Outlook for the U.S. Fertilizer Industry

G. Buckley[1]

Review of Fertilizer Year 1999

Fertilizer year (FY) 1999 was a rather dismal year for the fertilizer industry. The relatively weak performance within the sector was due to lower domestic demand combined with sharply lower nitrogen prices. Although official estimates will not be available until after the first of the year, total nutrient demand is estimated to have declined by 5.3 percent. Phosphate and potash demand were particularly disappointing with both nutrients declining by an estimated 7 percent.

On the price side, phosphate and potash prices remained relatively stable throughout most of the fertilizer year despite the lower domestic demand. Nitrogen prices, however, continued to spiral downward. Gulf ammonia prices, for example, averaged only $109 per ton for the year compared to $143 in FY98 and $196 in FY97. Urea prices also continued on a downward track during FY99 with Gulf prices averaging just under $100 per ton – the lowest level since the late 1980s and more than $90 per ton below the average of just 3 years ago.

Ag & Fertilizer Markets

One of the primary reasons for the sharp drop in domestic phosphate and potash consumption this year, was the extremely weak market condition in the crop sector. Worldwide bumper grain and oilseed crops over the last few years have forced crop prices down to some of the lowest levels in over a decade. Farm level corn prices since mid-1998, for example, have averaged less than $2 per bushel. This compares to a $2.50 per bushel average during the 1997 through mid-1998 period and an average of $3.42 in 1996. Wheat, soybean, and cotton prices have also fallen dramatically from their highs of just 2 years ago.

[1]Agricultural Economist, CF Industries, Inc., Long Grove, IL

Weather also had an impact on overall fertilizer demand. Wet conditions in some parts of the country (western Corn Belt and eastern Seaboard) and extremely dry conditions in others (mid-South) hampered "normal" fieldwork and resulted in shifts in both product form and fertilizer application rates.

As expected, the markets for all of the major nitrogen products remained extremely weak throughout most of FY99, with prices falling to some of their lowest levels in over a decade. The extremely weak conditions in the world nitrogen markets over the last two years have primarily been the result of two key factors:

- First, the dramatic increase in world nitrogen capacity. Since 1996, approximately 16 million tons of ammonia capacity and 18 million tons of urea capacity have been added to the world balance.
- Second, the dramatic shift in the ammonia and urea cost structure within the Former Soviet Union (FSU). The FSU is the world's dominant exporter of nitrogen fertilizers, and up until the last two years, served as the major swing supplier to world markets. The collapse of the Russian ruble, combined with changes in natural gas pricing policies, has significantly lowered Russian production cost. This, in turn, has not only allowed Russian producers to remain competitive in world markets, but has also dramatically lowered the world floor price for both products.

With respect to ammonia, the market continued to weaken during the first half of the fertilizer year, falling from $140 per ton in July to a low in January of only $90. Although prices edged upward going into the spring season, weaker than expected domestic demand and an oversupplied international market forced prices back down to the $100 per ton level by the end of the year.

The ammonia market has tightened somewhat over the last few months. The upturn, however, has been mostly the result of supply side adjustments. During the first quarter of FY00, the U.S. industry operating rate dropped to below 70 percent of capacity – the lowest rate since FY86. Since the beginning of the fertilizer year, nearly 4 million tons of capacity has been idled with most of the remaining plants operating at curtailed rates.

The urea market also remained extremely weak throughout FY99. Gulf urea prices, which started the year at $125 per ton, continued to spiral downward during the first half of FY99 falling to a low in December of under $80 per ton. The market tightened temporarily in the spring, but fell back into the $80-85 range due to weak domestic demand, record import volumes, and higher producer inventory.

Gulf urea prices have moved upward over the last few months. The higher prices have been due, in part, to cutbacks in production and a decline in producer inventory. For the first half of the year, total dry urea production is expected to be down by more than 10 percent. Lower import volumes so far this year has also helped bolster the market.

Similar to ammonia, the world urea market has been dramatically impacted by the record volume of new capacity that has come on-stream in the last few years. Another factor of the downturn has been the absence of China from the world market. Up until the Chinese government placed a ban on urea imports in July 1997, China had been the largest importer of urea, accounting for as much as one-third of total world trade. The loss of Chinese imports has forced the major export producers to find new markets, and at the same time, accept significantly lower netbacks.

The UAN market remained extremely weak during FY99, with Midwest prices for the year averaging $2.92 per unit. This was the lowest average price level since 1990 and approximately $0.35 per unit lower than in FY98 and more than a $1.00 per unit lower than in FY96 and FY97. As with urea, prices moved up marginally during the spring season, but fell back due to weak demand and high producer inventory. The weakness in the UAN market can be tied in part to the weakness in the urea market. Another key factor, however, has been the large increase in capacity that has come on-stream over the two last years. Since 1997, nitrogen solutions capacity in the U.S. has increased from 13.6 to 15.2 million product tons.

With respect to the phosphate market, Central Florida phosphate prices remained relatively stable throughout most of the fertilizer year, as record DAP export demand helped offset near record production and kept supply and demand in relative balance. The market during the first half of FY00, however, has come under intense pressure. Central Florida DAP prices have dropped from an average in July of approximately $170 per ton to recent spot quotes of under $140. The sharp decline has been due to a combination of high production rates, a build in producer inventory, and relatively weak demand in both the domestic and export markets.

The potash market remained relatively stable during FY99 and the first half of FY00, primarily due to producer inventory control measures and reasonably strong export demand.

Short-Term Outlook

The crop outlook for FY00 continues to be relatively weak. Although U.S. crop exports are projected to improve, high ending inventory and increased offshore competition is expected to continue to have a negative impact on both crop prices and acreage. Average farm prices for corn and wheat are forecast to remain at, or slightly above, last year's depressed levels and remain significantly below the record levels of just 4 years ago.

Total fertilizer consumption, which declined last year by approximately 5 percent, is forecast to remain at, or slightly below, the estimated levels for FY99. Fertilizer application on corn, wheat, cotton, and soybeans is projected to be down marginally from year-ago levels. For both P_2O_5 and K_2O, application rates are expected to remain relatively low and show little, if any, improvement over last year's depressed levels.

With respect to nitrogen, it appears that the market has reached bottom and has begun to move upward. The prospects for any significant improvement, however, will be limited by the huge amount of excess capacity overhanging the market. Over the next year, the key factor will be whether producers can keep inventory under control and match supply with demand.

The recent downturn in the phosphate market is expected to persist short-term and will be highly dependent on the export market. With both India and China projected to import lower volumes over the next 2 years, the industry will have to continue to operate at lower levels in order to keep inventory at manageable levels and keep supply and demand in relative balance.

Compared to nitrogen and phosphate, the outlook for potash is reasonably positive. The combination of continued producer restraint, strong exports, and firm domestic demand will likely keep the market in relative balance.

Long-Term Outlook

The outlook for U.S. agriculture and fertilizer demand is forecast to begin to improve after the year 2000, and then turn relatively positive. Demand for U.S. farm products is expected to trend higher, led by rising domestic needs and a strong export market for both crops and livestock products. The

increases in demand will be met via a combination of higher crop yields and marginally higher acreage. Crop prices will also be positively impacted. Although prices are not projected to reach the record highs of three-to-four years ago, they are expected to remain well above this year's depressed levels.

In all three nutrient sectors, growth in domestic and world demand is projected to result in a reasonably positive demand outlook for North American producers. In the nitrogen sector, U.S. domestic demand is projected to gradually trend upward starting in the year 2001, and increase at an average annual rate of approximately 1.0 percent. Although the U.S. nitrogen operating rate is expected to remain below 90 percent of capacity over the next 2 years, the recovery in demand combined with marginally lower import volumes should allow the industry to begin to recover in 2002. During the second half of the outlook, the prospects for the industry are expected to continue to improve with the industry operating rate averaging between 93-97 percent of capacity.

Industry prices and margins are likely to remain under pressure near-term, as additions to world nitrogen capacity far exceed the projected increase in world demand. The outlook is expected to begin to improve after FY01, as the trend reverses and the growth in world demand continues to expand and begins to exceed the growth in world capacity. The key assumption, however, is that low prices will discourage new projects and/or result in the closure of some of the higher cost existing capacity (primarily in Eastern Europe, and to some extent, the U.S.).

For phosphates, the recent downturn in the market is expected to persist through FY00 and into FY01. Growth in both world phosphate demand and trade is projected to resume by FY02, and result in an overall recovery in U.S. P_2O_5 exports. Domestic demand is also projected to gradually trend upward after FY00. As with the current downturn, however, the U.S. industry's heavy reliance on a highly uncertain international market will continue to make it susceptible to short-term fluctuations.

The balance for the North American potash sector is expected to continue to improve due to growth in both domestic and export demand. Excess capacity, however, will continue to be prevalent in the industry and require producer restraint in order to balance the market.