November 2021 – Market Update
Forward Looking Statements

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements may include, but are not limited to, statements about proposed or pending future transactions or strategic plans and other statements about future financial and operating results. Such statements are based upon the current beliefs and expectations of The Mosaic Company’s management and are subject to significant risks and uncertainties. These risks and uncertainties include, but are not limited to: the economic impact and operating impacts of the coronavirus (Covid-19) pandemic, the potential drop in oil demand/production and its impact on the availability and price of sulfur, political and economic instability and changes in government policies in Brazil and other countries in which we have operations; 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 Wa’ad Al Shamal Phosphate Company (also known as MWSPC), 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; 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; 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 potash 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.
Rapid run-up of fertilizer prices has pushed affordability index up despite crop prices remaining generally elevated.

As fertilizer prices have continued to rise, the affordability index is climbing to the levels seen in 2008/09. However, demand continues to be robust and unlike in 2008 global channel inventories continue to be thin. Also important to note is that P&K prices remain well below the peaks of 2008.
Phosphate: Supply disruptions have accelerated pricing momentum in 2021; still well below 2008 peak

Phosphate prices in 2021:
- NOLA DAP + $312/tonne
- NOLA MAP + $355/tonne
- Brazil MAP + $385/tonne
- India DAP + $408/tonne

Sources: Argus; Green Markets, Fertecon, ICIS

*weekly average reported spot pricing for prompt delivery
Data through October 28, 2021
Phosphate: Industry margins moved higher in Q3

- Phosphate industry margins – using the global net price as a proxy – continued to move higher in Q3 on strong fertilizer pricing and broadly flat raw material pricing.

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.
Sulphur prices moderated but ammonia prices moved higher on rising gas prices and tight nitrogen supply

- Sulphur price (Q3) settled down $12/LT q-o-q, but is up $114/LT y-o-y.
- Tampa ammonia settled at $825/MT for November, up $590/MT y-o-y and up $160/MT from October.

- Recent hike in European gas prices prompted several regional nitrogen producers to stop/curtail production in September/October.
- Strong demand combined with reduced supply is fueling a further increase in global nitrogen prices in Q4.
- This supply/cost push is expected to feature through Q1 2022.
U.S. drilling activity has thus far been slow to respond to higher prices

- Drilling activity, particularly for gas, has been slow to ramp up despite sharply higher prices since July 2020, as oil/gas producers appear to have shifted their focus from growth to margin.
- We expect the current energy spike to correct lower post winter, which should in turn bring about greater ammonia supply and lower pricing.

Data through October 28, 2021
U.S. Q1-Q3 Imports
Mil Tonnes DAP/MAP/NPS/TSP

<table>
<thead>
<tr>
<th>Year</th>
<th>DAP/MAP/NPS/TSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>2.4</td>
</tr>
<tr>
<td>2020</td>
<td>1.6</td>
</tr>
<tr>
<td>2021</td>
<td>3.2</td>
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</table>

U.S. imports from offshore sources remained elevated through Q3. Total imports rebounded 102% or over 1.6mmt y-o-y.

DAP import arrivals dropped to <200kt a month in Aug/Sep. YTD Indian imports plummeted 42% or over 2mmt y-o-y to 2.8mmt – the 2nd lowest level in a decade.

china Q1-Q3 Exports
Mil Tonnes DAP/MAP/TSP

<table>
<thead>
<tr>
<th>Year</th>
<th>DAP/MAP/TSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>7.9</td>
</tr>
<tr>
<td>2020</td>
<td>6.9</td>
</tr>
<tr>
<td>2021</td>
<td>10.0</td>
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</table>

China had another record quarter for phosphate exports in Q3 as producers tried to beat more stringent government export restrictions. Total YTD exports were up 46% or almost 3.2mmt y-o-y.

The pace of imports continued to accelerate in Q3. Brazilian phosphate imports during the first nine months of the year were up 1.7mmt or 28% y-o-y.

Source: Genscape, China Customs, Siaesp, TDM, Mosaic
U.S. phosphate fertilizer imports remained elevated through Q3

- Strong demand in the U.S. attracted products from a more diversified supply base.
- Imports through September were more than double the same period a year ago.
- Heavy vessel lineup extends into October (at least).
- Our estimates of channel inventories continue to point towards below average levels, as domestic demand clearly shifted higher.

Source: Genscape; market publications, Mosaic
- Includes volumes from Morocco for bonded shipment to Canada via the U.S.
- Other origins include Australia, Bulgaria, Egypt, Lebanon, Senegal, Turkey.
Global Phosphate Demand

- We revised our forecast of global phosphate shipments to less than 76mmt in 2021, primarily on meaningful downward revisions to our forecasts for China and India (which sets the stage for a lift from pent-up demand in 2022).

- Our preliminary forecast for 2022 calls for flat to moderately higher shipments to a range of 75-78mmt, as a recovery of shipments in China and India is partially offset by flat to slightly lower shipments in some other geographies (with demand expected to be curbed in places due to current higher pricing levels that we expect to persist).

- It is important to note that there remains considerable upside to our base case.
We expect domestic phosphate shipments to be reduced 8% in 2021 despite strong ag fundamentals throughout most of the year, as robust export markets limited domestic availability and higher prices resulted in some cautious till buying. Even with export restrictions taking affect in Q4 and the need for inventory building, a slowed pace in production will likely limit shipment growth to close out the year. While production is up 12% over last year’s COVID-impacted levels (through September), we expect the pace to slow due to power/coal consumption restrictions and resulting energy and ammonia availability and price. The reduction in 2021 shipments, however, is expected to lead to pent-up demand that should boost 2022 shipments.

India phosphate shipments are forecast to drop a dramatic 20% in 2021 due largely to limited supplies (as farmer demand has been relatively robust). DAP imports are down 42% y-o-y (through September) as India’s MRP and subsidy levels have made it the lowest netback market and have kept importer economics and domestic production in the red (production is down 18% y-o-y). This has led to a significant decline in stocks (down 69% y-o-y) and notable pent-up demand that should result in higher 2022 shipments, though we are currently taking a rather cautious stance on a rebound. The extent of the forecast increase in ’22 shipments will be heavily dependent on further adjustments to subsidy levels, as recent ones have thus far not been sufficient, while global prices are expected to remain at current elevated levels through at least H1 2022.

We project 2021 phosphate shipments in Brazil to surge to just over 11mmt. Phosphate imports were up a whopping 28.5% y-o-y through Q3 due to strong demand and lower domestic production. This growth is expected to continue in Q4, but the current price environment is expected to slow the pace of growth. As we look to 2022, farm economics are expected to remain decent (though not as strong as seen in recent years), and as such, fertilizer shipments in 2022 are expected to be flat to lower.

Strong ag commodity prices and high planted acreage drove on-farm demand sharply higher in Spring ’21 and current fertilizer prices have yet to meaningfully impact Fall demand. As such, we expect 2021 shipments to come in near 10.8 mmt (the highest year on record). However, as fertilizer prices and other input costs remain elevated going into 2022, there is the potential for shipments to pull back modestly.

The expectation of typical Fall demand in Europe coupled with steady expansion in the FSU have supported marginal y-o-y growth in the region. Rapid increases of fertilizer prices may lead to some cautious Q4 buying in Europe (though not seen as yet), offsetting some of the strong pace seen earlier this year, while Russian shipment growth seems more secure given steps taken to ensure supply and stabilize prices. Looking forward to 2022, we expect generally flat shipments.

We expect demand to post slight gains in 2021 on the back of solid ag fundamentals globally. For 2022, we expect demand to be trimmed due to affordability concerns, particularly in Africa, while shipments to Latin America (ex-Brazil) and the Middle East should be more resilient.

Due to the sizable downward revisions made to our China and India 2021 shipment forecasts, total global shipments are now expected to remain relatively flat vs. 2020. A few production setbacks and rising fertilizer prices have slowed shipments in the latter half of the year, along with India MRP and subsidy levels curbing their ability to import. Despite this downward revision in shipments, channel inventories remain tight, which bodes well for shipment expectations in 2022, even at current elevated pricing levels. Our initial view of global 2022 shipments is in the range 75-78 mmt, with a point estimate in the middle of the range at 76.4mmt representing 1.1% y-o-y growth.

* NPS products included in this analysis are NP and NPS products with a combined N and P₂O₅ nutrient content of 45 units or greater.
2021E and 2022F Major Phosphate Market Demand Summary

Total North America shipments are expected to moderate from the record-high level seen in 2021 (this assumes no meaningful restocking of channel inventories).

Low DAP supply likely will drag total India shipments down by ~2mmt this year. Extremely low in-country inventories may force the government to consider higher subsidy to secure supply to meet strong farmer appetite for DAP.

China’s phosphate shipments this year are estimated to decline y-o-y with a subdued H2. We expect domestic shipments to recover in 2022 on solid farmer economics and some help from the government to keep products in the country.

After 2 consecutive years of double-digit growth, we forecast Brazilian shipments to stay flat or retreat slightly in 2022 due to tempered, though still positive, grower economics.

Source: CRU and Mosaic
Phosphate S/D: Relatively balanced market suggests stable / elevated 2022 pricing; China+India are the key swing factors

Phosphate Supply / Demand Forecast
(Incremental Y-o-Y Change)
Mil Tonnes DAP/MAP/NPS/TSP 2020E 2021F 2022F Comments

Projected Shipment Changes 3.94 -0.44 0.83 Flat to lower shipments in multiple geographies in 2022 is more than offset by moderate demand recovery in China and India.

Percent Change 5.5% -0.6% 1.1%

Potential Supply Changes 0.29 -0.19 1.12

Base Case China Export Change -0.69 1.38 -1.84 Lower exports in Q4 ’20 and Q1 ’21 due to export restrictions; Rebound in domestic demand in ’21 and continued production switch away to PPA-based products.

OCP Ramp-ups and Debottlenecking 1.50 0.05 0.68 OCP Line F commissioning delayed: Assume end-‘21 and full capacity end-’22.

MWSPC Ramp-Up -0.11 0.34 0.40 Production recovers after setback in 2020; full capacity in 2022.

GCT M'dilla Commissioning / Ramp-up 0.00 0.09 0.09 Reports of higher downstream output this year, but labor unrest remains an issue.

Turkey/Egypt Greenfields 0.27 0.11 0.07 We assume both projects achieve full utilization in 2021.

Russian Expansions 0.00 0.15 0.15 Incremental volumes from PhosAgro Volkhov.

Other FSU Expansions 0.00 0.00 0.09 Kazphosphate 480kt P2O5 expansion included in Q4 ’22 after significant delays.

Other Ramp-Ups / Closures -0.13 0.00 0.00 Includes Eurochem Salitre project in 2023.

Misc. Known Operational Changes -0.55 -2.30 1.50 Primarily COVID-19 Curtailments in ’20; Misc outages and op. rate changes in ’21 - e.g. in U.S. (MOS and Itafos), India, Brazil and S. Africa.; Rebounds forecast in 2022.

S/D Surplus (+) / Deficit (-) -3.65 0.26 0.29

Source: Mosaic

The 2021 “surplus” depicted above is driven by a small producer inventory build in China in Q4 2021 after shortfalls to domestic demand and export restrictions. Note that the small “surplus” in 2022 could easily be dwarfed by a larger shipment recovery in China/India, and in any event does little to rebuild very depleted channel inventories globally (remember the huge drawdown implied in 2020).
Phosphate: DAP inventory in India has dropped to dangerously low levels – expect an import rebound

**Channel Inventory:** India inventory figures provide a stark example of supply tightness:
- Total inventories in late-October are 3.1mmt or 69% lower y-o-y.

**Producer Inventory:** China producers inventory figures remain subdued:
- Inventory as of the end of August of 1.15mmt were 28% or 0.75mmt lower y-o-y.
- Expect these to recover modestly in Q4 due to the export restrictions imposed (though we do not expect these to be burdensome as domestic demand rebounds in 2022 and domestic production faces headwinds).

Source: India Department of Fertilizer and CPFIA
The Brazilian fertilizer market is forecast to grow to a record of ~44mmt in 2021. Total Brazilian phosphate imports likely will top ~10.0mmt in 2021.

Our 2022 expectations have been tempered, as the rapid surge of fertilizer (and other) costs constrains farmer economics. Domestic production is also likely to rebound (down ~500kt in 2021) and reduce import demand in 2022.
India DAP

• DAP imports were down more than 2.0mmt during the first three quarters of the year. We expect import arrivals to rebound to ~2.0mmt in Q4 based on heavy lineups in October and high shipment expectations in November.

• Together with the ~700kt decline in DAP fabrication, total shipments are likely to be down by ~2.0mmt this year.

• We expect DAP imports to rebound in 2022 to meet strong demand, though a more workable (for importers and producers) subsidy regime is necessary.

Source: FAI, India Department of Fertilizer, Mosaic
The incentive to produce more DAP is low due to elevated raw material prices / insufficient subsidy

- Q4 phosphoric acid contract at $1,330/t P₂O₅ (+$170 from Q3) and DAP purchase at $780/t CFR continued to suggest that the government needs to further increase subsidy in order to provide the economic incentive to significantly boost DAP supply.
Phosphate exports exceeded earlier expectations in Q3 and came in at over 4.0mmt for the quarter. Export CIQ controls became effective on Oct 15th, and we expect phosphate exports to drop in Q4.

Furthermore, strict energy consumption control could weigh on phosphate production in Q4 (potentially 700-800kt reduction).

Our base case assumes export restrictions to last through Q1 (exports down to ~500kt). In conjunction with lower production (switching to industrial markets) and a recovery of domestic shipments (to around 3-year averages), we forecast China exports to range 8.8-9.4mmt in 2022.

Source: China Customs and Mosaic
Phosphate Outlook

- We expect industry operating rates to hold relatively stable around the current historically-elevated rates 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 P₂O₅ nutrient content of 45 units or greater.
Potash: Prices continued their upward trajectory on tight market conditions in Q3

- Cornbelt prices are up over $446/MT since January 2021.
- The tight market situation in Brazil pushed prices to near $800/MT at the end of October.
- Prices in SE Asia rose rapidly in Q3 to circa $600/MT.

**Published MOP Prices**

<table>
<thead>
<tr>
<th>$ per tonne</th>
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<tbody>
<tr>
<td>Jan '07</td>
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<tr>
<td>Jan '09</td>
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<tr>
<td>Jan '11</td>
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<tr>
<td>Jan '13</td>
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<tr>
<td>Jan '15</td>
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<tr>
<td>Jan '17</td>
</tr>
<tr>
<td>Jan '19</td>
</tr>
<tr>
<td>Jan '21</td>
</tr>
</tbody>
</table>

- SE Asia + $350/tonne
- Cornbelt + $446 / tonne
- Brazil + $548 / tonne

*weekly average reported spot pricing for prompt delivery*  
*Data October 28, 2021*
2021 Q1-Q3 Regional Potash Roundup

Source: Genscape, China Customs, Siaesp, TDM, Mosaic

Steady vessel lineups kept U.S. offshore imports at elevated levels in Q3. Total imports jumped 85% or 980kt from a year ago on very strong demand.

Indian imports were down 32% or 1.16mmt y-o-y, as rising prices internationally have made India amongst the lowest netback markets globally.

Brazilian MOP imports peaked in July but remained at over ~1.1mmt a month. Imports Jan-Sep exceeded 9mmt and were up 13% or ~1.0mmt y-o-y.

China gross MOP imports remained at relatively low levels in Q3 and that brought total arrivals to almost 6.1mmt, down 11% or 740kt y-o-y from last year’s already low level.
Indonesia and Malaysia MOP imports rebounded to more healthy levels on strong CPO prices this year

- MOP imports, as reported by TDM, were up 35% y-o-y in Indonesia (+32%) and Malaysia (+42%) and we expect that to potentially reach 5.2mmt by the end of this year.
- CPO prices remained volatile at very high levels due to strong vegetable oil and crude oil prices, lower-than-expected recovery of palm oil production and solid demand.
U.S. MOP imports have slowed to a more ‘normal’ level in Q3

- Very large spring demand and depleted inventories to start the year has prompted strong import demand.
- Imports from Belarus have yet to recede.
- Q4 imports are expected to remain in the 450-550kt range.

Source: Genscape; USDOC, Mosaic

- Other includes Jordan
We maintain our forecast for global MOP shipments in 2021 at ~70mmt, as downward revisions of China and India were offset by higher forecasts for SE Asia and North America.

Our preliminary forecast for 2022 calls for ~1.5% growth, primarily driven by our cautious view on recovery in China and India and continued growth in SE Asia.
Global Potash Shipment Forecasts by Region

November 2021

<table>
<thead>
<tr>
<th>Muriate of Potash</th>
<th>2020</th>
<th>2021E</th>
<th>Low 2022F</th>
<th>High 2022F</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>16.4</td>
<td>14.8</td>
<td>15.3</td>
<td>15.7</td>
<td>We revised China MOP shipments this year to less than 15.0mmt. Lower domestic supply (lower production and producer inventories) and lower imports (due to the low contract price disincentivizing suppliers to maintain historical volumes) reduced availability, while delayed crop harvest and autumn planting dampened Fall potash demand. As a result of this latter issue, port offtake has slowed down in recent weeks and port inventories crept back up to ~2.6mmt by late-October. For 2022, we forecast MOP imports to rebound (assuming a timely settlement of a new contract) on a need to refill the in-country pipeline and to satisfy moderate demand growth.</td>
</tr>
<tr>
<td>India</td>
<td>5.1</td>
<td>3.6</td>
<td>4.0</td>
<td>4.4</td>
<td>Lack of availability and impractical subsidy/import pricing dragged down potash shipments this year and we have revised our forecast ~450kt lower. MOP imports likely will drop to ~3.5mmt in 2021, the 2nd lowest level in more than a decade. With inventories dropping to very low levels (-61% y-o-y) by late-October and large pent-up demand (due to solid farmer economics), we project MOP shipments to rebound by ~0.7mmt next year (recovering about half of the reduction in '21), though adjustments to subsidy (and/or MRP) are likely necessary to achieve this.</td>
</tr>
<tr>
<td>Indonesia &amp; Malaysia</td>
<td>4.3</td>
<td>5.2</td>
<td>5.5</td>
<td>5.9</td>
<td>CPO prices will likely remain volatile at elevated levels in 2022 on tight supply, lifting already-positive demand prospects. MOP imports in Indonesia and Malaysia were up 35% y-o-y through August despite COVID-related labor/logistics restrictions at the plantations, and we have revised our 2021 forecast ~250kt higher. We forecast MOP imports to grow again in 2022 and exceed the previous peak of 5.4mmt (in 2018).</td>
</tr>
<tr>
<td>Other Asia</td>
<td>4.9</td>
<td>5.2</td>
<td>4.9</td>
<td>5.1</td>
<td>Our 2021 forecast is unchanged. Regional imports are expected to slow down in Q4 (partly due to low seasonal requirements in some markets) and could remain subdued as buyers await new price signals from contract negotiations in China and India over the next few months. MOP imports are projected to slip slightly in 2022 from record or near-record levels this year as affordability weighs on demand.</td>
</tr>
<tr>
<td>W. Europe</td>
<td>5.0</td>
<td>5.2</td>
<td>5.0</td>
<td>5.2</td>
<td>Shipments in 2021 have exceeded prior expectations. We forecast potash shipments be just slightly lower in 2022 on healthy farmer balance sheets, but we are monitoring how elevated input costs (nitrogen in particular) could curb potash demand in the region.</td>
</tr>
<tr>
<td>E. Europe &amp; FSU</td>
<td>5.9</td>
<td>6.3</td>
<td>6.3</td>
<td>6.5</td>
<td>We continue to expect the market to grow next year in the face of healthy farm economics and favorable support policies.</td>
</tr>
<tr>
<td>Brazil</td>
<td>11.3</td>
<td>12.1</td>
<td>11.7</td>
<td>12.1</td>
<td>Strong ag fundamentals fueled solid growth in crop nutrient demand this year, with total fertilizer shipments expected to reach a record of ~44mt, up ~3.5mt y-o-y. Full year MOP imports are forecast to set another record, likely topping 11.7mmt, up almost 7% y-o-y. We took a conservative view of 2022 prospects, as grower profitability shrinks from the very lofty levels seen the prior two years.</td>
</tr>
<tr>
<td>Other L. America</td>
<td>3.0</td>
<td>3.3</td>
<td>3.0</td>
<td>3.2</td>
<td>2021 shipments have been revised slightly higher, but the surge in fertilizer prices is expected to crimp potash demand slightly in 2022.</td>
</tr>
<tr>
<td>North America</td>
<td>10.4</td>
<td>11.6</td>
<td>11.0</td>
<td>11.3</td>
<td>We revised North American shipments ~300kt higher to ~11.6mmt in 2021 (a record-high) as grower demand continued to surprise us to the upside. Despite strong imports year-to-date (+85% y-o-y Jan-Sep) and little-improved domestic output, prices continued to rise on supply concerns, healthy fall demand and low channel inventory. We project shipments to moderate in 2022, assuming no or minimal channel refill.</td>
</tr>
<tr>
<td>Other</td>
<td>2.9</td>
<td>3.0</td>
<td>2.8</td>
<td>3.1</td>
<td>The combined demand in this market (Oceania, Middle East and Africa) is expected to stay relatively flat in 2022 although the risk profile skews to the low side of the range due to affordability concerns, most notably in Africa.</td>
</tr>
<tr>
<td>Total</td>
<td>69.3</td>
<td>70.2</td>
<td>69.5</td>
<td>72.5</td>
<td>We maintain our forecast for global MOP shipments in 2021 at ~70mmt and our preliminary forecast for 2022 shows a range of 69.5-72.5mmt, with a point estimate in the upper half of the range at 71.3mmt, representing ~1.5% growth. There remains meaningful upside to the forecast if the recoveries in China and India exceed our cautious expectations.</td>
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Source: IFA, CRU and Mosaic (numbers may not sum to total due to rounding)
2021E and 2022F Major Potash Market Demand Summary

**North America**

<table>
<thead>
<tr>
<th>Year</th>
<th>Mil Tonnes KCl</th>
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<tbody>
<tr>
<td>20</td>
<td>10.4</td>
</tr>
<tr>
<td>21E</td>
<td>11.6</td>
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<tr>
<td>22F</td>
<td>11.0 – 11.3</td>
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Record-setting shipments of 11.6mmt in **North America** for 2021 are expected to moderate as higher prices trim demand (but without meaningful channel stock recovery).

**Brazil**

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>20</td>
<td>11.3</td>
</tr>
<tr>
<td>21E</td>
<td>12.1</td>
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<tr>
<td>22F</td>
<td>11.7 – 12.1</td>
</tr>
</tbody>
</table>

After 2 consecutive years of double-digit growth, we forecast **Brazilian** shipments to stay flat or retreat slightly in 2022 due to tempered, though still positive, grower economics.

**India**

<table>
<thead>
<tr>
<th>Year</th>
<th>Mil Tonnes KCl</th>
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<tbody>
<tr>
<td>20</td>
<td>5.1</td>
</tr>
<tr>
<td>21E</td>
<td>3.6</td>
</tr>
<tr>
<td>22F</td>
<td>4.0 – 4.4</td>
</tr>
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Imports to **India** will show a sharp drop in 2021, but pent-up demand and an empty channel should result in at least a moderate rebound next year. Additional subsidy will be key.

**Malaysia and Indonesia**

<table>
<thead>
<tr>
<th>Year</th>
<th>Mil Tonnes KCl</th>
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</thead>
<tbody>
<tr>
<td>20</td>
<td>4.3</td>
</tr>
<tr>
<td>21E</td>
<td>5.2</td>
</tr>
<tr>
<td>22F</td>
<td>5.5 – 5.9</td>
</tr>
</tbody>
</table>

Elevated CPO prices and improving logistics underpin strong potash demand in **Malaysia and Indonesia**. Total MOP imports are forecast to recover to over 5.0mmt in 2021 and over 5.5mmt in 2022.

Source: CRU and Mosaic
Potash S/D: Supply could potentially catch up with demand in 2022

**Projected MOP Supply/Demand Changes**

<table>
<thead>
<tr>
<th>Mil Tonnes KCl</th>
<th>2020</th>
<th>2021F</th>
<th>2022F</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected Shipment Changes</td>
<td>5.89</td>
<td>0.99</td>
<td>1.06</td>
<td>Moderate demand growth forecast after big upturn in 2020.</td>
</tr>
<tr>
<td>Percent Change</td>
<td>9.3%</td>
<td>1.4%</td>
<td>1.5%</td>
<td></td>
</tr>
<tr>
<td>Projected Supply Changes</td>
<td>3.95</td>
<td>0.98</td>
<td>1.94</td>
<td></td>
</tr>
<tr>
<td>SQM Production Adjustments</td>
<td>0.22</td>
<td>0.10</td>
<td>0.08</td>
<td>Incremental increases.</td>
</tr>
<tr>
<td>K+S Bethune Ramp-Up</td>
<td>0.31</td>
<td>0.08</td>
<td>0.13</td>
<td>Pond production to slowly ramp up (Phase I &amp; II).</td>
</tr>
<tr>
<td>Eurochem Usolskiy Ramp-Up</td>
<td>1.08</td>
<td>0.03</td>
<td>0.05</td>
<td>Phase 1.1 capacity: 0.4mmt ramping from ’22; Phase 2 capacity 1.0mmt startup in 2025.</td>
</tr>
<tr>
<td>Eurochem Volgakaliy Ramp-Up</td>
<td>0.04</td>
<td>0.11</td>
<td>0.10</td>
<td>Limited test production in ’20–’21; Phase 1 capacity of 2.3mmt achieved in ’25.</td>
</tr>
<tr>
<td>Uralkali Production / Ramp-Ups</td>
<td>0.20</td>
<td>0.10</td>
<td>0.00</td>
<td>Recovery of S-2; Incremental increases from existing sites and S-3 expansion. Ust-Yayvinsky startup in 2024.</td>
</tr>
<tr>
<td>Belaruskali Petrikovsky</td>
<td>0.03</td>
<td>0.28</td>
<td>0.35</td>
<td>Ramp-up of 1.5mmt mine (first trial MOP production in August ’20; official commissioning in August ’21). BPC sanctions could result in lower exports from Belarus, but this is not assumed in our base case.</td>
</tr>
<tr>
<td>Net Changes from Others</td>
<td>0.64</td>
<td>0.03</td>
<td>0.09</td>
<td>Minor changes at ICL (Spain and Israel), Jordan, China, Europe, Laos etc.</td>
</tr>
<tr>
<td>Other Existing Utilization</td>
<td>1.44</td>
<td>0.25</td>
<td>1.15</td>
<td>NTR+MOS estimated operational changes</td>
</tr>
<tr>
<td>S/D Surplus (+) / Deficit (-)</td>
<td>-1.94</td>
<td>-0.01</td>
<td>0.88</td>
<td></td>
</tr>
</tbody>
</table>

Source: Mosaic

The potash market remains very tight in 2021, with deferred demand in China/India necessary to balance the market.

A small “surplus” in 2022 is expected to develop in H2, allowing inventories to be modestly rebuilt. However, a more pronounced recovery of India/China shipments (to 2020 levels) would flip the script to a ~1mmt “deficit”. Also note that we do not forecast a reduction in Belarus exports in 2022 in our base case, despite the sanctions, which may prove optimistic.
Potash: Low inventories, particularly in India, should encourage early settlement of new contracts

**China Weekly MOP Port Inventory**

- After dropping to ~2.3mmt in July, China MOP port inventories recovered to roughly 2.7mmt in mid-October, down 26% or ~1.0mmt y-o-y.

**India MOP Inventory**

- Channel Inventory: total inventories in India fell below 800kt in late-October, down 61% or over 1.2mmt y-o-y.

Source: India Department of Fertilizer, Mosaic China
**Brazil Potash**

- The Brazilian fertilizer market is forecast to grow to a record of ~44mmt in 2021. Total Brazilian MOP imports are likely to hit ~11.7mmt this year.
- Our 2022 expectations have been tempered, as the rapid surge of fertilizer (and other) costs constrains farmer economics, resulting in flat to lower imports.

**Source:** ANDA, Siacep and Mosaic

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### Brazil MOP Imports

<table>
<thead>
<tr>
<th>Year</th>
<th>MOP Imports (mmt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>10.2</td>
</tr>
<tr>
<td>2020</td>
<td>10.9</td>
</tr>
<tr>
<td>2021</td>
<td>11.7</td>
</tr>
</tbody>
</table>

**2021 Q1-Q3**

- **↑13% or 1.0mmt y-o-y**

**Forecast Range for 2021**

- **11.3 – 11.7**

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**Charts:**

- **Graph showing historical MOP imports from 2019 to 2021, highlighting the forecast for 2021.**
- **Bar chart comparing actual/estimate versus forecast range for MOP imports from Q1 to Q4.**
We expect MOP imports in India to plummet 32% to 3.5mmt for calendar year 2021, the lowest level since 2013. Many global suppliers have been reluctant to place scarce tonnes under the low prevailing contract price.

Imports are forecast to rebound to more ‘normal’ levels assuming that increases in CFR prices are offset by subsidy and MRP increases. The risk profile skews to the low side given the uncertainty in subsidy development (in the face of elevated nitrogen and phosphate prices too).

Source: FAI, India Department of Fertilizer, Mosaic
China Potash

• MOP imports dropped in Q3 as expected and total (gross) imports are forecast to decline to ~7.6mmt this year.
• Our China team reported growing concerns of less attractive fertilizer affordability and delayed harvest – that could negatively impact potash demand in Q4.
• For 2022, we expect MOP imports to rebound, assuming timely settlement of new contract, on a need to refill the in-country pipeline and to satisfy moderate demand growth.

Source: China Customs and Mosaic
Potash Outlook: New supply expected to slightly trail demand, leading to higher industry operating rates

- We have made limited changes to our medium-term view.
- We continued to expect range-bound global capacity utilization (at generally elevated levels) over the next few years based on steady demand growth and continued ramp-up of existing brownfield and greenfield projects.

Source: IFA, CRU and Mosaic
Strong economic rebound from COVID-low and tight ag fundamentals

- Global G&O balance sheets are snug – S:U ratio dropping to 15.9% in 2020/21 (lowest since 2007/08).
- USDA’s forecast calls for the stocks-to-use ratio remaining low in 2021/22, even in the face of a projected ~3% increase in global harvest.
China’s appetite across a wide range of ag commodities continues to drive ag markets

- Since May, China’s monthly corn imports have averaged ~3.3mmt. Prior to 2020, the highest monthly import volume was 1.16 (reached in April of 2016). This pushes YTD imports to an eye-popping record of 24.9mmt (+275% y-o-y).
- China’s soybean import growth has slowed slightly in 2021 (vs 2020), but still very strong by historical standards.
- Growth in major meat imports (pork + beef + poultry) have also slowed relative to 2020, as China has worked to rebuild its hog inventory and higher retail prices have stymied domestic consumption. That said, beef imports remain up 11% y-o-y.
- We expect Chinese imports of ag commodities to continue to be elevated through 2022.

Source: China Customs
20/21 U.S. corn demand supported by recovering ethanol grind and elevated export demand; 21/22 to remain strong

- Ethanol production has recently recovered to near its pre-COVID level.
- USDA projects ethanol grind to rebound to 5.03 bbu in 20/21 and 5.20 bbu in 21/22.
- U.S. corn use reached a record high of 14.8 bbu in 20/21. We see strong export demand (upside risk to latest USDA expectation) to continue into the 21/22 crop year and could keep corn use at a similar level next year.
- U.S. corn stocks-to-use ratio is estimated to have dropped to 8.3% in 2020/21 (revised higher), but still tight relative to recent history (2013/14-2019/20 averaged 13.4%). USDA currently projects a S:U ratio of 10.1% for 21/22 on their higher production estimate in the October WASDE.
U.S. farm economics are still constructive despite rapid run-up of all costs

- 21/22 farmer economics have been supported by tight commodity markets and ongoing CFAP payments.
- 22/23 farmer economics are expected to be down relative to 21/22, but still relatively healthy.
  - Costs are expected to be up across the board.
  - Government payments are expected to decline relative to the past couple years that have been boosted by CFAP and market facilitation payments (offsets for retaliatory tariff impacts).

Note: Central Illinois farmer returns are for illustration only and calculated after estimated land rent. Historical data based on published information from University of Illinois and Farm Business Farm Management (FBFM). 2021E and 2022F returns are based on CBOT nearby and Dec '22 corn future contracts and fertilizer cost assumptions by Mosaic. We also assume certain percentage increases in other inputs (i.e. seed, chemicals, energy) in the 2022 forecast.
Additional breathing room for stocks expected in 2021/22, but still rather tight markets

<table>
<thead>
<tr>
<th>Crop Year</th>
<th>10-year Average</th>
<th>18/19</th>
<th>19/20</th>
<th>20/21E</th>
<th>21/22F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corn</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planted Acreage (mil acres)</td>
<td>91.4</td>
<td>88.9</td>
<td>89.7</td>
<td>90.8</td>
<td>93.3</td>
</tr>
<tr>
<td>Yield (bu/acre)</td>
<td>161.5</td>
<td>176.4</td>
<td>167.4</td>
<td>171.4</td>
<td>176.5</td>
</tr>
<tr>
<td>Use (bil bu)</td>
<td>13.5</td>
<td>14.3</td>
<td>14.0</td>
<td>14.8</td>
<td>14.8</td>
</tr>
<tr>
<td>Exports (bil bu)</td>
<td>1.8</td>
<td>2.1</td>
<td>1.8</td>
<td>2.8</td>
<td>2.5</td>
</tr>
<tr>
<td>Carryout (bil bu)</td>
<td>1.6</td>
<td>2.2</td>
<td>1.9</td>
<td>1.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Stocks-to-use</td>
<td>11.8%</td>
<td>15.5%</td>
<td>13.7%</td>
<td>8.3%</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Soybeans</strong></th>
<th>10-year Average</th>
<th>18/19</th>
<th>19/20</th>
<th>20/21E</th>
<th>21/22F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planted Acreage (mil acres)</td>
<td>81.1</td>
<td>89.2</td>
<td>76.1</td>
<td>83.1</td>
<td>87.2</td>
</tr>
<tr>
<td>Yield (bu/acre)</td>
<td>46.4</td>
<td>50.6</td>
<td>47.4</td>
<td>51.0</td>
<td>51.5</td>
</tr>
<tr>
<td>Use (bil bu)</td>
<td>3.7</td>
<td>4.0</td>
<td>4.0</td>
<td>4.5</td>
<td>4.4</td>
</tr>
<tr>
<td>Exports (bil bu)</td>
<td>1.7</td>
<td>1.8</td>
<td>1.7</td>
<td>2.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Carryout (mil bu)</td>
<td>318</td>
<td>909</td>
<td>525</td>
<td>256</td>
<td>320</td>
</tr>
<tr>
<td>Stocks-to-use</td>
<td>8.3%</td>
<td>22.9%</td>
<td>13.3%</td>
<td>5.7%</td>
<td>7.3%</td>
</tr>
</tbody>
</table>

Source: USDA (October WASDE)
10-year average = average 2010/11 – 2019/20
Positive demand developments overshadow potential supply recovery in the palm oil market

- Malaysia and Indonesia total palm oil stocks have lagged behind 2020 for much of the year despite the marginal production gains.
- Demand (especially exports) has been healthy and recent policy changes further improve export prospects.
  - India removed restrictions on imports of refined palm oils and reduced import taxes.
  - Indonesia cutting the ceiling rate for CPO export levies (on July 2) led to an increase in July exports and dramatic y-o-y increases in August.
- Indonesian domestic demand has also picked up y-o-y - more than offsetting 2020 declines in food and biodiesel uses. While lagging 2020, domestic demand in Malaysia for crude palm oil has been increasing throughout 2021, reaching 2020 levels in September.
Coffee and sugar prices are soaring on supply concerns

- Sugar prices rebound from a 12-year low to a 4-year high. Prices are supported by weather-related supply concerns.
- Brazil production concerns (e.g. due to frost damage) have resulted in a surging coffee market.