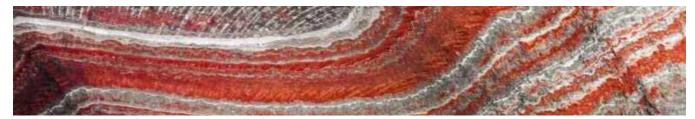
Argus Quarterly Potash Outlook



Outlook

The month ahead

With Brazilian demand all but concluded, attention switches to the US and Asia. Demand is expected to rise in both regions but, with falling corn prices pressuring affordability and the China contract level acting as a price guide, there is little upside. India's contract will be a good indicator of market sentiment, if it is not delayed by differences between buyer and supplier price expectations.

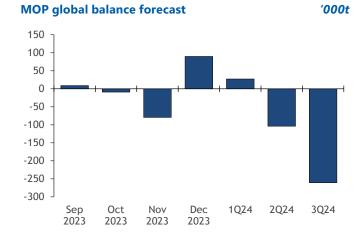
The next 3-6 months

Prices should continue to hold steady as buying patterns normalise and buyers restock drawn down inventories. Supply remains limited from Belarus while Canadian output is measured to keep the market tight. But the market is balanced, with any attempts to raise prices from suppliers met with buyers withdrawing from the market.

12 months forward

Demand in 2024 should rise to historical levels in most markets, except India, where affordability remains an issue. Supply will increase to match as Russia reaches or exceeds historical levels and exports from Laos grow, keeping prices around current levels.

Forecast potash prices \$/t						
	Oct	Nov	Dec	1Q24	2Q24	3Q24
Vancouver fob	263-303	263-308	266-311	261-306	256-294	248-302
FSU fob	241-291	241-295	244-299	239-299	234-302	226-315
Southeast Asia cfr	330-370	325-370	325-370	315-360	308-345	302-337
Brazil cfr	350-365	345-365	345-365	340-360	342-362	355-375
Europe cfr €/t	390-440	400-440	400-440	385-430	362-410	357-407
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Outlook summary

- Prices stabilise as affordability improves
- Uralkali exports normalising
- Belarus limited to 8.1mn t of exports in 2023
- Indian demand hindered by low subsidy

After a year of falling steadily, MOP prices finally stabilised in July. The stability can be attributed to a combination of factors. Firstly, China's contract settlement with Canpotex at \$307/t cfr in June defined a floor that spot markets have yet to breach. In Brazil, better affordability after softening prices across the fertilizer complex translated to higher buying, which accelerated after labour strikes in Vancouver temporarily disrupted Canadian exports.

For the quarter ahead we forecast continuing price stability. Seasonal demand has concluded in Brazil but is picking up in Europe, the US and southeast Asia. As buyers consider the current price reasonable we are seeing a return to more typical buying patterns, rather than waiting until the last moment to conclude purchases. Inventories in many cases have been drawn down and importers are willing to restock without fear of another abrupt price drop. This should help dampen the volatility seen in the market over the past two years.

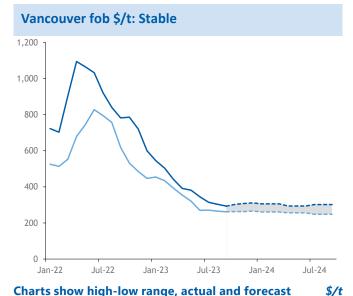
Potash supply is also gradually returning to normalcy. Uralkali's exports appear finally to have returned to unhindered levels, leaving Belaruskali as the only producer limited by sanctions and logistics. Through the Middle East and Europe suppliers are operating at capacity, while Canadian producers have dialled down production and are waiting for demand to come through strongly before committing to significant increases. The only upside to production is in Laos, where Asia Potash developed its second 1mn t/yr of capacity in October, with plans to reach 3mn t/yr by the end of this year.

While demand returning with producers at capacity or voluntarily reducing supply may suggest a tight market that could push prices upward again, we see the market as more balanced. Buyers in Asia will be unwilling to deviate too far from the contract price level, while buyers elsewhere are concerned that falling prices for corn and rising prices for nitrogen fertilizers could see affordability fall even if potash prices hold stable, let alone rise.

The other factor dampening buyer enthusiasm is the emergence of the El Nino weather pattern, which is bringing drier

Price comparison \$/t					
	Sep average	Oct forecast	Nov forecast	Dec forecast	Market sentiment*
Vancouver fob	262-293	263-303	263-308	266-311	()
FSU fob	240-309	241-291	241-295	244-299	4 >
Southeast Asia cfr	330-360	330-370	325-370	325-370	()
Brazil cfr	350-368	350-365	345-365	345-365	4 >
Europe cfr €/t	380-427	390-440	400-440	400-440	()

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Charts show high-low range, actual and forecast





and warmer weather to southeast Asia and Australia. Buyers are approaching securing their needs for the upcoming season with caution, preventing a significant demand resurgence through the region.

As China seems well positioned to year-end with the contract volume supporting railed imports from Russia, Belarus and Laos, attention in Asia switches to the Indian market. Demand here has been suppressed by high prices and insufficient government support stretching back as far as 2021 and the recent announcement that the government is recommending a significant cut in subsidy for rabi 2023/24 continues this trend. Indian demand looks likely to remain around current levels, and there is a risk that contract settlements

expected in October could be delayed if buyers attempt to secure a price fall that accommodates the subsidy drop, while suppliers have little incentive for such a drop.

Demand in the SOP market has been slower to recover than for MOP, especially from Europe's NPK producers. SOP price spreads to MOP should correct to historical levels over the next quarter with stability in the MOP price. Even if demand is slow to recover limitations on supply — strict Chinese export restrictions, high energy costs for European Mannheim producers — should keep the market tight. More generally the market outlook is becoming increasingly dependent on Mannheim production with Kalium Lakes' entry into administration further reducing the prospects for Australia's SOP industry.

Revisions to forecast

Revisions to forecast

Prices in the past quarter have largely tracked within our forecast bounds, although prices have generally shown more stability and upside than previously forecast. This can partly be attributed to export disruption in Canada, which temporarily tightened the market and pushed buyers back to the market. Otherwise, China's contract settlement has provided the price support expected, acting as a floor that spot prices have yet to pass.

Looking forward, we have marginally increased our expectations for 2024 to give a flatter trend to prices. Buyer behaviour suggests most market participants accept the current price level, which indicates demand and buying patterns will be more normal next year. Equally, while Russian exports will return to historical levels, Belarus will continue to be limited, and so the market should tighten. At the same time buyers have proven very price sensitive, so there is little opportunity for suppliers to raise prices without pushing demand out of the market again.

Forecast downside risk

Downside risk remains linked to higher output from Belarus and Laos, although it is hard to see how Belarus could raise exports rapidly without sanctions lifting. There is more potential upside for Laos if Asia Potash meets its ramp-up targets, which would introduce downside to southeast Asia in particular. Another growing risk to price is from affordability, as softening crop prices have unsettled farmers. If corn prices continue to fall, or other crops also soften, affordability will erode and apply downward pressure to prices.

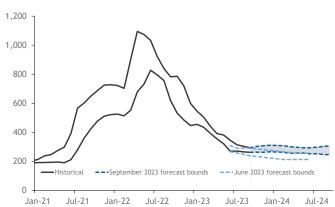
Forecast upside risk

The rally caused by Canada temporarily being disrupted from exporting shows how finely the market is balanced, and similar disruption to any major supplier would be sufficient to push prices up as buyers rush to secure supply. This is especially true of disruption to Canada, which is providing a cushion with underutilised capacity. Similar tightening could happen if Uralkali's exports begin to drop again, which could happen if the recent rise was only caused by increased shipment before export duties.

Prices could also rally if demand is exceptional in one of the major markets currently driving prices, although we are approaching the end of the window for buying in both Europe and the US. There is less obvious opportunity for upside from Asia, although India could exceed our current bearish expectations if the government rethinks its planned subsidy cuts.

MOP revisions to forecast







Regional outlook

Demand — Americas

Brazil

We have reached the end of the window for near-term demand, as sowing of the 2023-24 soybean crop began in mid-September. As such trading in the Brazilian market should slow in the remainder of the year, especially as logistical delays mean product purchased now is unlikely to reach farmers in time for application. BPC is offering \$350/t cfr for October granular MOP cargoes, aligned with the low end of recent offers. Prices are likely to hold steady around this level until late in the fourth quarter, when buyers return for safrinha.

Affordability pressure is making farmers think twice about fertilizer purchases, especially for the upcoming 2023-24 corn crop. Corn barter rates are around a third higher than the beginning of the year as corn prices have softened by 30pc in that time. Fertilizer prices have softened over the same period but both urea and MAP prices have risen since June. meaning urea now is only around 10pc down on January and MAP down by 20pc. Farmers are waiting before locking in purchases as corn prices are expected to fall further.

Brazil MOP stocks were estimated at over 4mn t as of the beginning of September and could end the year at around 2mn t. MOP accounted for 2.1mn t of last year's total inventories, up from 1.74mn t in 2022 and 1.67mn t in 2021. It is possible stocks are drawn down compared with 2022 by year-end, as fertilizer purchases were delayed this year, delaying product reaching the country. Blenders are currently running at high utilisation so the stock position will become clearer next month. Available stocks would mean we may have to wait longer for trading on the Brazilian market to resume, especially if farmers are concerned by rising barter rates. At the

same time, granular MOP supply is globally tight, so suppliers are unlikely to soften price offers substantially, meaning we expect prices to hold stable into 2024.

Brazil has imported 8.7mn t of MOP in the eight months from January to August. Canada was the largest supplier, with 3.5mn t, followed by Russia at 2.7mn t. Brazil continues to be one of the largest markets for Belarus, importing 750,000t in the period. To August imports are down by 7pc year on year, but total year imports may be similar to 2022, with line-up data suggesting 2.8mn t still to be delivered, compared with 2.4mn t in the same period last year.

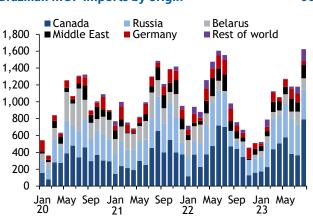
US

The near-term outlook in the US is for stable to firm prices, with demand from buyers seeking to replenish inventories drawn down earlier in the year. Both Nutrien and Mosaic saw strong demand in their summer fill programmes in July, at prices of \$370/st fob Midwest inland warehouse, and demand has continued steadily since.

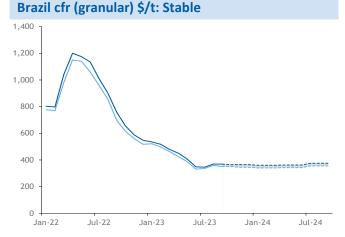
After skipping application last year when prices were significantly higher, demand was more normal in the spring season and application rates should be typical again for fall barring any weather disruption. Supply is expected to be sufficient to meet demand through fall but limited barge availability as Mississippi water levels fall will keep the market tight. Most trading should conclude in October, after which the market will remain stable on little trading to year-end.

Barges for October delivery have traded at \$335-345/st fob Nola, above recent lows of \$315/st in early August. But overall prices have been more stable in the past quarter. There are no harbingers of imminent price softening, which means buyers are more willing to purchase ahead of need rather than relying on just-in-time shipments, which should result in smoother price movement in this and subsequent seasons.

Brazilian MOP imports by origin



'000t





Demand — China and India

China

After softening since the start of the year domestic MOP prices began to stabilise in August, as downstream buyers returned to the market. Prices are expected to be stable to slightly falling in the remainder of the year as demand is there from NPK and SOP producers but MOP supply should more than match need, with railed imports from Russia and Belarus, contract imports from Canada and the Middle East, further imports from Laos and domestic supply from producers that still have stock to work down.

MOP port inventory is around 2.3mn t and has been stable around this level for most of the year so far. Contract imports should keep stocks stable or build stock if downstream demand is weaker than expected. Most product is expected to flow through port however as downstream, small and medium-size enterprises have low inventories. Plantations are expected to buy more in the coming months to replenish stocks in preparation for spring application.

India

It has widely been reported that Indian contracts have been revised down to \$319/t cfr after China's contract settlement at \$307/t cfr, but no producer has formally confirmed this. Recent tenders, such as that from NFL awarded to Uralkali in August, were agreed at \$319/t cfr and we believe that all imports arriving in India until the end of September have been renegotiated to \$319/t cfr.

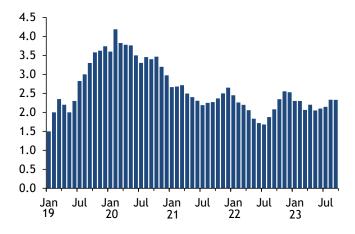
Price discussions on a new contract are expected in October. The new contract should be around the \$319/t level, returning to historical separation with the China contract price as regional spot prices have stabilised around \$320-330/t cfr.

We project January-October imports this year at 2.56mn t, up slightly on the 2.35mn t imported for the same period of 2022 but lower than the 2.83mn t imported in 2021. Indian imports rose significantly in May and June but stalled after China's contract agreement and will only rise again after a new contract is agreed. India had stock of around 600,000t at the start of September to draw on while awaiting new contract shipments.

Indian demand has been slowed by poor affordability in recent years. Consistent falls in the MOP contract price should make MOP affordable for farmers again, but the government continues to remove price support faster than the price falls. For rabi the Indian government has recommended cutting

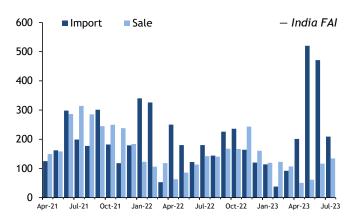
China MOP port stocks

mn t



Indian MOP import and sale

'000t



the nutrient-based subsidy (NBS) to 1,427 rupees/t, down from Rs9,457/t in May. If set at this level the subsidy would contribute only around \$17/t to the cost of MOP making it more unaffordable for farmers even if the contract falls as expected, meaning demand will struggle to rise again in 2024. As such, India may push for greater reduction in the contract price, but suppliers have little incentive to cut prices further with strong demand suspected in other markets, so India will have to raise subsidy support or import less MOP.



Demand — Southeast Asia

Southeast Asia

Buying continues to be slow in southeast Asia but prices are unlikely to soften much from current levels, especially for granular MOP, which is in short supply globally. Prices have been stable around \$320-370/t cfr for standard MOP and \$370-390/t for granular MOP since mid-July and we forecast prices remaining stable to year-end, especially if an Indian contract settlement reinforces price expectations in the low \$300s/t cfr.

Drier and hotter conditions because of Fl Nino introduce downside to demand in the second half of the year, which means there is little upside to price even as affordability improves and stocks are drawn down.

Indonesia

Imports have been slow so far this year as buyers choose to work through inventory ahead of agreeing new deals, with plantation buying hand-to-mouth as prices soften. Stocks are likely to be drawn down as the country has imported a third less MOP in the first seven months of the year than 2022, which could lead to more demand for offshore imports in the remaining months of the year.

Ongoing plantation tenders have offers equivalent to \$350/t cfr, making it difficult for suppliers to raise prices even if demand emerges.

Malaysia

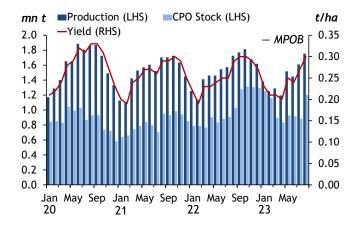
Malaysia's MOP market has been sluggish this year, with cautious buying in a falling market. To July imports were around 718,000t, around 17pc down on the same period of 2022. The palm oil industry, the main driver of demand in the country, has provided limited support as CPO prices have been similar over the past year while MOP prices have fallen.

Malaysian plantations have recently begun tendering for 2024, which is earlier than typical, suggesting market participants believe we are near the floor.

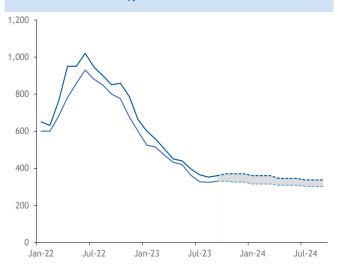
Thailand

India's decision to curb its rice exports has led to prices for the staple crop on the Thai market to jump by 15pc from July to August, bringing affordability support for farmers, but drier conditions and concerns on tight supply mean the increase in Thai rice exports may be small, limiting upside for fertilizer demand. Most demand for 2023 will conclude with the end of the monsoon season, expected in October,

Malaysian palm oil fundamentals



Southeast Asia cfr \$/t: Stable



but buyers are being encouraged to the market by a lack of Laotian material, which should keep prices supported.

Vietnam

Vietnamese demand is slowing as we reach the end of the season. Beginning from October there may be some demand for the winter/spring application season with price direction determined by the availability of cargoes from BPC and Laotian producers, which will introduce competition to the market if present, or cause prices to firm if absent.



Demand — Europe, Africa, Australia

Europe

Granular MOP prices have held around €370-430 cfr through the summer holiday period, with very limited trading. Coming out of the summer demand has been strong, with supply tight, and little granular MOP is on offer below €400/t as a result. While seasonal demand is strong prices will hold, and may even temporarily be pushed higher, despite the continued premium for Europe over granular markets in the Americas. Russian product available on the market is setting the low end of the range, with most other suppliers offering at €400/t cfr or above.

Seasonal demand will slow in October, with trading in some markets in eastern Europe quieting already, but prices should hold to the end of the year as there will be little incentive to reduce offers. Prices may soften in 2024 to narrow the premium between Europe and other granular markets, although we expect this premium to remain elevated on historical levels while there are fewer supply options for European buyers.

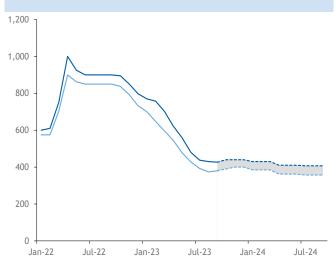
Discussions for fourth-quarter standard MOP deliveries are ongoing with reports that some contracts have concluded in the range of €360-380, higher than current spot prices of €330-380/t. Standard MOP demand comes mainly from the NPK industry, which has reduced operating rates over the past 18 months with high energy costs and high prices for all fertilizers, and rising nitrogen prices as we approach winter may dampen demand here again.

South Africa

Granular MOP prices are at \$390-395/t cfr. South African buyers have been delaying purchases while prices fall and, now we have reached the beginning of the main application season, have returned to the market. Buyers are hoping to achieve prices of \$360-370/t cfr, following trends in the Brazilian market, but suppliers have little incentive to drop offers while there is immediate need. Softening in the market will be minimal in the near term, with near stable prices the most likely outcome.

There is likely to be some congestion around Durban port as importers distribute product, because domestic stocks in the country are low with cargoes expected from offshore to meet demand. Prices should see some support from this demand through to December, when the application season comes to an end.

Europe cfr (granular) €/t: Stable



Australia

Most recent trading has taken place at around \$450/t for small cargoes of granular MOP, but small lots are on sale for October shipment at around \$430/t cfr. El Nino is expected to bring a warm and dry summer, which will dampen nearterm buyer interest. Many farmers on the east coast are already operating under the assumption that there will be a drought in Victoria, New South Wales and south-central Queensland. The hot and dry El Nino conditions will bring increased risk of bush fires, which caused exceptional damage in 2019-20, and buyers are likely to be cautious in committing to purchases for the months ahead.

Australia typically imports most of its MOP requirement in the first half of the year for crop planting that begins in April, so we may see little movement in the market until early 2024. Australia is currently trading above other granular markets in the Americas and South Africa so, once buyers return, we should see prices fall.

Supply — North America

Canada

Nutrien sold 3.4mn t in the second quarter of 2023, 8pc lower than the same period last year. Yet its North American sales volumes of 1.2mn t were almost 30pc higher quarteron-quarter—thanks to a strong spring season in the US that pushed buyers to restock their drawn down inventories. Weak offshore sales come on the back of slower recovery in Asian demand and port strikes in Vancouver. The collapse of a conveyor belt at Canpotex's Portland terminal in May also negatively impacted Nutrien's export volumes and so it has revised its annual sales estimates downwards to 12.6mn-13.2mn t from 13.5mn-14.3mn t.

Nutrien sold at an average price of \$298/t compared with over \$700/t in the same quarter last year. A decline in revenues has affected Nutrien's capital allocation strategy and it has decided to indefinitely pause the ramp-up of its production capability to 18mn t/yr. Nutrien will complete in-progress projects and has operated this year below capacity with production curtailment at its Cory site, meaning it could raise production to 14mn-15mn t/yr next year without the ramp-up.

Mosaic sold 2.2mn t of MOP in the three months through June, slightly less than 2.3mn t a year ago. Lower prices have halved its gross margin from 34pc from a year ago to 17pc. It expects to sell 2.1mn-2.3mn t at a price of \$250-300/t in the next quarter. Data from July and August indicate that volumes are likely to be near the high end of the given range because of ongoing strong demand in North America.

Mosaic's production in the second quarter fell to 1.9mn t compared with 2.4mn t in 2022 because of the idling of its Colonsay site. Production at Colonsay was resumed in July to mitigate the impact of planned summer maintenance at Esterhazy on output. We forecast Mosaic producing 8.3mn t in Canada this year, with Colonsay on line for the rest of the year.

The impact of the strikes went beyond the two weeks of direction, with backlogs of rail and ocean freight around Vancouver that continued into September but are now mostly cleared. An equipment failure at Portland will have longer-lasting impact however, with repairs expected to take until the end of the year.

US

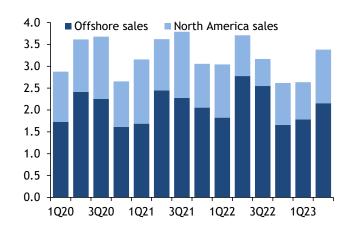
Intrepid sold 79,000st in the second quarter, beating its expectations of 65,000-70,000st, and posting a 41pc increase compared with the same period last year. The rise in volumes comes on the back of strong domestic demand. Yet, Intrepid's sales in dollar terms fell by 3pc quarter on quarter owing to an average selling price of \$479/t compared with \$738/t in 2022.

Production volumes at Intrepid in the second quarter fell by more than half from a year ago to 12,000st. While operating rates during this time are generally lower, failure of an extraction well at Intrepid's HB site in late 2022 has continued to weigh on production. Plans to replace the extraction well are under way but are currently only at the permitting and contracting phase.

Intrepid is also investing at its other sites to ramp up supply and improve its unit economics. This includes the successful installation of a new injection pipeline at HB, new caverns at Moab, and the commissioning of two new continuous mines at its East facility in Carlsbad, New Mexico. But in the short term, production volumes are likely to be somewhat restricted, with any excess sales over its operating capability relying on drawing down stocks.

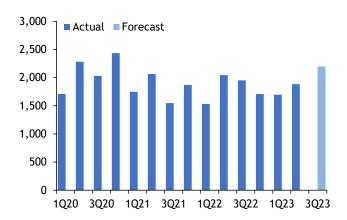
Nutrien MOP sales

mn t



Mosaic quarterly sales volume

'000t





'000t

Supply — FSU

Belarus

Using data from Russian Railways, the volume of MOP exported monthly by Belarus appears to have plateaued at 700,000-800,000 t/month, as exports have remained in this range since March. Volume has become increasingly concentrated at St Petersburg ports, with 696,000t of 797,000t railed in August delivered to the region. St Petersburg is the preferred route for Belarus to export because of proximity, which reduces shipping cost.

By contrast, as potash prices have softened the volume railed to China each month has fallen. Peaking last year at 170,000t in July, in August 2023 just 48,000t were railed to China. Prices in China are currently some of the lowest worldwide and the high freight cost means that Belarus can only achieve a narrow profit margin if exporting there. We do not expect exports to China to cease entirely, as it provides a useful route for Belarus to access Asian markets without relying on engaging ocean shipping, but the market is competitive and less attractive while Belarus can export elsewhere. With Brazil, which has been a major market for Belarus so far this year, entering a seasonally quiet period in the coming quarter, exports to China may increase despite the low returns.

We forecast Belarus exporting 8.1mn t of MOP this year, an 84pc rise on 2022, but still representing around 4mn t out of the market compared with 2021. Our preliminary estimate for 2024 is that exports will remain logistically limited to 8mn-10mn t. There is little evidence Belarus has moved forward on its own dedicated port on Russian soil, and current export levels appear near the capacity of its preferred infrastructure. Overall we expect exports of 8mn-10mn t next year.

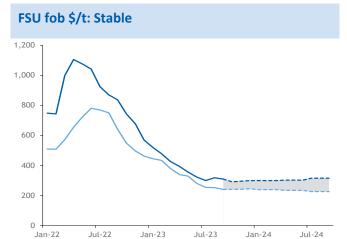
Russia

The Russian cabinet has introduced export duties of 7pc on some fertilizers as of 1 September. Duties will last to the end of the year. Producers have limited options to raise prices and instead will have to absorb the additional costs. Russian producers have some of the lowest ex-works costs worldwide, so should absorb the additional cost while remaining competitive. The duties are also unlikely to slow the pace of Russian exports, given the large surplus produced.

After consistently falling short of historical levels, available data indicate that Uralkali exports have essentially normalised. Rail data show 867,000t railed in August, after 740,000t in July, which compares favourably with the 2021 monthly average of 826,000t. Similarly, 20 vessels departed from Uralkali's St

Belaruskali exports on Russian Railways





Petersburg terminal in August, typical for pre-2022 months, whereas there was an average of six vessel departures a month between March 2022 and March 2023. It is not clear what has changed to unblock these exports, or if there was an attempt to move additional volume ahead of increased duties. If the latter, exports may fall back again in October.

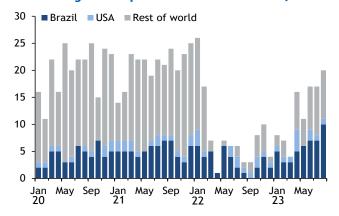
Our base forecast for Uralkali exports in 2023 is 6.8mn t, with total production around 9.1mn t. We forecast that Uralkali exports will be essentially normalised in 2024 and, with increasing exports from Eurochem, total Russian exports should reach or exceed historical levels.

Eurochem has railed 1.6mn t from its Usolskiy mine in the year so far to August, which suggests full-year exports of 2.4mn t, slightly up on 2.2mn t last year. Overall we assume that Eurochem has continued with planned debottlenecking at the site but not significantly increased capacity on 2022.

At VolgaKaliy Eurochem has railed 463,000t in the first eight months, which exceeds its total 2022 production. We forecast Eurochem continuing to ramp up production at the site, which has capacity of over 2mn t/yr, gradually. We forecast 600,000-850,000t will be produced at VolgaKaliy this year.

St Petersburg MOP export

number of vessels



Supply — Europe and Middle East

Germany

K+S has sold 2.21mn t MOP in the first half of the year, 3pc down on 2022. Demand for agricultural specialties, including SOP, has been slower, with specialty sales volume in the first half falling by 13pc on the year to 1.19mn t. The fall was especially acute in the second quarter, where specialty sales volume fell by 19pc on the year.

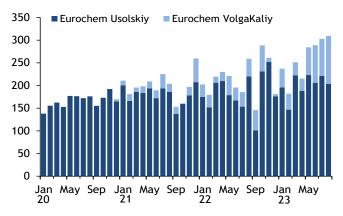
K+S expects total sales of agricultural products of between 7mn t and 7.4mn t this year, essentially level with 2022. Around 4.5mn t of this will be MOP, with 2mn t produced at Bethune, as higher MOP sales offset lower sales of other products. K+S will be one of the main beneficiaries of recovering demand in Europe, where it can capitalise on increased market share after Russian and Belarusian producers have been taken out of the market. Specialty sales volume should be higher in the second half of 2023 and rise in 2024 as prices fall.

Israel/Spain/UK

ICL in the second quarter sold 1.3mn t of MOP, which was 114,000t higher year on year. The growth in sales was mainly

Eurochem monthly potash shipments by origin





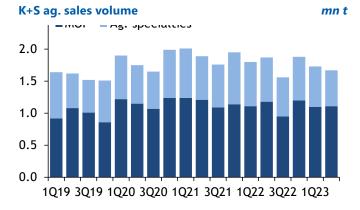
driven by recovering demand from India and China, both of which had a slow start to the year. Continued demand from the US also helped ICL increase its sales volumes. Sales to China in the coming months are likely to remain strong as ICL fulfils the 800,000t contracted in June but sales to India will await a new contract.

ICL produced 1.1mn t of MOP in the second quarter, just over 100,000t less than in the same period last year. Operational challenges at its Iberia site in Spain including a fatal accident and areas of challenging geology continue to weigh on production volumes. Yet, with an inventory of 503,000t at the end of June, ICL should easily fulfil its contractual orders, including any spot demand.

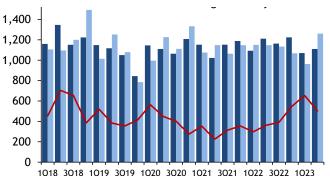
In contrast to MOP production, polyhalite production at ICL Boulby in the UK hit record levels again — similar to the first quarter— production increased by 9pc year on year to 267,000t. Annual production is expected to be close to 1mn t, implying a 5pc increase from 2022.

Jordan

Arab Potash output rose by 8pc year on year in the first half to reach 1.44mn t, with 1.41mn t sold. APC produced 2.68mn







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'000t

t last year, operating at capacity and is likely to produce similar volume again this year, with sales matching output.

Supply — Asia and Latin America

Chile

SQM has sold 262,000t of MOP and SOP in the first six months of this year, 18pc down on 2022. Despite the drop SQM still expects to sell in excess of 500,000t of MOP and SOP this year, an increase after selling 481,000t last year. SQM began 2023 by not producing MOP for commercial sale between January and April but continued slow demand for specialty NOP (first-half sales of the product fell by 19pc on the year) means more MOP has been made available since. SQM is primarily active in Latin America, South Africa and Europe so should see sales peak in the third quarter.

Laos

Asia Potash plans to reach full operation of its second 1mn t/yr of capacity in October, slightly later than original targets of August. The company is targeting the end of the year for commissioning a third 1mn t/yr capacity, which is currently under construction. We forecast Asia Potash producing around 1.5mn t this year, with a further 700,000t from fellow producer Lao Kaiyuan to take total Laotian production over 2mn t in a year for the first time.

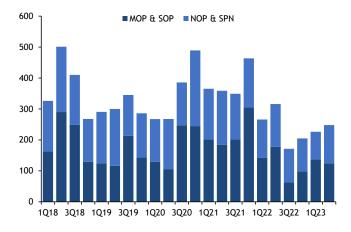
Commercially Laotian potash is becoming ever more present, particularly in Asian markets. In July Asia Potash signed a framework agreement with South Korea's Samsung C&T for 200,000t MOP between July 2023 and June 2024, to be sold globally, and a similar agreement with Thailand's KC Salt for 200,000t over the same period. Laos has even sold to Europe, with 12,000t of granular MOP bought by Romania's Azochim for September arrival. But its largest market remains China, which has imported 1.1mn t from Laos this year to August and will continue to take 50pc or above of exports even as output increases further.

China

China's largest producer QHSL produced 2.04mn t in the first half, a 23pc fall on 2022. Beginning the year with over 900,000t in inventory, QHSL has been able to reduce operating rates while meeting demand, especially through the typically slower second quarter. First-half sales were 2.14mn t. With more demand expected in the second half, QHSL should sell around 5mn t this year. By contrast Zangge produced 531,000t, a 16pc year-on-year increase, and sold 590,000t, a 19pc year-on-year increase. We expect Zangge to exceed 1mn t of production and sales in 2023 as a whole.

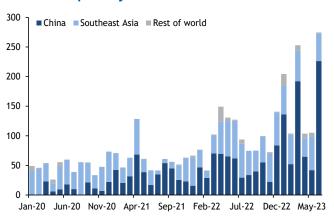
SQM quarterly potash sales

'000t



Laos MOP exports by destination

'000t





New MOP capacity (Firm), 2023-26						
Company	Site	Date	± Capacity '000 t/yr	Status		
Arab Potash	Safi, Jordan	2024	0.14	Capacity expansion at current mine. Construction underway, completion deferred to 2024		
Uralkali	Solikamsk-3, Russia	2024	0.60	Capacity expansion at current mine underway, commissioning not started		
Asia Potash	Dong Tai	2024	1.00	Second capacity expansion at current mine to reach 3mn t/yr total capacity. Construction underway		
Uralkali	Ust-Yavya, Russia	2024	2.50	Financing and construction in progress		
Uralkali	Solikamsk-2, Russia	2026	1.20	Brownfield expansion. Construction at shaft-sinking phase		
Total			5.44			
New SOP capacity (Firm and probable), 2023-24						
Company	Site	Date	± Capacity '000 t/yr	Status		
Jaingxi Xinlianxin	Jiujiang, China	2023	40	First 20,000 t/yr came online in May of 2023. Second phase is expected to finish in 2024.		
Agven	Gwadar, Pakistan	2023	40	Construction underway, commissioning expected during 3Q		
Barket Fertilizers	Port Qasim, Pakistan	2023	12	Expansion of capacity for existing producer expected to complete in 4Q		
Eurochem Migao	Qujin, China	2024	240	Construction underway, completion delayed to 2024		
Anshan Tairun Fertilizer	Anshan	2024	60	Construction underway, completion delayed to 2024		
Tianshan Huyang	Tiemneguan, China	2024	40	Expansion of existing 20,000t/yr plant, environmental impact assessment ongoing $% \left(1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$		
Chuanhua	Beihai, China	2024	240	Phase II expansion to double capacity on site. Construction underway		
Cinis	Ornskoldsvik, Sweden	2024	100	Permitting and financing completed, construction underway		
Total			772			

New and recent MOP mines						
Production start	Company (Mine name)	Region, Country	Nameplate capacity (mn t/yr KCl)	Estimated production 2021 (mn t)	Projected production 2022 (mn t)	Projected production 2023 (mn t)
2018	K+S Kali (Bethune)	Saskatchewan, Canada	4.00	1.90	2.00	2.10
2019	Eurochem (Usolskiy)	Palashersk, Russia	4.70	2.39	2.50	2.51
2021	Eurochem (VolgaKaliy)	Volgograd, Russia	2.30	0.23	0.43	0.74
2021	Belaruskali	Petrikov, Belarus	1.50	0.37	0.22	0.87
2021	ICL	Suria, Spain	1.35	0.57	0.68	0.70
2022	Asia Potash	Dong Tai, Laos	2.00	0.33	0.91	1.40
2023	Lao Kaiyuan	Longhu, Laos	1.00	0.45	0.51	0.70
Total			16.85	6.24	7.25	9.02

MOP: Summary of production curtailments/losses and sales reductions						
Country	Company	Event/ Impact	Period	Reason		
Turkmenistan	Turkmenkhimiya	Little production at 1.4mn t/yr Garlyk mine	Ongoing since March 2017	Limited production as a result of technical difficulties. Reports of ore quality and flooding issues, and legal issues with Belarusian mine builder Belgorkimprom		
Belarus	Belaruskali	Output from potash mines reduced	Reduced from February 2022	\ensuremath{US} and \ensuremath{EU} sanctions, combined with severe disruption to trade routes		
Russia	Eurochem	Seaborne potash exports constrained	Ongoing since February 2022	Impact of Russia/Ukraine conflict and subsequent sanctions		
Russia	Uralkali	Seaborne potash exports constrained	Ongoing since February 2022	Impact of Russia/Ukraine conflict and subsequent sanctions		
Canada	Mosaic	Colonsay mine idling	December 2022 - July 2023	Mine idled to reduce output due to weak demand and high inventory, brought back online to cover maintenance at Esterhazy		
US	Intrepid	Extraction well failure at HB mine	4Q 2022-2023	Estimated production costs of 40,000-50,000st and delays to development planned for the site		
Chile	SQM	SQM reducing MOP produced for commercial sale	January - May 2022	Focus on lithium output and NOP sales over MOP sales		
Canada	Nutrien	Reduced output at Cory and Rocanville mines	Ongoing since July 2023	Production curtailed due to Vancouver port strike. Ro- canville production normalised in August but Cory kept curtailed due to weak demand		

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Agricultural analysis

Crop fundamentals

The US Department of Agriculture (USDA) forecasts global corn production at 1.2bn t in 2023/24, rising by 5pc on 2022/23 with increased production in the US, the EU, Argentina and Pakistan. At 59.4mn t EU production is forecast to rise by 7.2mn t on the year, but remain well below the 65mn-70mn t levels of 2019-21.

The last vessel under the Black Sea Grain Deal left Ukraine on 16 July, before the deal was terminated by Russia. The likely result will be a reduction in 2023/24 agricultural exports, and reorientation of exports to river, rail or truck routes. Ukraine has continued operations at its Danube ports despite recent damage but it also has to navigate restrictions on its exports into the EU, which have previously been subject to temporary bans to prevent surges that negatively impact domestic agriculture in Ukraine's neighbouring countries.

Global soybean production for 2023/24 is forecast at 401mn t, an 8pc rise on 370mn t in 2022/23. Most of the growth will come from ever larger crops in Brazil, alongside Argentina recovering from drought conditions after El Nino rains late this year. Chinese import demand is fuelling growth in the market, even if imports next year fall back slightly from the record 102mn t forecast for 2022/23.

Global rice production is forecast to fall to 152mn t in 2023/24 from 155mn t in 2022/23. Production is forecast to decline in both Thailand and Vietnam despite incentive to export more with India withdrawing from the market, as lower rainfall impacts yields.

The USDA estimates global palm oil production for 2023/24 at 79.5mn t, with production increases forecast for both Indonesia and Malaysia despite the risk of a weaker El Nino negatively affecting yields. Malaysia's CPO production in August was the highest of the year so far, at 1.75mn t, but the 11.4mn t produced in the first eight months of the year is virtually identical to last year's production, with 2.1mn t in stocks also largely unchanged year on year. Malaysia and Indonesia are looking to strengthen export relations with India and China to offset potential sales lost to the EU when the EU Deforestation Regulation comes into force at the end of 2024.

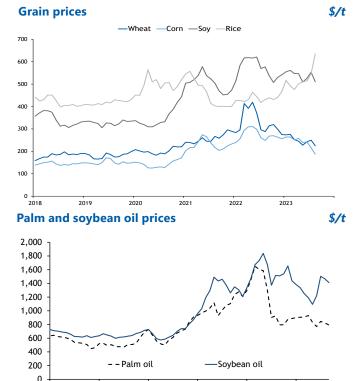
Crop prices

Corn prices have fallen in the last quarter, ending June around 600¢/bushel and beginning September at 465¢/bushel. The fall was caused by high production in the US and weak Chi-

nese import demand, with competition from wheat for feed use. These remain the main drivers pushing prices lower, as corn is forecast to fall further in the coming quarter to levels competitive with wheat.

Soybean prices have also fallen since July, heading towards 1,300¢/bushel. The price outlook is more stable than corn however, as US supply is falling short of expectations on lower yields, decreasing export availability and applying pressure to Latin American crops to fill any gap in the market. El Nino is increasing risk of drier weather for these crops, which could negatively impact supply and push prices upwards.

India's decision to restrict rice exports in July has seen export prices for Thai and Vietnamese-origin product spike, coming on top of strong demand and lower production estimates for Thailand and Bangladesh. Prices may decline if governmentto-government trade from India exempt from the ban satisfies demand in large markets but, if Thailand or Vietnam restricts its exports to maintain domestic supply security and lower prices in the tighter market environment, rice prices could jump up again.



Jan 18

Jan 19

Jan 20

Jan 21

Jan 22

— CBOT: Bursa Malavsia



Jan 23

Palm oil prices have fluctuated in a range of \$700-900/t over the past 12 months. Palm oil prices are forecast stable to firm for the guarter ahead as there are concerns that lower rainfall and continued labour shortages will negatively impact production. Demand is forecast strong, particularly from India, which is forecast to import a record volume of vegetable oils in 2022/23.

Fertilizer Affordability

Urea prices are forecast to rise in the coming quarter after an unexpected tender from India coincided with China restricting exports again in an effort to cool prices on the domestic market. Demand is more uncertain in Europe and Brazil, potentially slowing the market, but European production is also likely to face limits owing to high gas prices that will further restrict supply.

Phosphate prices are forecast relatively stable in October before falling towards the year-end. South Asian demand is supporting the price for now but, once the season ends with the monsoon prices will soften as there is a surplus of supply and high inventories.

Freight

Ocean

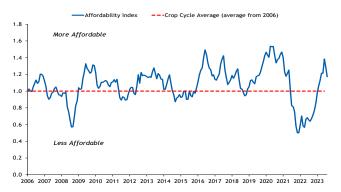
After softening early in the second guarter dry bulk freight rates have rebounded in recent weeks. The outlook for dry bulk freight in 2024 is relatively stable on 2023. High interest rates and inflation are tempering global economic activity, with slow growth in China especially impacting trade. Demand for minor bulks such as grains, which use the smaller Handysize vessels is expected to see stronger growth than larger volume bulks, such as iron ore and coal. Fleet growth is expected to match with demand, especially as lower sailing speed reduce effective fleet capacity.

Port operations in Vancouver were disrupted by two weeks of strikes in July. Port workers voted to accept a tentative deal in early August but the disruption created a backlog that was still being cleared through September. The strikes further disrupted Canadian exports, which have been limited from Oregon following an issue with a conveyor in May. Repairs on the conveyor should be completed by the end of the year.

Droughts on Gatun Lake, which feeds into the Panama Canal's lock system, have generated delays for shipping and raised costs on the Vancouver to Brazil route. The Panama Canal Authority has restricted transits through the Panamax

Fertilizer affordability index

index

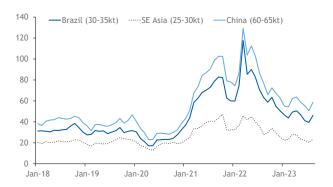


Note: Our global fertilizer affordability index is calculated with the ratio between fertilizer and crop price index, with the base year set at January 2004. The overall index is adjusted by the crop cycle average. An affordability index above 1 indicate that fertilizers are more affordable when compared with the base year, and vice-versa. The fertilizer index includes international prices for urea, DAP and potash, adjusted by the global usage in terms of mn t of product. Our agriculture index includes all major grain prices: wheat, maize, soybeans and rice, adjusted by global tonnage accounted for each crop.

Overall fertilizer affordability is declining as crop prices fall or remain flat while fertilizer prices rise. Despite stable prices forecast for P and K fertilizer, rising N prices and falling corn prices should reduce affordability further to year-end, although higher prices for other crops may instead keep affordability at current levels.

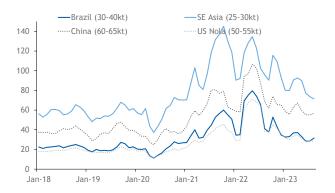
Vancouver origin freight

\$/t



Baltic origin freight

\$/t





locks and reduced the number of daily transits through the canal. Waiting times in both directions have exceeded 14 days, considerably more than the typical five-day wait over the past two years.

US — Barge

Water levels on the Mississippi River at St Louis were minus 3.3ft in mid-September, lower than last year's low. With low rainfall, the level is forecast to reach minus 4ft. Dredging is allowing barge transit to continue, but delays are 3-4 days and some barges may be halted. Delays on the Mississippi could limit potash supply to the corn belt, but only from offshore producers, with Canadian supply sufficient to prevent any shortfall.

Economic indicators — global GDP

China's weak economic recovery continues as exports and imports in August fell by 9pc and 7pc, respectively. While exports are falling because of weak global demand, falling imports indicate poor domestic consumer sentiment, echoed by a 0.3pc year-on-year consumer price index fall in July. A prolonged property sector crisis has been the biggest drag on GDP growth, and a youth unemployment rate over 21pc. In an attempt to boost real-estate lending, China's central bank in August cut medium-term lending rates by 15 basis points to 2.5pc. National lenders have also eased requirements for mortgage downpayments. While this is unlikely to boost economic activity instantly, we can expect some improvement in the medium term, particularly if the government introduces additional fiscal support for the property sector.

In the west, despite rising interest rates, the US economy remains resilient posting 2.0pc and 2.4pc growth in the first and second quarters of 2023, respectively. The purchasing managers index for the services sector in August also increased by 1.8 points to 54.5 from the previous month, indicating an expansion. Although US inflation in July increased to 3.2pc from 3pc in June, this was probably because of low base effects from the previous year. Yet, the US Federal Reserve increased interest rates in July by 25 basis points to 5.25-5.5pc because of persistent price pressures and a strong labour market. Rates are likely to have peaked though and are expected to stay steady until the end of the year. The chances of a soft landing for the US economy have increased but most economists expect a mild recession later this year or early next year.

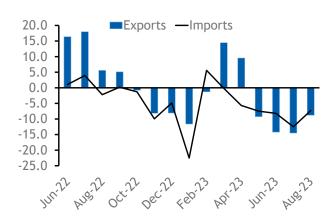
In revised estimates, the eurozone's GDP growth in the second quarter of 2023 was cut to 0.1pc from 0.3pc, as new trade data indicated exports fell by 0.7pc year on year. Yet

Brazil — Truck

In Brazil a ruling by the supreme court on the so-called Truckers Law could raise road freight costs by up to 40pc. The law, which defines rules and working hours, was first sanctioned in 2015 but has been under discussion in Brazilian courts since. The main changes from the law are to permissible working hours. The law forbids splitting or reducing minimum rest periods, loading and unloading are now considered working hours and resting while the vehicle is in motion, with another driver, is no longer allowed. These measures will cut trucking capacity by reducing the amount of time a driver can work and may contribute to the falling number of drivers, as ability to earn is reduced. Overall, inland freight essential in Brazil for shipping fertilizer and crops between ports and agricultural areas is likely to become more costly and prone to bottlenecks.

China year-on-year growth

pc



Central bank policy rates

pc



the growth in output surprised forecasters, which were predicting a contraction in Europe. The outlook for the continent remains uncertain as it battles with inflation. A resurgence in energy prices because of strikes in Australia and Opec+



supply cuts have increased overall price pressures. Eurozone inflation in July stood at 5.3pc year on year and is expected to remain unchanged in August. Higher inflation in Europe has forced the European Central Bank to hike interest rates again in September by 25 basis points to 4.75pc after it increased rates in July.

In emerging markets, high food prices in India after an erratic monsoon took retail inflation in July to 7.4pc from 4.9pc in June, breaching the 2-6pc central bank tolerance band. But,

Currency indicators Brazilian real

Improved growth for 2023 and higher interest rate returns for investors led to the appreciation of the Brazilian real. In early August, it was more than 20pc up against the US dollar since the start of the year. Yet it has fallen by almost 5pc from R4.72:\$1 to R4.93:\$1 as of 24 September. As interest rates fall, so will investor returns and the lure of the Brazilian currency. Moreover, new fiscal rules that aim to cut the budget deficit mean that the Brazilian government is likely put additional pressure on the central bank to lower borrowing costs, leading to further depreciation of the real in the coming months.

Russian rouble

In mid-August, the rouble fell past Rbs100.0:\$1, to its lowest value in 16 months. This led to an emergency meeting by Russia's central bank that raised interest rates by 3.5pc to 12pc in a single day. Since then, the central bank has increased rates to 13pc to halt the rouble's fall. As of 24 September, the rouble was at Rbs96.30:\$1, 20pc lower than the previous quarter. Russia's share of EU trade in the three months to June was less than 2pc, compared with 7-10pc before the Ukraine conflict. A \$60/bl oil price cap on Russian crude exports has meant Russia benefits little from rising energy prices. Although a weaker rouble improves Russia's terms of trade for exports, such as fertilizers, increasing domestic inflation because of higher military spending means that production costs are also rising.

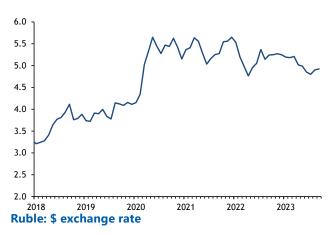
Malaysian ringgit

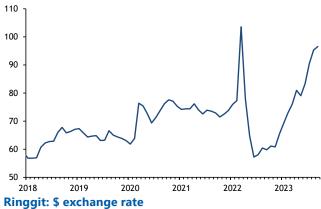
There has been little change in the ringgit, weakening marginally from ringgit4.6:\$1 in June to ringgit4.7:\$1 as of 24 September. A weak ringgit is partially because of a strong dollar as higher dollar returns push investors away from emerging economies. Another reason for a weak ringgit is slow global demand and the mixed fortunes of its largest trading partner, China. Malaysia's exports in July fell by 13pc year on year, and annual GDP growth in the second quarter was only 2.9pc, the lowest since the pandemic. If the global slowdown persists, the ringgit can depreciate further, although China is forecast to recover, providing support.

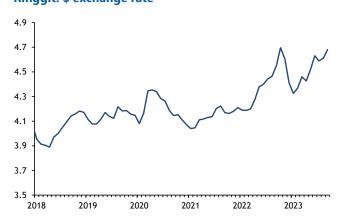
a government export ban on cereals is likely to have offered some relief, with inflation forecast to cool in August.

Hawkish monetary policy in Brazil brought down inflation to 3.2pc in July, close to its long-term target of 3pc. Acknowledging the impact of its previous aggressive interest rate hikes, Brazil's central bank cut rates in August by 50 basis points to 13.25pc. With falling prices, the economic outlook for Brazil has improved as the official GDP growth forecast for 2023 was revised upwards by 0.8pc to 2pc, with the increase also benefiting from higher agricultural output so far in 2023.

Real: \$ exchange rate









SOP Outlook

China

China's largest SOP producer, Luobupo, resumed SOP production on 6 September after completing summer maintenance. It made deals during the maintenance period and since has been concentrating on fulfilling these orders rather than completing new deals. The operating rate for Mannheim production is around 65pc, high compared with the past two years.

The near-term outlook for SOP prices is stable to firm as demand is recovering and input costs are also increasing. Buyers have been coming back to the market in anticipation of further price rises and suppliers are looking to raise prices, but price rises are starting to discourage buyers, suggesting there is limited upside to the market.

China is essentially not exporting SOP as no new cargoes can get approval to export, even for small quantities, and there is a near total absence of export-approved stocks. Between January and August China has exported 44,000t, primarily to Latin America. This is down from 61,000t in the same period of 2022 and 143,000t in 2021. We do not expect any change in China's export policy, meaning exports of 5,000 t/month or less to year-end.

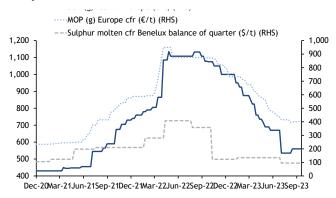
Taiwan

A Taiwanese producer is sold out until the end of the year. Granular SOP sales were made around \$525/t fob for October and \$535-545/t fob for November. December sales were done at \$555-585/t fob.

Australia

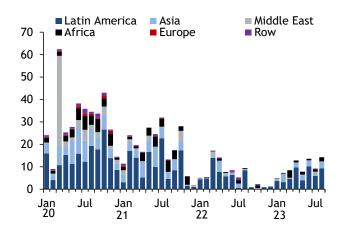
Nascent Australian SOP producer Kalium Lakes filed for administration in early August. Production in April-June was its highest for a quarter so far but, at only 2,747t, targets of a production rate equivalent to 55,000 t/yr by the final quarter of 2023 seemed unlikely to be achieved. Kalium had repeatedly sought additional capital from the market since commissioning and delays to production meant the producer lacked income to repay these loans. Potential Australian SOP producer Agrimin, whose 450,000 t/yr Mackay SOP project has only reached the environmental permitting stage, entered into an agreement to purchase Kalium in late September. The transaction is expected to complete in November, subject to conditions, after which Agrimin will mothball the site until at least mid-2024. Currently it plans to restart the plant in the first half of 2025.

SOP prices



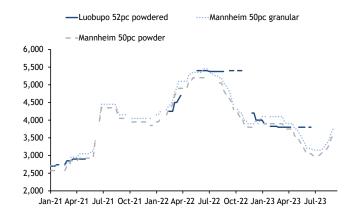
China SOP exports

'000t



China domestic SOP prices

yn/t



Also in August potential producer Australian Potash pulled out of its Lake Wells project after failing to find an investor, which it blamed on low investor confidence in the sector after the failings of Kalium and Salt Lake Potash, which entered administration in October 2021. As it stands, most of the primary SOP projects proposed for Australia are defunct or heavily delayed and, as costs continue to mount, the likelihood of Australia emerging as a new hub of primary SOP production looks ever more slim.

Pakistan

Barket Fertilizer expects to complete the expansion of its Port Qasim Mannheim plant by the end of the year. Expansion is planned to increase capacity to 34,500t from 22,500t. Barket is the largest SOP producer in Pakistan, and has recently been joined by Agven, which is commissioning a Mannheim plant further west at the port zone of Gwadar. Between the two producers Pakistan could become essentially self-reliant for SOP although both depend on steady supplies of MOP to convert. Granular SOP in Pakistan currently retails in the high \$500s/t cfr.

Compass shipped 168,000st in the first three quarters, down from 224,000st a year earlier. Compass expects to sell 200,000-225,000st of SOP during the fiscal year ending 30 September. US SOP demand has been slow in the Californian market owing to drought conditions, followed by exceptional rainfall. Compass production has improved from issues in previous seasons and the producer has been building inventory while demand has been slow. Still, we do not expect the producer to fully return to historical capacity levels in the coming fiscal year, although falling MOP prices will increase viability of using MOP to supplement its pond operations, which should boost output. Stable to firm MOP prices in the US expected in the near term should support SOP prices, which have so far this year been falling alongside MOP prices.

Europe

European SOP prices have fallen steadily since January, when prices were around \$1,000/t for standard and granular MOP, and now lie at around \$500-600/t fob. Demand in the region has been slow, as European prices are still above other regions despite the fall, but has begun to rise in recent weeks as the price has fallen. Production costs are higher in Europe than elsewhere owing to higher MOP and energy costs, and suppliers will be likely to push for higher prices in fourthquarter contracts to accommodate these costs, and restore the premium for SOP above €200/t from recent contractions.

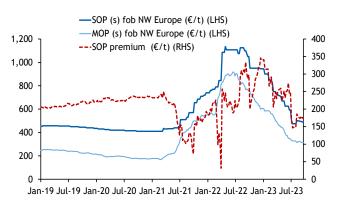
Prospective Swedish producer Cinis has reached an agreement with K+S for K+S to be the sole MOP supplier to Cinis, for its first two Scandinavian plants. Cinis' first plant at Ornskoldsvik, Sweden, is due to start production early next year. The 100,000 t/yr plant would be followed by a 200,000 t/yr plant at Skelleftea, which is due to begin construction

Compass SOP sales '000st 200 180 160 140 120 100 80 60

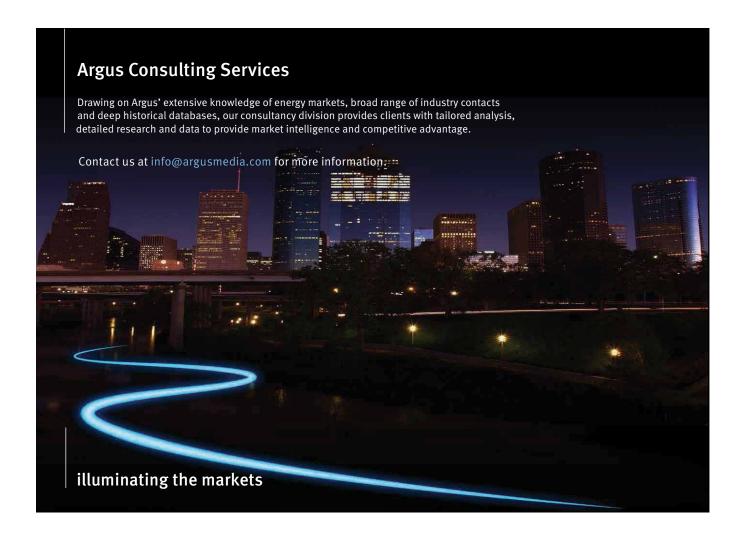
SOP premium to MOP

40

20



next year. Cinis has also announced plans to build an SOP plant in the US, in Hopkinsville, Kentucky, with 300,000 t/ yr capacity. The plant would use K+S MOP from Bethune in Canada and sodium sulphate from Ascend Elements' battery material facility that is currently in development. Production is scheduled for 2026.





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Registered office

Lacon House, 84 Theobald's Road, London, WC1X 8NL Tel: +44 20 7780 4200

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Publisher Adrian Binks

Chief operating officer Matthew Burkley

Global compliance officer Vladas Stankevicius

Chief commercial officer Jo Loudiadis

President, Expansion Sectors Christopher Flook

SVP Consulting services Lloyd Thomas

Senior Analyst David Riley Tel: +1 (281) 377 5265 fertilizer@argusmedia.com Customer support and sales:

support@argusmedia.com sales@argusmedia.com

London, Tel: +44 20 7780 4200 Houston, Tel: +1 713 968 0000 Singapore, Tel: +65 6496 9966



