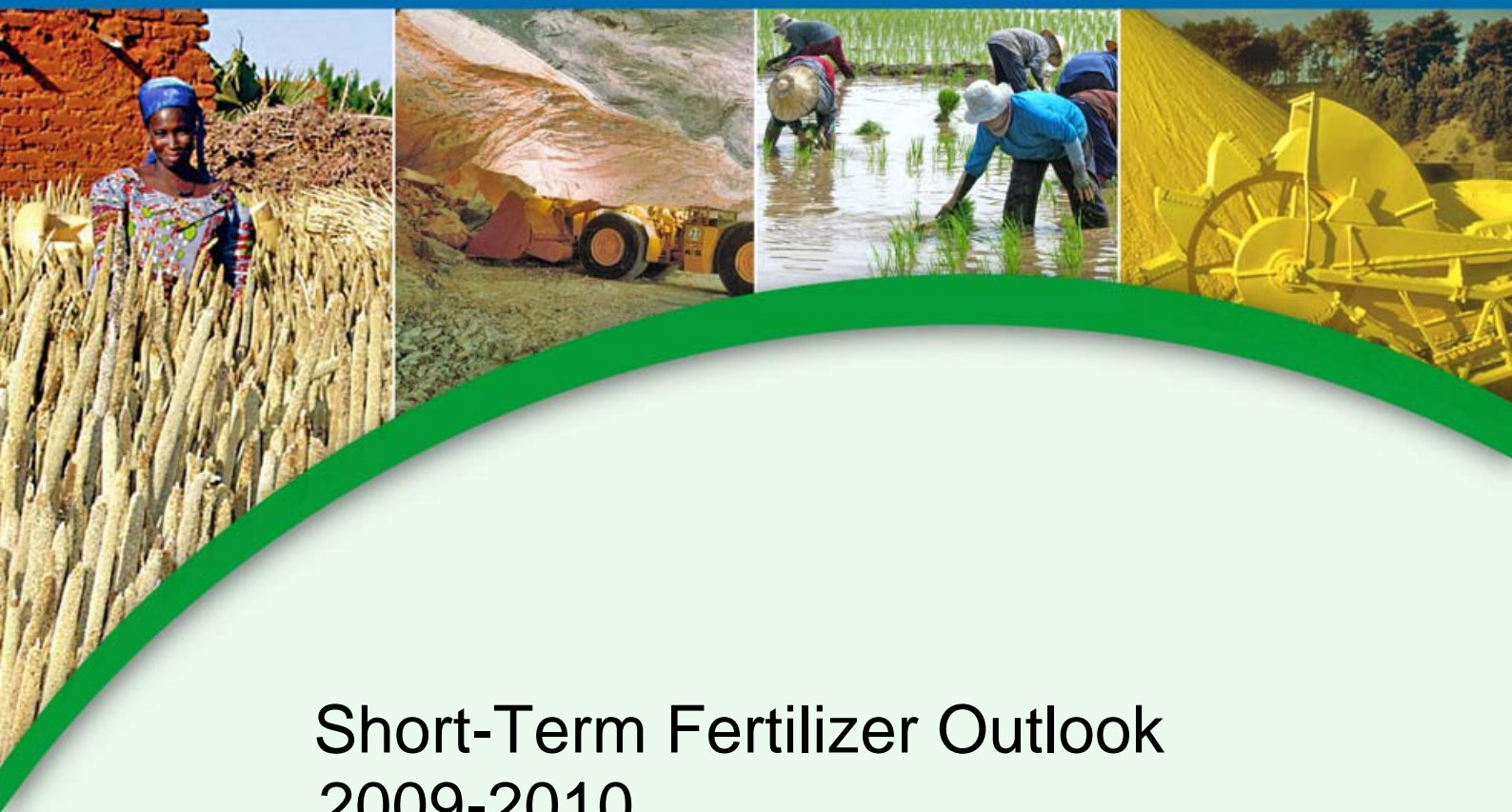


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# Short-Term Fertilizer Outlook 2009-2010

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This Short-Term Fertilizer Outlook was prepared by Patrick Heffer, Director of the IFA Agriculture Committee, and Michel Prud'homme, Director of the IFA Production and International Trade Committee. It presents an overview of short-term prospects for world agriculture and fertilizer demand, as well as the global fertilizer supply and trade situation in 2009 and 2010.

This report is available to the general public on the IFA web site, or by request to the IFA Secretariat.

The Short-Term Fertilizer Outlook draws on the revised versions of two IFA reports presented at the 35<sup>th</sup> IFA Enlarged Council Meeting held in Amman in November 2009: *Short-Term Prospects for World Agriculture and Fertilizer Demand 2008/09-2010/11* (A/09/169) and *Global Fertilizer Supply and Trade 2009-2010* (A/09/158b). These two comprehensive reports are restricted to IFA members only.

The first part of the Short-Term Fertilizer Outlook looks at the global economic context and agricultural situation. The second part provides fertilizer consumption estimates for 2008/09 and forecasts for 2009/10. The third part presents IFA's perspective on fertilizer supply and supply/demand balances for 2009 and 2010.

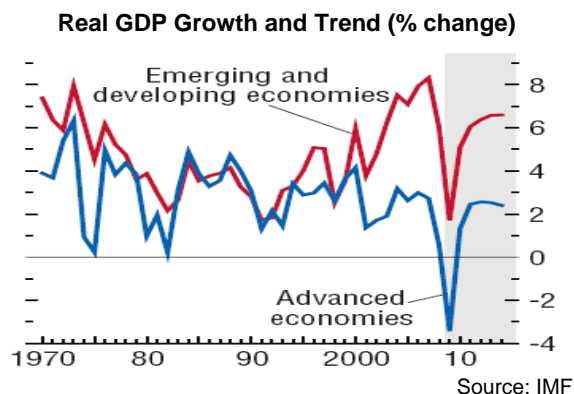
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## PART 1 – GLOBAL ECONOMIC CONTEXT AND AGRICULTURAL SITUATION

### 1.1. Global Context

#### *The world economy begins a slow recovery but remains very fragile*

The global recession seems over, and the global economy appears to be expanding again, driven by the robust growth of Asian emerging economies. The pace of recovery remains slow, however, and global economic activity is still far below pre-crisis levels. According to the International Monetary Fund (IMF), world gross domestic product (GDP) is projected to contract by 1.1% in 2009, and to increase by 3.1% in 2010. Risks to economic growth have diminished over the past few months, but the risk of reversal to the downside is still significant. Rising oil prices are the main risk that could impact the outlook.



As a result of the financial and economic downturn, prices of crude oil and of most other commodities, including agricultural commodities, have dramatically fluctuated over the past two years. According to IMF, average oil prices are seen as increasing by some 24% in 2010, and non-fuel commodity prices would rise more modestly, by 2.4%. Anticipated strong oil prices could increase demand for biofuel feedstocks, and therefore contribute to robust cereal, oilseed and sugar prices.

International trade has been sharply affected by the downturn. It is projected to be down 12% in 2009 and would only slightly recover in 2010. With the progressive economic recovery, the US dollar is depreciating again. Countries with strong currencies relative to the US dollar are impacted. In these countries, farmers are reluctant to invest in inputs as the return on investment is expected to be low.

With the progressive recovery of the financial market, access to credit is becoming less difficult than a year ago, but it remains an issue in some countries.

Some of the major agricultural regions have been affected by unfavourable weather conditions in 2009: a poor south-west monsoon in India, persistent drought in Argentina, very wet spring and autumn in the United States, and dry conditions in the Black Sea area. In the rest of the world, conditions have been average to good. The weather in the northern hemisphere during the planting season of the 2010 winter cereals has been relatively favourable so far. El Niño conditions have prevailed since June 2009, and they are likely to continue at least until the end of the first quarter of 2010.

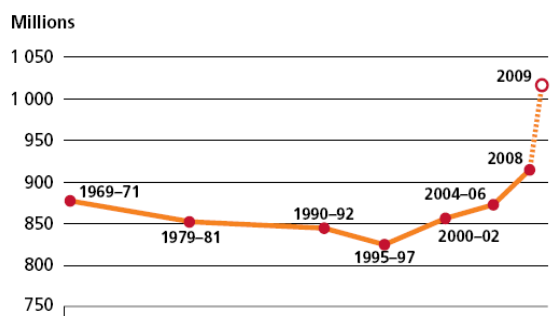
#### *The number of hungry people surges to more than one billion*

On the policy side, the current focus is on climate change and the negotiation of a new binding instrument that would replace the Kyoto Protocol, with the objective of setting more ambitious targets for reducing greenhouse gas emissions. Negotiators will meet in December in Copenhagen, but in view of the divergent positions, it appears unlikely that they will reach an agreement on that occasion.

The Doha Round of Trade Negotiations is still ongoing. The official objective is to complete the trade deal in 2010.

Food security is back on the policy agenda. The rapid succession of the food and economic crises has resulted in a dramatic increase in the number of chronically hungry people in the world, to 1.02 billion in 2009 according to the Food and Agriculture Organization of the United Nations (FAO). This is the highest number since 1970. In addition to undernourishment, malnutrition is increasing in low-income populations due to declining consumption per capita of meat, dairy products, fruits and vegetables. Policy makers will meet at an FAO Summit in November in Rome to address this major challenge.

#### **Evolution of Undernourishment in the World**



## 1.2. Agricultural Situation

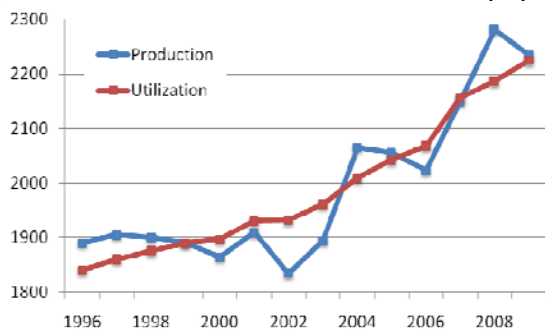
### ***Agricultural market fundamentals remain positive***

Aggregate global cereal and oilseed production increased more than 4% a year between 2006 and 2008, to reach 2625 million metric tonnes (Mt). The 2009 output is seen as equaling the 2008 record, according to the latest forecasts by the United States Department of Agriculture (USDA). Crop-wise, wheat, coarse grain and rice crops are seen as slightly smaller than in 2008, but these declines would be offset by a much larger soybean harvest.

In response to improved supply and declining prices, global cereal utilization is forecast to increase by some 2% in 2009/10. Utilization of coarse grains is seen as expanding faster than consumption of wheat and rice, mostly driven by the large and increasing requirements of the US ethanol industry, which more than offset low feed uses of major coarse grains in developed countries. Oilseed consumption is seen as increasing 3% in 2009/10 after a small decline registered in 2008/09.

World cereal production would only marginally exceed consumption in 2009/10. Therefore, world cereal inventories are projected to remain stable. Ending stocks would increase for wheat, and decline for coarse grains and rice; they would also rise for soybean.

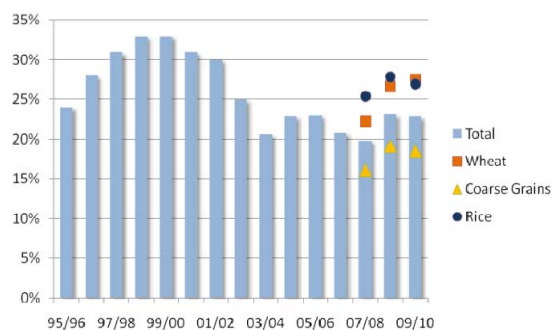
**World Cereal Production and Utilization (Mt)**



Source: FAO

The world cereal stock-to-use ratio is estimated to have dropped only marginally in 2009/10. It is forecast at 22.9% by FAO and at 20.7% by USDA. These levels are 3 percentage points above the 2007/08 ratio, but far below the ratios recorded between 1996/97 and 2001/02, which were around 30%. The world stock-to-use ratio for soybean is seen as strongly rebounding, while the ratio for sugar would remain stable at a low level and the ratio for cotton would contract.

**Evolution of the Global Cereal Stock-to-Use Ratio**



Source: FAO

International prices of all cereals and oilseeds followed the same trend between 2007 and 2009: they surged in 2007 and the first half of 2008; then they collapsed in the second half of 2008, before stabilizing in the beginning of 2009 and strengthening in the second quarter. Since the third quarter, prices are subject to moderate fluctuations around levels significantly higher than those recorded prior to the global downturn. Only sugar and cotton prices followed a different trend: they both remained low in 2008; sugar prices surged in 2009, while cotton prices remained relatively weak. Recent prices have been influenced by the evolution of the stock-to-use ratio and availabilities in the main exporting countries, crude oil prices, and speculative movements. Future prices are expected to remain very volatile.

## PART 2 – GLOBAL FERTILIZER DEMAND

### ***Farmers are mining their phosphorus and potassium soil reserves***

Over the past three years, fertilizer prices have followed a similar trend to international grain prices. Only the magnitude and speed of change have been different. In 2008/09, in a context of fast-evolving and hardly predictable crop and fertilizer prices, and in anticipation of a possible decline of fertilizer prices, many farmers decided to manage their crops less intensively, and to reduce their fertilizer application rates where soils had medium to high levels of nutrients. Despite phosphate (P) and potassium (K) fertilizer application rates well below crop requirements, farmers in the United States are expected to harvest a bumper maize crop, and farmers in France have enjoyed record wheat yields.

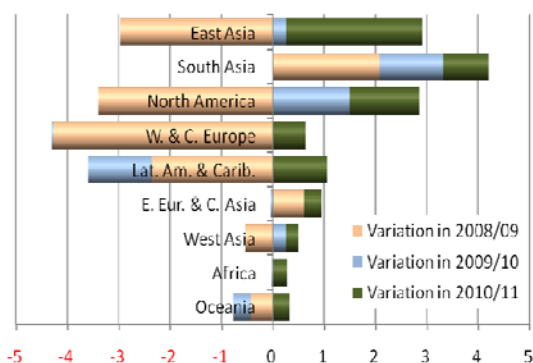


In that context, it could take more than one season before farmers come back to P and K fertilizer application rates that would prevent them from mining their soil nutrient reserves, an option that is not sustainable over the medium and long term. The return to sustainable fertilization practices will probably be triggered by more stable and predictable crop prices.

### ***Demand is expected to start to rebound in 2010***

After several consecutive years of strong growth, world fertilizer consumption has been strongly impacted by the financial and economic downturn. Aggregate consumption in 2008/09<sup>1</sup> is assessed as down 6.7%, to 156.4 Mt nutrients (N + P<sub>2</sub>O<sub>5</sub> + K<sub>2</sub>O). Consumption is estimated to have contracted much more sharply for P and K fertilizers (-10.5 and -19.8%, respectively) than for nitrogen (N) (-1.5%). Demand increased in two regions only: South Asia, and Eastern Europe and Central Asia. It remained fairly stable in Africa and declined in all the other regions. The largest changes in volumes occurred in South Asia (+2.1 Mt) on the positive side, and in Western and Central Europe (-4.3 Mt), North America (-3.4 Mt), East Asia (-3.0 Mt) and Latin America (-2.4 Mt) on the negative side.

### **Anticipated Annual Variations in Aggregate Regional Fertilizer Demand between 2007/08 and 2010/11 (Mt nutrients)**



Source: IFA

Due to the persistent depressed context in 2009, and in anticipation of a progressive recovery in 2010, tentative forecasts for global fertilizer consumption in 2009/10 point to a small rebound of 1.0%, to 158.0 Mt. Projections indicate a full recovery for N (+1.6%), a small rebound for P (+3.0%) and a further decline for K (-4.5%). Total fertilizer demand is anticipated to continue its rise in South Asia, and to rebound in North America and West Asia.

<sup>1</sup> Or in 2008 for countries with fertilizer consumption statistics in calendar years.

Significant declines are still anticipated in Oceania and Latin America. Demand would evolve only marginally in East Asia, Eastern Europe and Central Asia, Africa, and Western and Central Europe.

Projections to 2010/11 are very speculative. Provided world economic activity recovers, and agricultural market fundamentals remain positive, global fertilizer demand in 2010/11 could come back to positive growth rates (+4.9%). Demand for K would strongly rebound (+13.5%), while demand for N and P would continue its recovery (+2.6 and +6.2%, respectively). Increases are anticipated in all the regions.

### **Global Fertilizer Consumption, 2007/08 to 2010/11 (Mt nutrients)**

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Total
07/08	100.6	38.3	28.7	167.7
08/09 (e)	99.0	34.3	23.1	156.4
<i>Change</i>	-1.5%	-10.5%	-19.8%	-6.7%
09/10 (f)	100.6	35.4	22.0	158.0
<i>Change</i>	+1.6%	+3.0%	-4.5%	+1.0%
10/11 (f)	103.3	37.6	25.0	165.8
<i>Change</i>	+2.6%	+6.2%	+13.5%	+4.9%

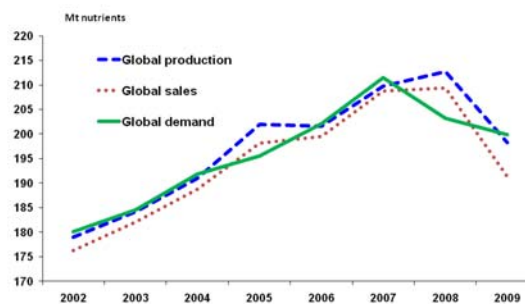
Source: IFA

## **PART 3 – GLOBAL FERTILIZER SUPPLY**

The volatile conditions of the global fertilizer market in 2008 shifted to stabilization in 2009, as fertilizer demand was virtually flat.

Global nutrient production and sales dropped to very low levels, due to the important inventory carry-overs in the worldwide distribution systems. For the second consecutive year, total world nutrient production in 2009 appeared to exceed sales and consumption, translating into a significant build-up of inventories at producers' ends.

### **World Nutrient Supply Trends : 2002 - 2009**



Source: IFA PIT Committee

Global nutrient demand showed a slight decline in 2009, driven by lower industrial uses and stagnant fertilizer consumption. This weakness in demand impacted global nutrient production and industry's operating rates, but at a different intensity between the nutrients.

In the nitrogen sector, ammonia production was rather stable while urea output expanded moderately. Phosphate acid production declined marginally in 2009, while that of phosphate rock dropped. Potash production plunged in 2009, due to a combination of depressed demand worldwide and large stock carry-overs in key importing countries. After reaching record levels in 2007, the world average operating rates started to decline in late 2008 and during 2009.

International trade levels in 2009 reflected trends in nutrient uses and the shift in imports between raw materials and finished products. Indeed, exports of DAP, urea and phosphoric acid expanded, while offshore sales of potash, phosphate rock and, to a lesser extent, ammonia declined. Shipments of sulphur rose, not in response to rising consumption but mostly due to the massive build-up of stocks in China. Overall, the trade of these seven mainstream products showed a combined 16% reduction in volume, compared with 2008.

The main changes in international imports were the collapse of potash shipments to China, firm sales of DAP to India, and a significant decline in urea import demand into the United States. India featured predominantly in the international markets in 2009, as the world's largest importer of urea, potash and DAP.

The implementation of very high export tariffs in China continued to impact world trade supply, but their effects in 2009 were more mitigated, as Chinese urea exports dropped to their lowest level of the past three years while those of DAP would reach a record level.

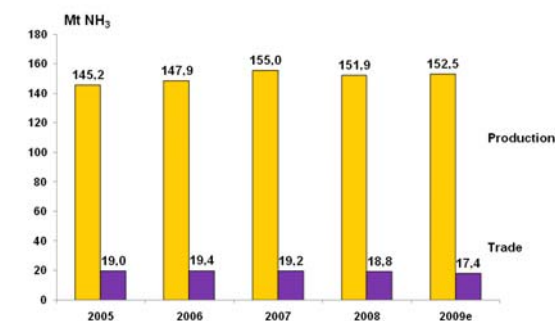
The maritime dry bulk market was supported by slower deliveries of new vessels than originally scheduled and by strong imports of iron ore and metallurgical coal in China, driven by substantial infrastructure stimulation. The massive overhang of tonnage to be delivered in 2010 and 2011 will result in a significant imbalance against the growth of tonnage demand, putting downward pressures on maritime freight rates in the short term.

## Nitrogen Outlook

According to IFA estimates, world ammonia production in 2009 would increase marginally, to 152.5 Mt NH<sub>3</sub>. China alone would contribute 40% of the net increase.

Higher production occurred, in decreasing order, in Trinidad, Australia, Oman, Egypt and Poland. Global ammonia domestic deliveries rose 1.5% over 2008, to 135.1 Mt NH<sub>3</sub>.

Global Ammonia Production and Trade



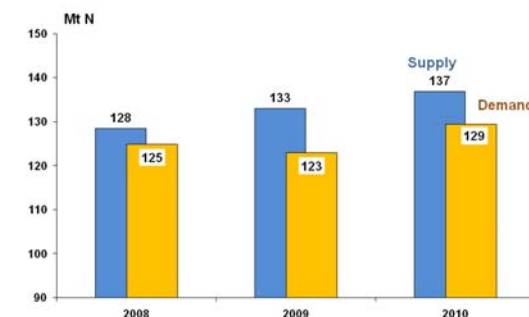
Source: IFA PIT Committee

IFA estimated that global ammonia trade in 2009 dropped 7.4%, to 17.4 Mt NH<sub>3</sub>, compared with 18.8 Mt in 2008. World seaborne exports dropped for the second consecutive year, to 15.3 Mt NH<sub>3</sub>, representing a 5% decline on the back of a similar drop in 2008. Overall seaborne capacity utilization was estimated at 84% of world merchant ammonia export capacity.

Global merchant ammonia capacity rose by less than 1.0 Mt in 2009, of which most was available for seaborne trade. No new merchant ammonia capacity is projected in 2010, but a slight reduction is anticipated, to 17.7 Mt.

The supply and demand balances of nitrogen show large potential surpluses of close to 10.5 Mt N in 2009, declining to 7.8 Mt N in 2010.

World Nitrogen Supply / Demand Balance

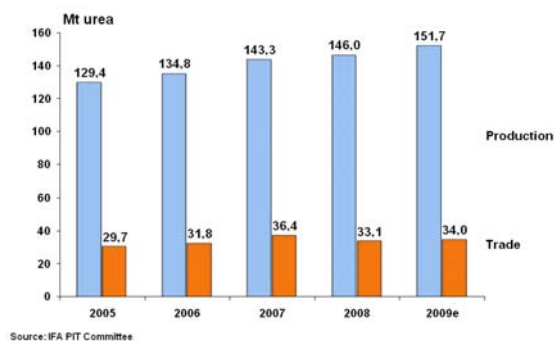


Source: IFA PIT Committee

Global urea production in 2009 was estimated at 151.7 Mt *product*, representing a 4% increase over 2008. The main production expansions occurred in China, Oman, India and Russia. China contributed 55% to the net 1.7 Mt increase of output.

IFA estimated world urea trade in 2009 at 34 Mt, representing a 2.9% increase over 2008. India and the United States were the main importing countries, accounting for 65% of global trade. Firm import demand also prevailed in Bangladesh, Pakistan, Thailand, Viet Nam and Mexico.

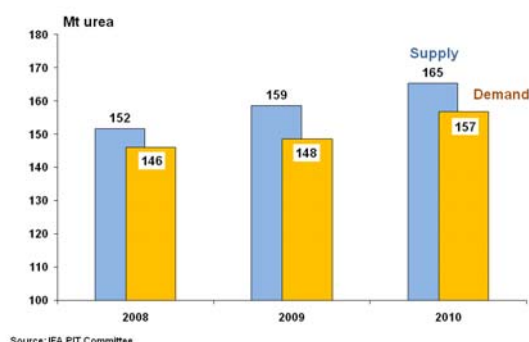
**Global Urea Production and Trade**



Close to 40 urea projects are projected to add new capacity in 2009 and 2010. Very few of these projects have been postponed beyond 2010. The global urea capacity would be close to 170.8 Mt in 2009 and 178.8 Mt in 2010. China would contribute half of the annual increases.

Taking into account maximum operating rates, world urea supply is estimated at 158.5 Mt in 2009 and 165.2 Mt in 2010. The global urea supply/demand balance shows a potential surplus of 10.6 Mt in 2009 (up from 5.4 Mt in 2008) and 8.9 Mt in 2010.

**World Urea Supply / Demand Balance**



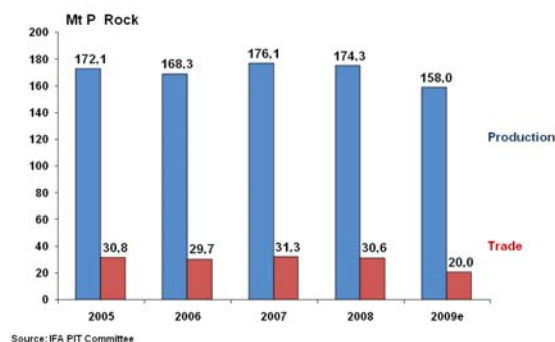
Entering 2010, the potential demand for urea shows more promising prospects compared with those in early 2009. Additional capacity in 2010 would match the projected increase in demand, again with the exception of China. This country would remain in a strong net exporting position.

Urea trade patterns will likely change as more importing countries expand domestic capacity. Reduced sales to South Asia are anticipated, but strong import demand is expected into the United States, West Europe, and Brazil.

## Phosphate Outlook

IFA's preliminary estimate of phosphate rock production in 2009 shows a massive 10% reduction over 2008, down to 158 Mt. The main exporters decreased their output, in response to weak international demand.

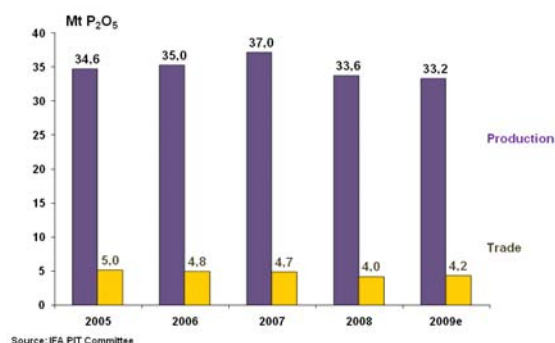
**Global Phosphate Rock Production and Trade**



World exports dropped one-third, to 20 Mt. This reduction was driven by lower demand in key consuming countries in Europe, East Asia, the Americas, and Oceania.

Global production of phosphoric acid in 2009 was estimated at 33.2 Mt  $P_2O_5$ , representing a 1.3% decrease over 2008. IFA estimated that the global phosphoric acid trade moderately recovered in 2009, increasing 4%, to 4.2 Mt  $P_2O_5$ . The bulk of this increase resulted from larger imports in India.

**Global Phosphoric Acid Production and Trade**

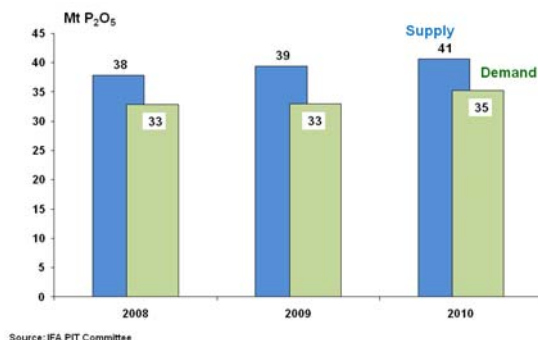


Global phosphoric acid capacity is estimated at 46.6 Mt  $P_2O_5$  in 2009, and at 47.3 Mt  $P_2O_5$  in 2010. China will contribute two-thirds of the combined increases of 2009 and 2010.

New capacity would be added in Morocco, Mexico, Viet Nam, Venezuela and Russia. In 2009 and 2010, no merchant acid capacity would come on stream.

The global supply/demand balance of phosphoric acid shows large potential surpluses of 6.9 and 5.5 Mt  $P_2O_5$  in 2009 and 2010, respectively. As regards MAP, DAP and TSP, the global capacity of processed phosphates will reach 34.8 Mt  $P_2O_5$  in 2009 and 36.6 Mt in 2010. Less than 1.8 Mt  $P_2O_5$  of new DAP-MAP capacity will come on stream in 2010, with the main additions occurring in China and Morocco.

**World Phosphoric Acid Supply / Demand Balance**

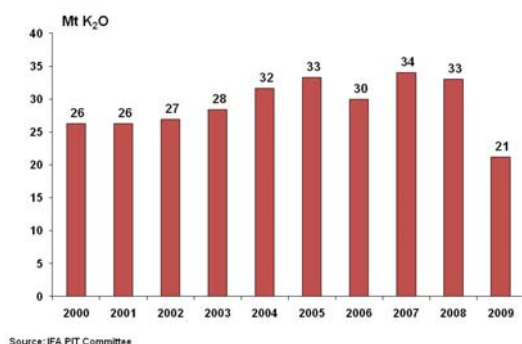


In 2010, global demand for processed phosphates is projected to rebound, most likely from rising sales in the United States, Brazil, China, Russia, Pakistan and India. Import demand for phosphate fertilizers is projected to increase by an overall 5% over 2009, due to projected firm requirements in Latin America, Oceania and South Asia. Sales may improve in Europe and West Asia.

## Potash Outlook

The world potash market collapsed in 2009, as international import demand dropped to its lowest level of the past 30 years. Sales declined below consumption, since major stocks were available in early 2009 at several buyers' sites. The potash industry ran at 50% of its nameplate capacity in 2009.

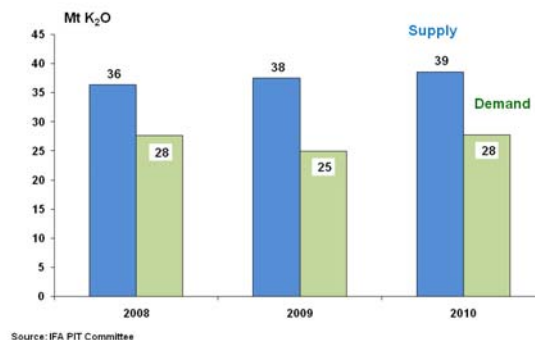
**Global Potash Production : 2000 - 2009**



Global potash capacity in 2009 rose 4% to 41.8 Mt  $K_2O$ .

In 2010, global capacity is projected to expand by another 1.3 Mt  $K_2O$ , to 43.1 Mt  $K_2O$ . Capacity increased in China, Canada, Chile, Russia and Jordan. The derived potash supply/demand balances show the resilience of a significant potential surplus of 12.6 Mt  $K_2O$  in 2009, declining to 10.8 Mt  $K_2O$  in 2010. This large imbalance is heavily influenced by depressed potassium nutrient demand.

**World Potash Supply / Demand Balance**



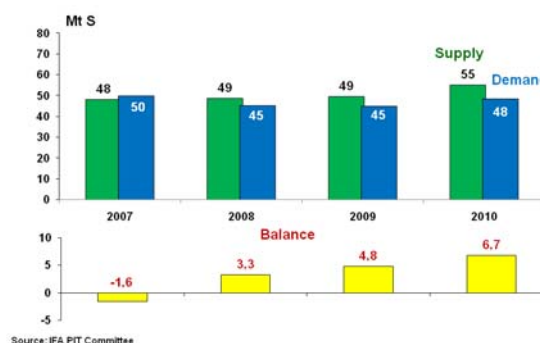
World potash sales in 2010 are projected to show a firm rebound, World potash deliveries may increase 30% over 2009, while global trade would expand by 50-55% over the very low level of 2009. Imports are projected to rebound in North America, Latin America and East Asia. However, uncertainty persists concerning China's import requirements and procurement strategy.

## Sulphur Outlook

World elemental sulphur production in 2009 rose 2% over 2008, to 49.5 Mt S. The growth of sulphur production slowed down, in reaction to the global economic crisis and reduced energy demand. In 2010, large increases in sulphur production are projected in West Asia, East Asia, EECA and North America.

Global sulphur consumption in 2009 declined 1%, to 44.7 Mt, due to weak sales in the fertilizer and industrial sectors.

**World Sulphur Supply / Demand Balance**





The global supply/demand balance in 2009 shows a substantial net surplus of 4.7 Mt S. In 2010, the potential surplus may further expand to 6-7 Mt S, equating to 7% of the world supply of sulphur-in-all-forms.

### Sales Prospects in 2010

Trade prospects in 2010 for ammonia and potash are very positive. Cost pressure will persist on Ukrainian nitrogen exporters. Strong urea and phosphate import demand is expected in the United States, South Asia and Latin America. Sales may improve in Europe and West Asia.

By the end of 2009, global nutrient consumption exceeded overall sales and would have left the supply pipeline rather empty. The situation in 2010 would see a reversal trend, compared with 2009, with moderate 4% growth in global demand and a strong 7% rebound on the total sales of the mainstream products.

### WORLD SUPPLY / DEMAND BALANCES: 2008 – 2009 – 2010

Products			2008	2009	2010
Nitrogen <i>Mt N</i>	Supply		128.5	133.0	136.9
	Demand		125.1	122.5	129.1
		<i>Potential balance</i>	<i>+3.4</i>	<i>+10.5</i>	<i>+7.8</i>
Urea <i>Mt urea</i>	Supply		151.6	158.5	165.3
	Demand		146.2	148.0	156.4
		<i>Potential balance</i>	<i>+5.4</i>	<i>+10.5</i>	<i>+8.9</i>
Phosphoric acid <i>Mt P<sub>2</sub>O<sub>5</sub></i>	Supply		37.8	39.4	40.6
	Demand		32.8	32.5	35.1
		<i>Potential balance</i>	<i>+5.0</i>	<i>+6.9</i>	<i>+5.5</i>
Potash <i>Mt K<sub>2</sub>O</i>	Supply		36.4	37.5	38.6
	Demand		27.6	24.9	27.8
		<i>Potential balance</i>	<i>+8.8</i>	<i>+12.6</i>	<i>+10.8</i>

IFA Production and International Trade Committee – November 2009

