grain and oilseed stocks-to-use ratio is projected to drop to 15.5% in 2020/21, even below the low level seen in 2007/08.

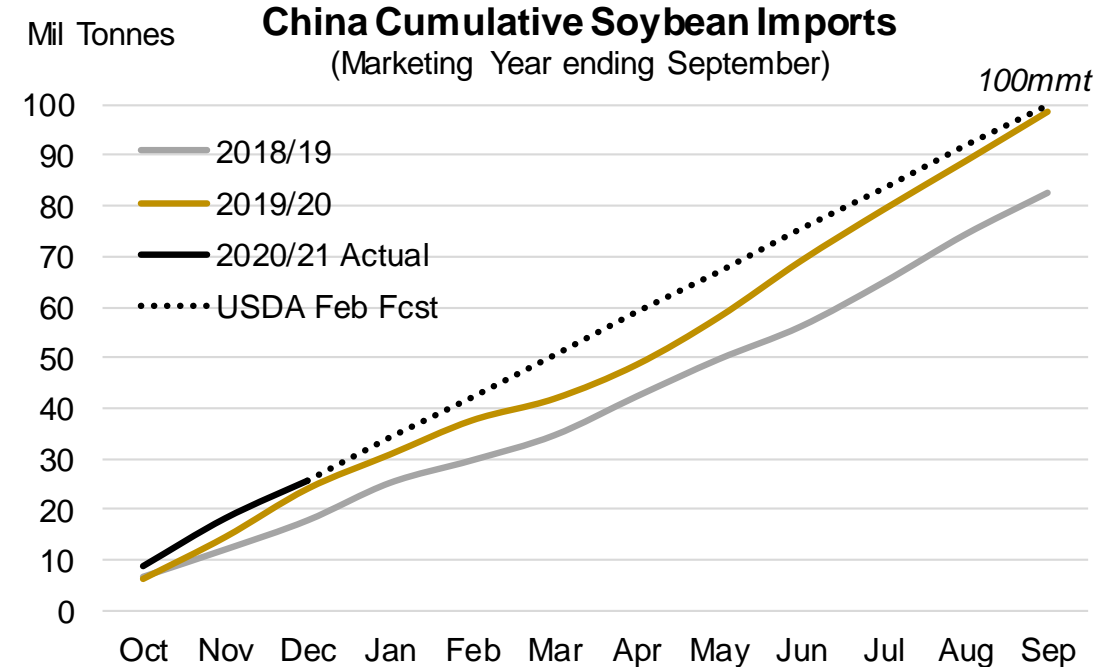
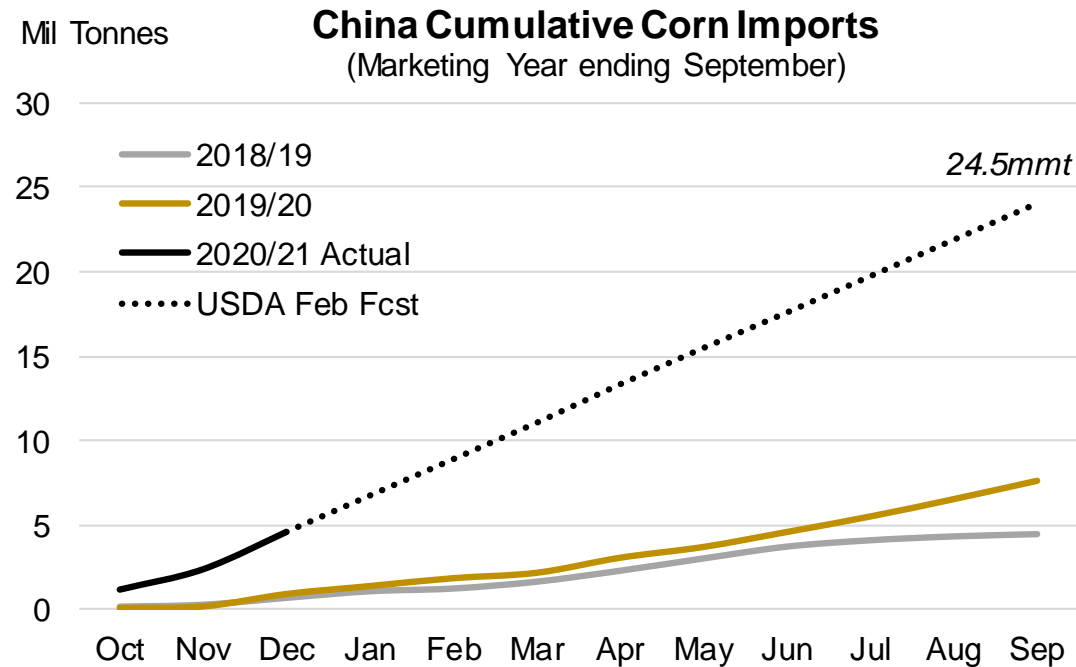
# Chinese appetite for ag commodity imports moved sharply higher in 2020



Source: China Customs

- 2020 China corn imports: record high of 11.3 MMT (+136% y-o-y).
- 2020 Chinese soybean imports: record high of 100.3 MMT (+13% y-o-y).
- Records set across the animal protein space.

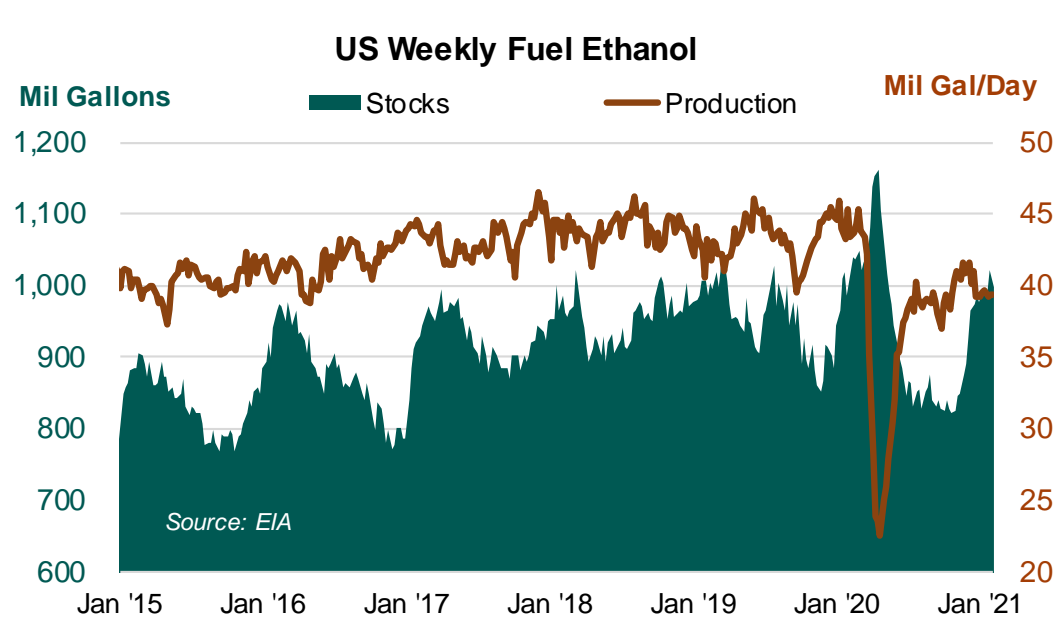
# USDA: Chinese corn and bean import demand expected to remain strong in 2021



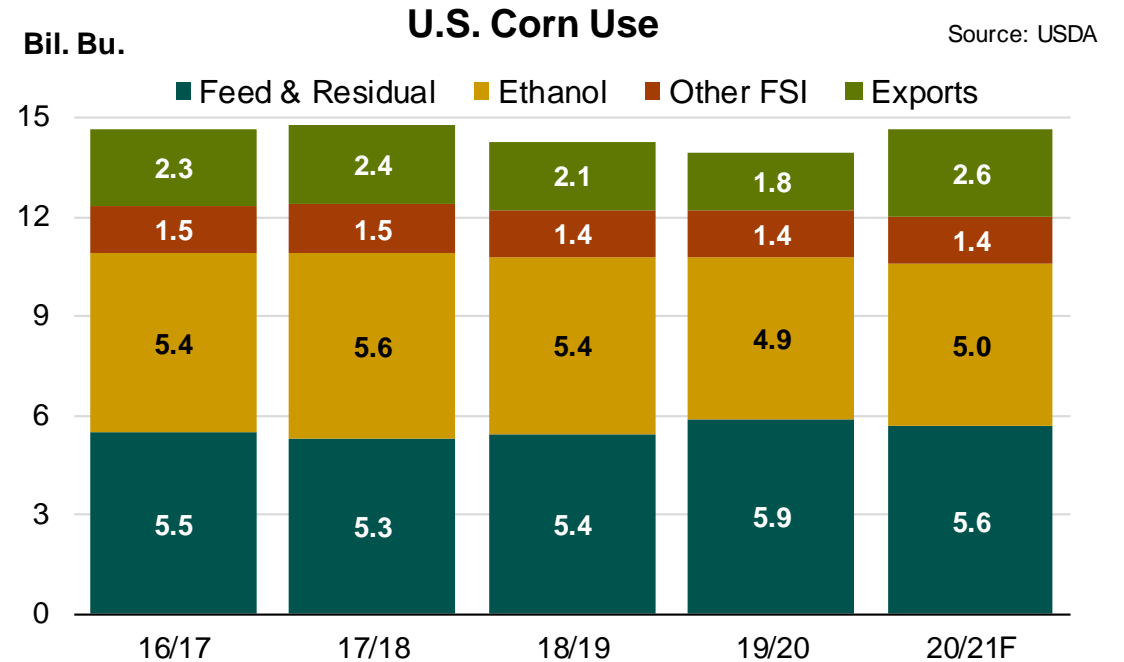
Source: China Customs and USDA

- USDA is now projecting very strong Chinese corn import demand in 2021, but stagnation in soybean imports. We believe that there is upside to both figures (provided that global production/supply is available).

# Ethanol recovery has plateaued at ~90% of pre-Covid; 20/21 corn demand from ethanol offset by ↑ exports

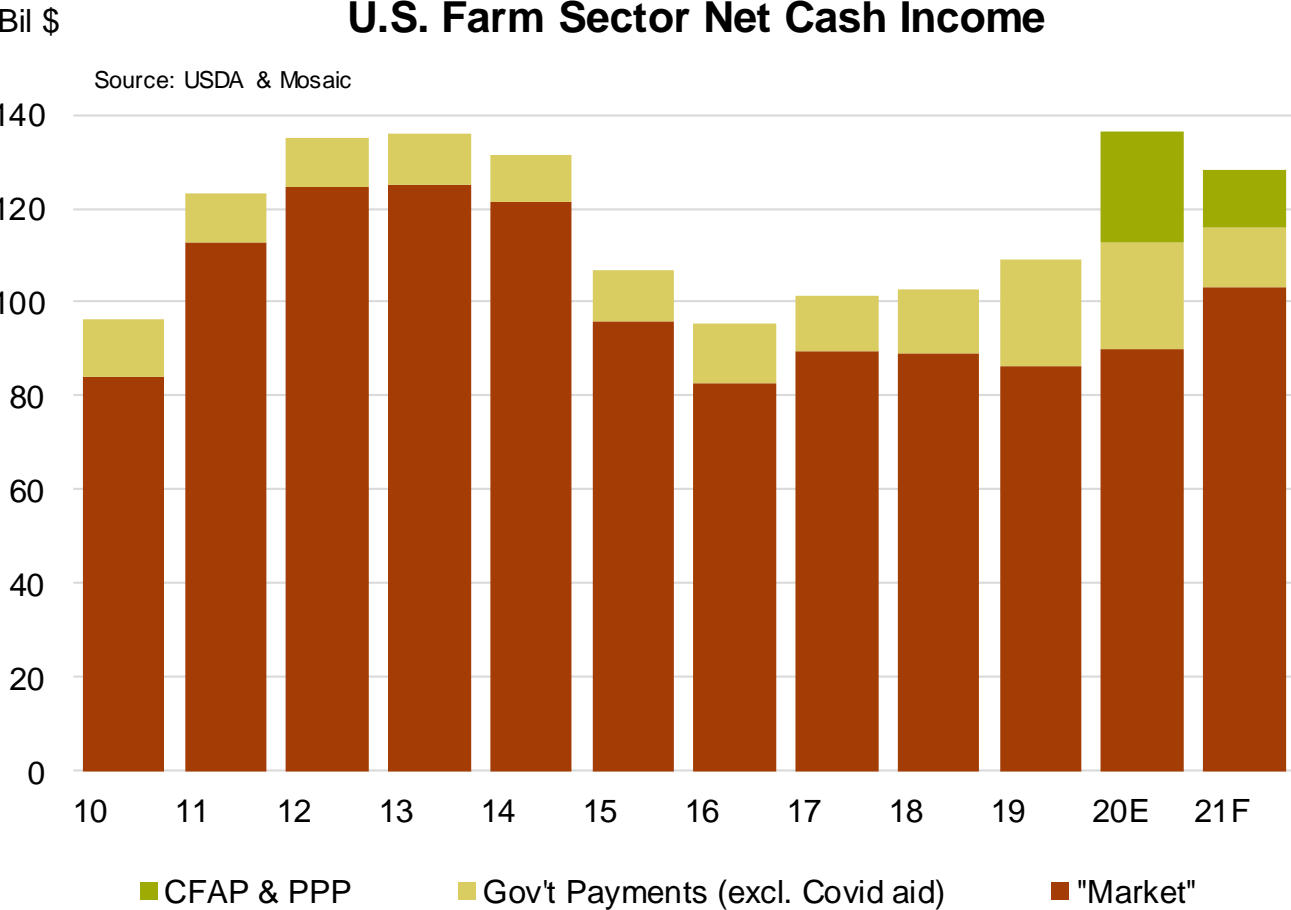


Data through 2/5/2021



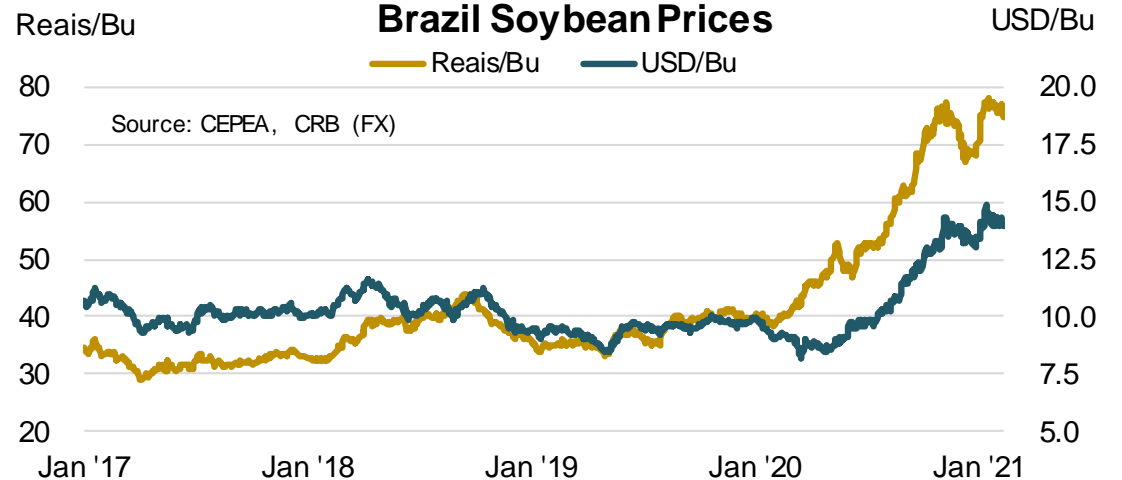
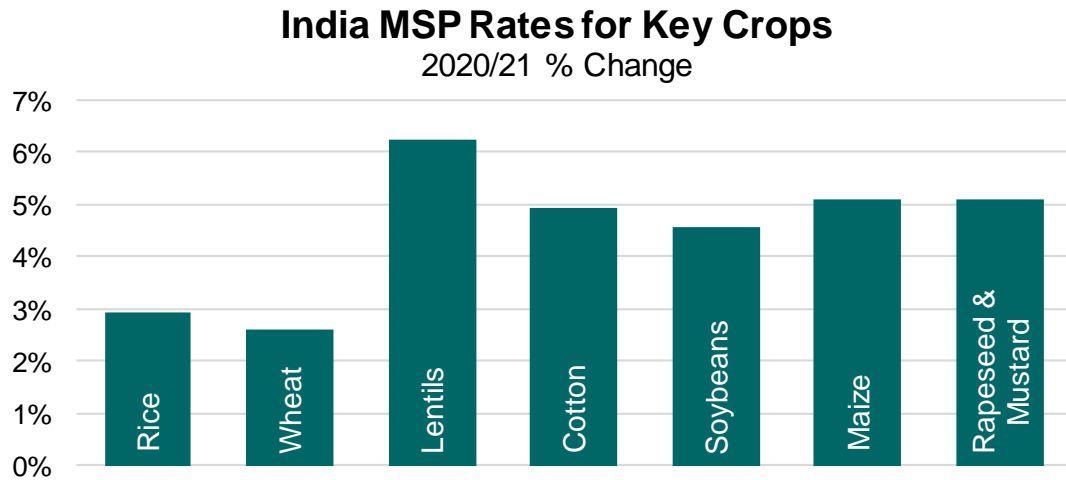
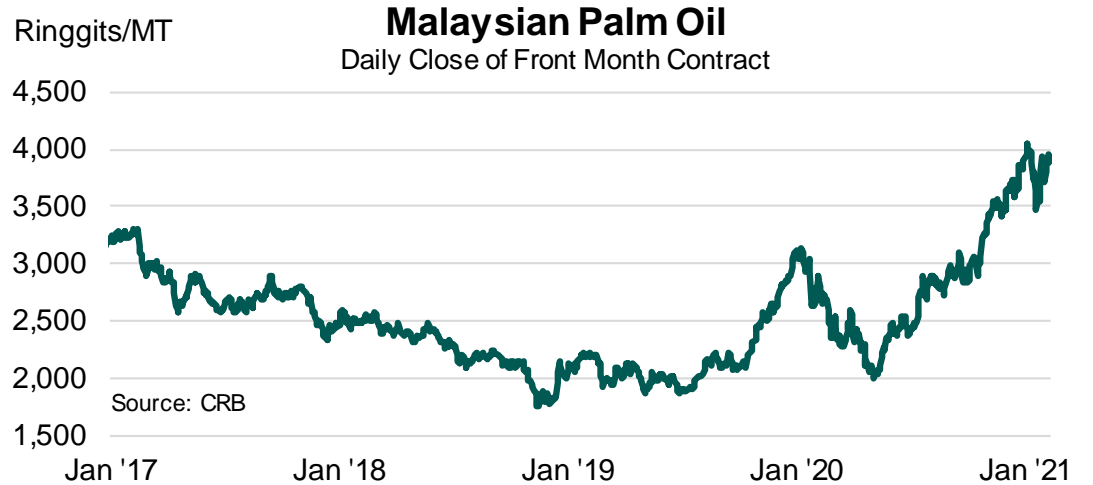
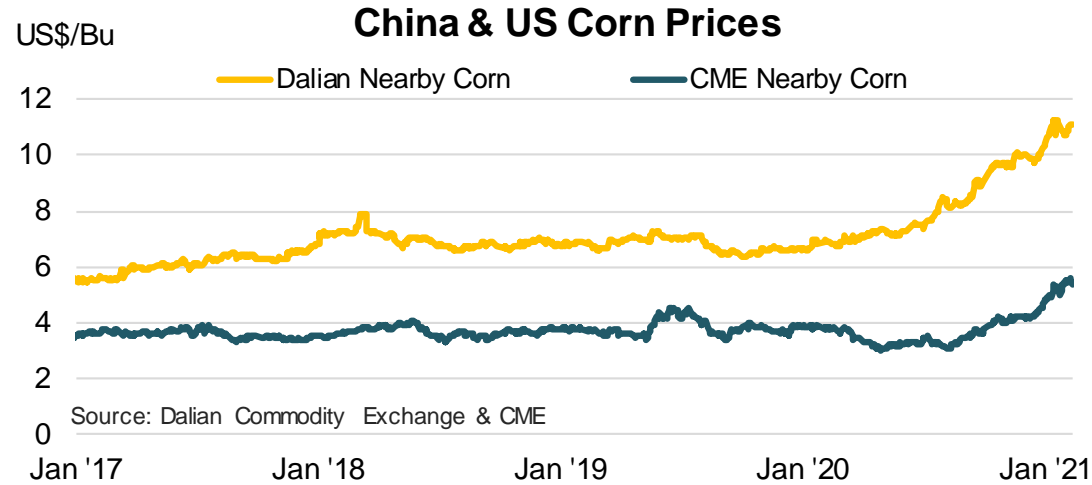
- After falling 52% in April, ethanol production has recovered and plateaued to around ~90% of 2019 levels.
- USDA's estimate for 19/20 corn grind for ethanol is 4.85 bbu (down 0.53 from 2018/19). They project 20/21 ethanol grind up slightly to 4.95 bbu (still down 0.43 from 2018/19).
- However, this decline in 2020/21 corn grind for ethanol relative to pre-Covid is projected by USDA to be offset by a 534 million bushel increase in corn exports (relative to 2018/19).
- Recent ethanol industry relief from Chinese ethanol imports.

# U.S. farmer economics look strong



- 2020 U.S. farm income boosted by additional government payments, while crop/livestock receipts also recovered in H2.
- Government payments in 2021 are likely to be less than in 2020, but with new CFAP3 and strong commodity prices, farm income is expected to remain strong in 2021.

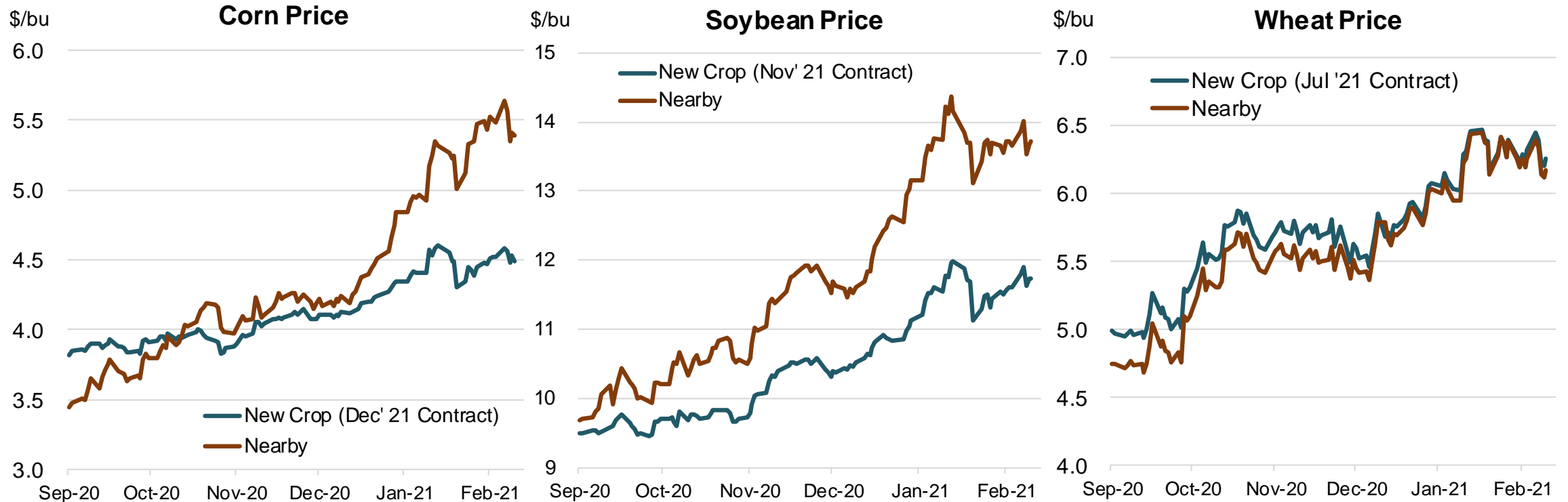
# Farm income elsewhere also quite robust



Source: Government of India; Ministry of Agriculture & Farmers Welfare

Data thru February 12, 2021

# Grain price rally driven by nearby contracts, but new crop prices are also at healthy levels

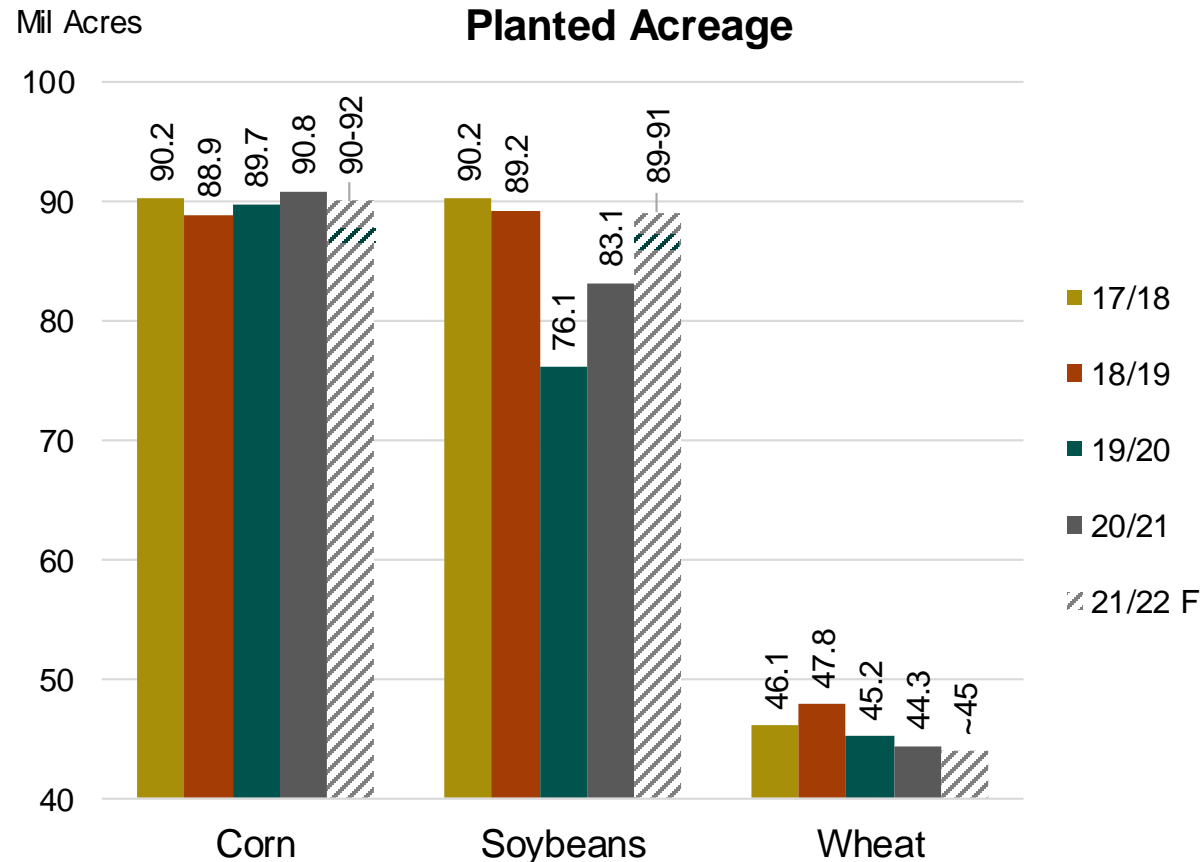


Source: CME  
Price data through February 12, 2021

- The key metric to watch is how the nearby prices migrate to the new crop price as contracts expire (i.e. will new crop rise to meet the nearby price, nearby fall to meet current new crop price or will they **meet somewhere in the middle**)



# Still-preliminary view of 2021 acreage is supportive to fertilizer demand



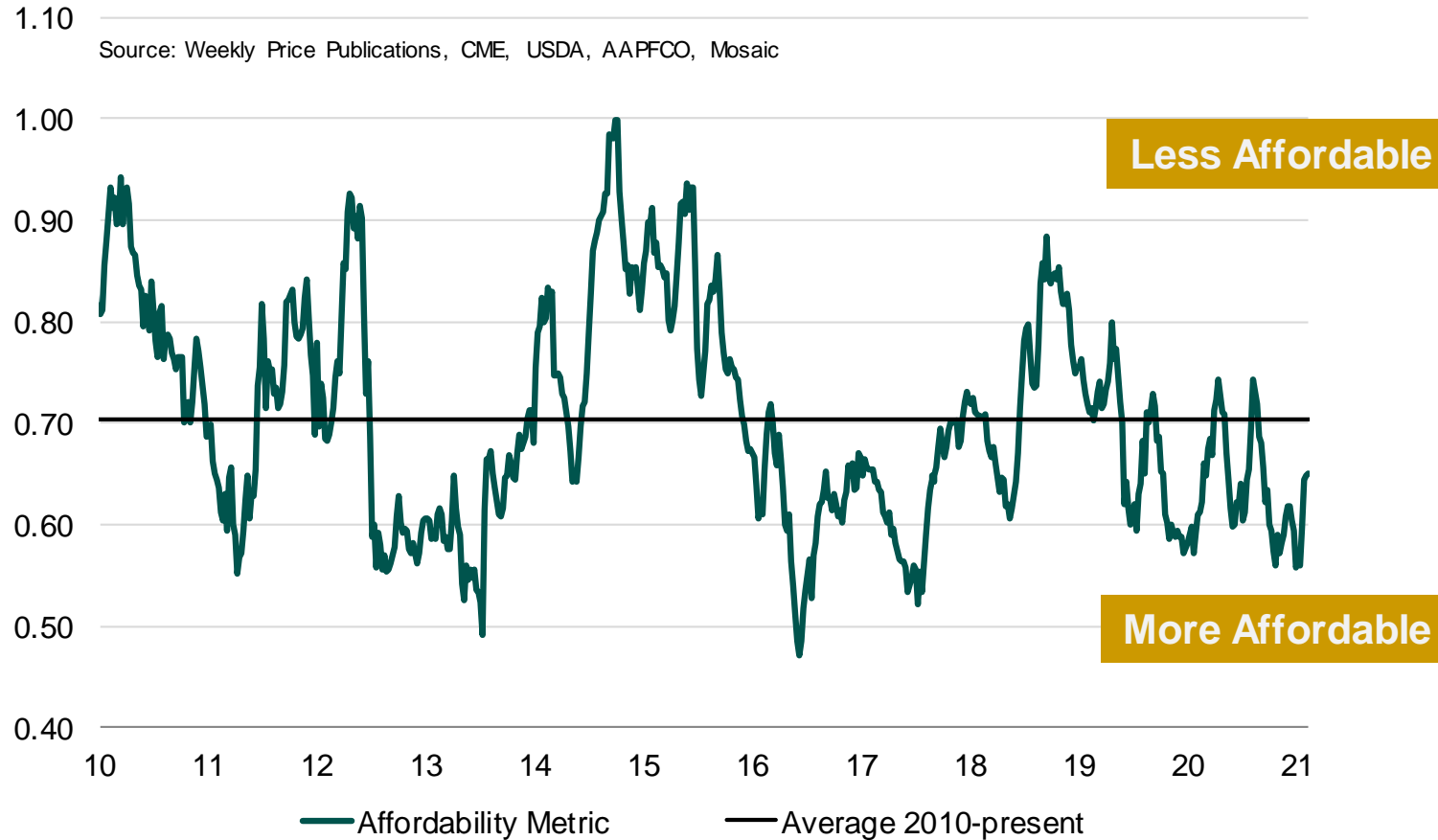
Source: USDA & Mosaic

- Corn and soy balance sheets are both tight.
- They could tighten further if supply concerns in S. America materialize (e.g. dry conditions in Argentina and late-planting of Brazil's safrinha crop) and China import demand could exceed current USDA projections.
- This will support prices throughout Spring as corn and soy battle for acres.
- 2021 corn and soybean acreage could both be above 90 million acres, with a bias towards higher corn acreage.

# Positive Fertilizer Demand Driver: Affordable Nutrients



**Plant Nutrient Affordability**  
Plant Nutrient Price Index / Crop Price Index



- Fertilizer prices remain low relative to crop prices.

Data through February 11, 2021