This Public Summary was prepared by Patrick Heffer, Senior Director of the IFA Agriculture Committee, and Michel Prud’homme, Senior Director of the IFA Production & International Trade Committee, on the occasion of the IFA Strategic Forum held in Dubai (UAE) in November 2016. It draws on two reports that were prepared for the IFA Strategic Forum; these detailed reports are restricted to IFA members only: the IFA report “Short-Term Prospects for World Agriculture and Fertilizer Demand: 2015/16-2017/18” and the IFA report “Global Fertilizer Supply and Trade: 2016-2017”.

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- Agriculture Service: Armelle Gruère and Guillaume Peyroutou
- Production & International Trade Service: José de Sousa, Virginie Couturier, Olivier Rousseau and Sylvie Marcel-Monnier

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ECONOMIC AND POLICY CONTEXT

Several largely unexpected events occurred in 2016: the United Kingdom (UK) voted to leave the European Union, a coup d’état was attempted against the Turkish government, and Donald Trump was elected 45th President of the United States. All these events could have political and economic consequences that increase the level of uncertainty inherent in this outlook.

Global growth in 2016 is projected to remain modest at 3.1%, slightly weaker than projected by the International Monetary Fund (IMF) in April. This is mostly due to activity below expectations in advanced economies through the second quarter of 2016. A projected increase in global growth to 3.4% in 2017 would mainly be supported by higher growth rates in emerging and developing economies. Increased activity in countries that were in recession in 2016, such as Brazil, Nigeria and Russia, is expected to outbalance the slowdown in China.

Policies in developed countries put increasing emphasis on environmental stewardship in general, and on nutrient use efficiency and recycling in particular. Environmental considerations also influence nutrient management in emerging economies. China’s decision to limit growth in fertilizer consumption to 1% per year between 2015 and 2020 with zero growth in consumption thereafter is one of the most notable examples. 2016 was the first year under India’s mandate to coat all subsidized urea with neem oil to improve urea use efficiency.

WORLD AGRICULTURE

Low prices and unfavourable weather impacted the 2015/16 cereal campaign, with global production estimated to be less than the 2014/15 record crop.

Global cereal output should rebound in 2016/17 as a result of favourable weather in major production areas. Coarse grains, rice and wheat are all expected to reach new production records. Despite low prices, output of coarse grains is forecast to be up from 2015/16 due to higher relative returns, compared with competing crops, and good yields. Low prices at planting time pushed the global wheat area slightly down in 2016/17, but favourable weather almost everywhere boosted the average yield to a new record. A recovery in global rice production is very likely following the strong El Niño event of 2015/16, which ended in mid-2016. Global use of cereals could increase slightly faster than in the previous season, as the wide availability of attractively priced maize and low-quality wheat would encourage feed use. Demand for cereals is not projected to exceed production. Expectations therefore point to continued stock accumulation in 2016/17. These prospects will continue to depress cereal prices. Soybean prices could also remain under pressure as a bumper crop is expected in 2016/17. However, prices are trending higher for palm oil, sugar and cotton (under the influence of contracting stocks) as well as for dairy products, reflecting tighter supplies.

FERTILIZER DEMAND

Global fertilizer demand remained virtually unchanged in 2015/16. The prospects for 2016/17 are more positive, reflecting rebounding sugar, vegetable oil, cotton and dairy prices and an anticipated return to average weather conditions in the southern hemisphere following the strong 2015/16 El Niño event. Hence, world demand is expected to rise by 2.1% to 187.6 Mt, led by a strong rebound in nitrogen (N) demand. Phosphorous (P) demand is forecast to continue growing firmly for the second consecutive year, following three years of stagnation. Potassium (K) demand is seen as regaining momentum after below-average growth during the previous campaign.
Regionally, demand is seen as dropping in Western & Central Europe and North America and rising elsewhere. The strongest year-on-year changes in relative terms are expected in Oceania, Latin America, South Asia and Africa, while the main volume increases are forecast in South Asia, Latin America and East Asia.

Demand in 2017/18 is expected to be influenced by prospects for slightly tightening agricultural commodity markets; better economic prospects in the US, Brazil and Russia, which would more than offset the slowdown in China; and growing political and policy uncertainty in some important fertilizer-consuming markets. World fertilizer demand is anticipated to increase by 1.6% in 2017/18 to 190.6 Mt, assuming that no major weather-related shock significantly alters the agricultural outlook and that progressive change occurs in fertilizer- and nutrient-related policies in the main markets. K demand would grow most rapidly, driven by strong requirements in China, India, Brazil and Indonesia. P demand would increase more modestly, boosted by requirements in India, Brazil and Argentina. N demand growth would drop back to the average medium-term trend, with India alone accounting for half the year-on-year increase. Fertilizer demand is forecast to contract in West Asia and Oceania; it is seen as virtually unchanged in North America, while it would slightly rebound in Western & Central Europe. Demand would expand in the rest of the world, with the lowest growth rate in East Asia and the highest in Africa. The largest changes in volume are anticipated in South Asia, Latin America and East Asia.

The forecast is subject to several uncertainties, in particular the evolution of the world economic and geopolitical context; weather-related crop shortfalls; the evolution of agricultural commodity prices and fertilizer prices relative to crop prices; the evolution of biofuel mandates and fertilizer subsidy schemes; and new policies aimed at improving nutrient management performance, restricting and/or taxing fertilizer use, and increasing recycling of organic nutrient sources.

### FERTILIZER SUPPLY

In 2016 the fertilizer industry has been confronted by weak global nutrient demand, soft economic prospects, depressed crop prices, rising market competition and volatile energy prices. Yet, global fertilizer production and import levels have remained unexpectedly resilient, and in some cases, have even reached record amounts.

World nutrient production in 2016 was estimated at 250 Mt nutrients, while world nutrient sales were also steady at 251 Mt nutrients. Fertilizer sales, which accounted for 75% of total sales, were estimated at 187 Mt nutrients, expanding by 2.2% over 2015.

**Prospects for 2017**

World fertilizer demand is seen expanding moderately in 2017. Global nutrient demand for all uses is estimated to grow by 1.8% to 253 Mt nutrients. Close to 100 new production units and expansion projects are expected to come on stream in 2016 and 2017, adding 19 Mt nutrients in incremental capacity for primary products (ammonia, phosphoric acid and potash).

**Nitrogen Outlook**

Global ammonia production has remained static in 2016, but ammonia output in China dropped 5%. The global nitrogen balance in 2016 shows an accelerating potential surplus due to substantial supply increases and modest demand growth.

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**Global Fertilizer Demand (Mt nutrients)**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>P₂O₅</th>
<th>K₂O</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013/14</td>
<td>109.2</td>
<td>41.2</td>
<td>31.2</td>
<td>181.6</td>
</tr>
<tr>
<td>2014/15</td>
<td>110.1</td>
<td>41.6</td>
<td>32.4</td>
<td>184.1</td>
</tr>
<tr>
<td>2015/16 (e)</td>
<td>109.0</td>
<td>42.1</td>
<td>32.6</td>
<td>183.8</td>
</tr>
<tr>
<td>Change</td>
<td>-0.9%</td>
<td>+1.4%</td>
<td>+0.6%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>2016/17 (f)</td>
<td>111.6</td>
<td>42.8</td>
<td>33.2</td>
<td>187.6</td>
</tr>
<tr>
<td>Change</td>
<td>+2.4%</td>
<td>+1.6%</td>
<td>+1.8%</td>
<td>+2.1%</td>
</tr>
<tr>
<td>2017/18 (f)</td>
<td>113.0</td>
<td>43.5</td>
<td>34.1</td>
<td>190.6</td>
</tr>
<tr>
<td>Change</td>
<td>+1.3%</td>
<td>+1.5%</td>
<td>+2.6%</td>
<td>+1.6%</td>
</tr>
</tbody>
</table>
In 2017 the global nitrogen balance is expected to show relatively static demand, while supply is seen as increasing much more rapidly.

**Urea Outlook**

There was a net 2% growth in world urea production in 2016, to 178 Mt. However, China’s production dropped by 5%, creating significant opportunities for other producing/exporting countries. Global domestic deliveries in 2016 rose for the third consecutive year, to 128 Mt. Global exports grew 2%, to 50 Mt, despite a 28% drop from China.

Global urea capacity in 2016 has grown modestly, to 211.5 Mt, with large additions in Africa and West Asia. Global urea capacity is projected to expand by 5% to 223 Mt, with the bulk of the increase occurring in North America (the US) followed by Africa.

Global urea supply in 2017 would grow by 4%, to 193 Mt, and demand by 2% to 183 Mt, thus the global supply/demand imbalance would further increase due to large capacity additions in 2016-17. Global urea sales in 2017 are projected to exceed 183 Mt, but global urea imports may weaken and fluctuate around 46-47 Mt.

**Phosphate Outlook**

Global production of processed phosphates in 2016 rose by 2% to 32 Mt $P_2O_5$ (67 Mt products). Global trade of processed phosphates decreased by 1% to 14 Mt $P_2O_5$ (29 Mt products). DAP imports were relatively depressed due to much reduced shipments to India, while imports remained soft in other large markets.

Global phosphoric acid capacity was unchanged in 2016, at 58 Mt $P_2O_5$, but would expand in 2017 by 5% to 61.3 Mt $P_2O_5$. Global processed phosphates capacity (MAP, DAP and TSP) would reach 45.4 Mt $P_2O_5$ in 2016 and 48.7 Mt in 2017. Capacity increases would essentially occur in only four countries: China, Morocco, Russia and Saudi Arabia.

The global supply/demand balance in 2017 would show a small increase in the potential surplus. Potential regional deficits would increase in South Asia and in Latin America, thus stimulating P-fertilizer imports in 2017.

**Potash Outlook**

World potash production decreased by 2.8% over 2015, to 62.7 Mt MOP. However, global potash sales were firmer than expected, stabilizing at 63.3 Mt MOP, thanks to solid trade levels in the second half of 2016. Overall, global annual exports were stable at 48 Mt MOP (76% of total sales), supported by solid import levels into Brazil and the US.

Global potash capacity in 2016 expanded by 4.8%, but global potash supply remained static at 44 Mt $K_2O$, when considering the removal of effective capacity from operations that were idle in 2016.

In 2017 global potash capacity is projected to further expand by 4.6%, to 57.6 Mt $K_2O$, representing a net increase of 2.4 Mt $K_2O$ with the main expansions occurring in Canada, Russia, Turkmendastan and China. Global potash supply in 2017 would increase by 4.5% over 2016, and demand by 2.5%. The potential imbalance would then expand, given the substantial supply increment. Global potassium deliveries in 2017 are forecast to growing to 64-65 Mt MOP. Import demand would improve moderately, to 49 Mt MOP, supported by firm demand into Asia, Latin America and, to a lesser extent, Africa.