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**PHOSPHATE INDUSTRY OPERATING RATES :
PAST, PRESENT AND FUTURE**

by

**Douglas HOADLEY
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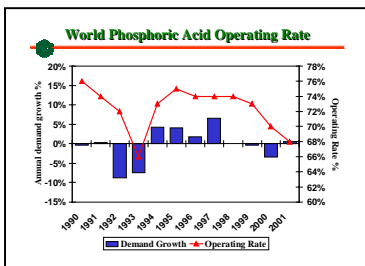
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**Phosphate Industry
Operating Rates**

Douglas Hoadley
IMC Global
October, 2002

Thank you _____ and good morning. It is a pleasure for me to be here to participate in *IFA's 2002 Production and International Trade Conference*. I am particularly pleased to present our view of the world and U.S. phosphate industry. My remarks this morning will focus on operating rates in the phosphate industry in the recent past, for 2002 and finally for through to 2006.

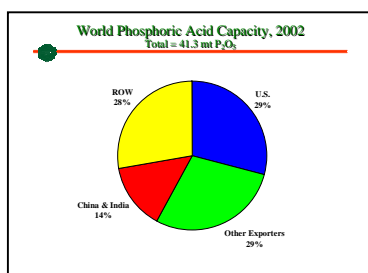
Let's begin by reviewing world phosphoric acid operating rates in the recent past or from 1990 to 2001.



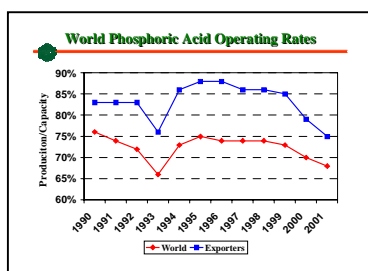
The world phosphoric acid operating rate in this chart is based on the production of phosphoric acid divided by world capacity, which equals the industry's percentage operating rate. The red line in the chart represents this operating rate. The data for both production and capacity are based on IFA reports. The blue bars in the chart show annual world demand growth for phosphate fertilizers.

The world's phosphoric acid operating rate declined in the early 1990's, mainly due to the economic restructuring ongoing in the Former Soviet Union. In 1993, there was a cyclical bottom due to declining demand in the world, particularly in India and China. In 1994 and 1995, the world's phosphoric acid operating rate showed a rapid and strong recovery and the operating rate remained high through 1999.

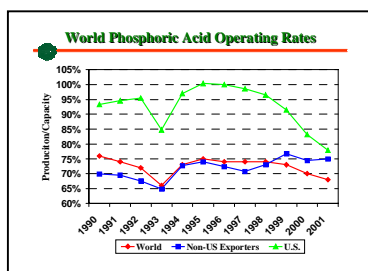
World demand growth was strong throughout this period and this was a major factor in the industry's recovery. Another cyclical downturn began in 2000 and reached a low point in 2001. This decline in the operating rate was due to falling world demand along with an increase in world phosphoric acid capacity. However, the world's operating rate was still above the last downturn seen in 1993.



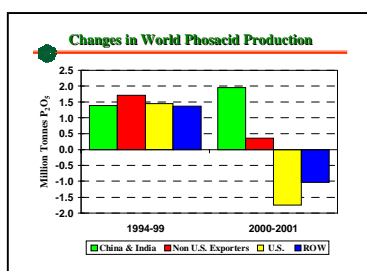
In order to examine the situation more closely, I have split the world's phosphoric acid capacity into four regions : the U.S. – which is the largest phosphate fertilizer exporter ; other exporters – mainly producers in Africa and the Middle East ; China and India – the world's two largest importers ; and the rest of the world (ROW). The U.S. and other exporters each account for 29% of the total world phosphoric acid capacity, China and India combined account for 14% of the total and the rest of the world accounts for 28% of the total. Let's now examine the phosphoric acid operating rate by region.



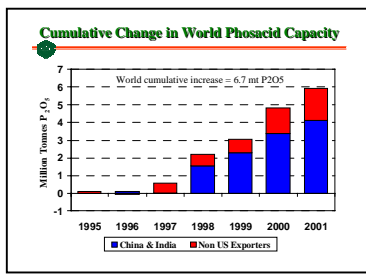
This chart shows the world phosphate fertilizer exporters' phosphoric acid operating rate compared with the world rate. Exporters have shown a more dramatic decline during the most recent downturn, as their operating rate has declined below their 1993 level. So the exporters have a more volatile operating rate compared with the world as a whole.



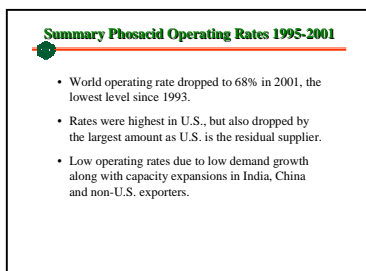
If we examine the U.S. versus non-U.S. exporter operating rate, the picture becomes clearer. The U.S. operating rate declined dramatically during 1999 to 2001, while the non-U.S. exporter operating rate remained about unchanged. This shows that the U.S. is the residual supplier to the world, with operating rates increasing by the largest amount during periods of demand growth but also falling by the largest amount during cyclical downturns.



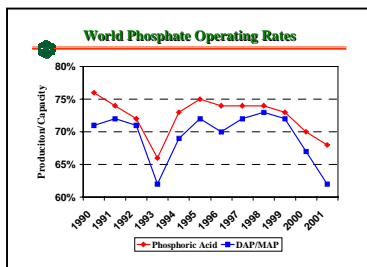
It is also informative to examine actual changes in phosphoric acid production during the growth period of 1994 to 1999 compared with these changes during the downturn in 2000 and 2001. The increase in phosphoric acid production during 1994 to 1999 occurred almost equally across the four world regions, each with an increase in production of close to 1.5 million tonnes P₂O₅. However, during the downturn of the last two years, China and India had a production increase of close to 2 million tonnes P₂O₅ while the U.S. had a decline in production of a similar magnitude. Therefore, the key development over the last two years was not just declining phosphate fertilizer demand, but also an increase in phosphoric acid production by the two largest phosphate fertilizer importers in the world - China and India - at the expense of lower production by the largest exporter - the U.S. Next, I will review changes in phosphoric acid capacity over the recent history.



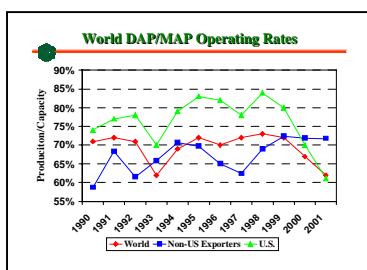
Despite the strong recovery in the phosphate fertilizer market during 1995 through 1997, there was almost no increase in capacity. This tight phosphate fertilizer market led to a period of sustained high prices, which eventually encouraged new capacity to come onstream beginning in 1998 and which continued coming onstream through 2001. The total world increase in phosphoric acid capacity during this period was 6.7 million tonnes P₂O₅ of which China and India accounted for over 60% of the total. Most of the remaining new capacity increase was by Non-U.S. exporters, including Morocco, Senegal, Jordan and Australia.



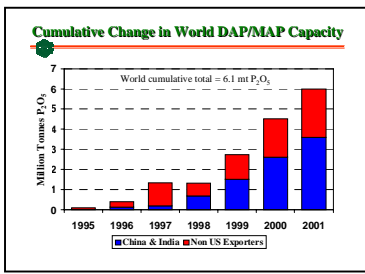
Let me briefly summarize the situation for the recent history in the phosphoric acid market. First, the phosphate fertilizer market has cyclical behavior with downturns in 1993 and the 2000 to 2001 period. During these downturns, operating rates declined by about seven percentage points to below 68%. Second, the U.S. acts as the residual supplier to the world and as a result shows the most volatility in its operating rate. The U.S. operating rate declined by over ten percentage points during these downturns. Third, the most recent downturn was longer than normal due to a continued increase in capacity and production by China and India. This was a much different situation compared with the 1993 downturn, which recovered quickly during 1994 and did not have a continued increase in capacity. Now, let's examine the recent DAP/MAP history.



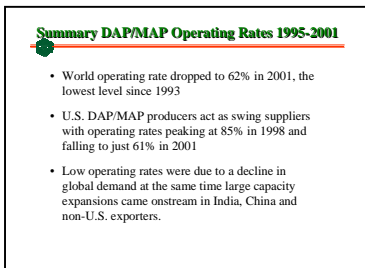
As you would expect, the DAP/MAP operating rate is quite similar to that for the phosphoric acid industry. It also shows an operating rate downturn during 1993 and the 2000/2001 period. However, as shown in this diagram by the blue line, the downturn for DAP/MAP during 2001 has been more severe than the recent downturn for phosphoric acid. The DAP/MAP operating rate has fallen to just 62% which is about the same as the low operating rate that occurred in 1993.



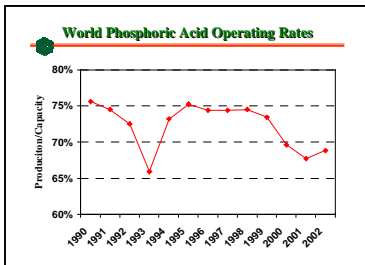
One of the reasons that the DAP/MAP situation has been worse compared with that for phosphoric acid is that the U.S. is a bigger player in this export market. As stated earlier, the U.S. accounts for 29% of the world's phosphoric acid capacity, but accounts for 38% of world DAP/MAP capacity. The U.S. also accounted for over 50% of world DAP/MAP exports over the last two years. As shown by the green line in this chart, the downturn in the U.S.' DAP/MAP operating rate has been dramatic, falling from a peak in 1998 of 84% to just 61% in 2001. At the same time, the operating rate for non-US exporters – shown by the blue line - was actually increasing. Clearly, the U.S.' role as a residual supplier is more pronounced in the DAP/MAP market.



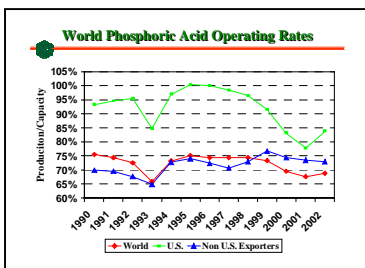
Similar to the situation in the phosphoric acid market, world DAP/MAP capacity grew just modestly in 1994 through 1998, which led to a period of sustained high prices. However, capacity increased dramatically during 1999 through 2001, particularly in China and India, which accounted for about 60% of the global increase from 1995 to 2001. There were also large increases in DAP/MAP capacity in non-U.S. exporting countries, which resulted in a more competitive situation in world trade. These included capacity growth in Australia, Lithuania, Russia and Morocco. So let me now briefly summarize the recent history of global DAP/MAP operating rates.



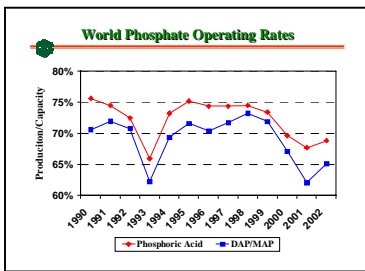
The cyclical downturn in the global DAP/MAP market has been more severe compared with the operating rates for phosphoric acid. The global DAP/MAP operating rate declined by about ten percentage points from 1999 to 2001. The U.S.' role as the residual supplier to the world is more pronounced in this market. The operating for the U.S. producers declined to just 61% in 2001 compared with a peak of 85% in 1998 or a fall of 24 percentage points. The low global DAP/MAP operating rate was due to a combination of declining world demand at the same time that new capacity came onstream in China, India and Australia.



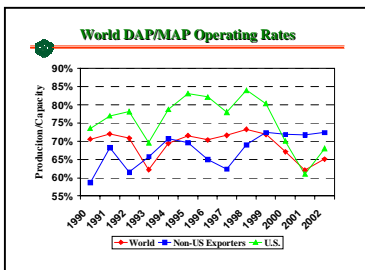
Next, I will briefly examine the current estimates for the 2002 phosphoric acid market. The phosphate fertilizer situation for 2002 shows the beginning of a cyclical recovery. This recovery in the phosphoric acid market is much slower recovery compared with the one that occurred in 1994, where the operating rate showed a large increase due to high demand growth. In 2002, world demand growth has recovered, but at a more modest rate compared with 1994 plus new capacity has continued to come onstream, mainly due to a new plant in South Africa.



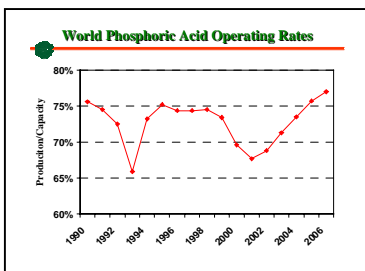
I have already shown that in the recent past, the U.S. was the residual supplier to the world. This situation has continued into 2002 as the U.S. has shown a much larger increase in its phosphoric acid operating compared with the world as a whole. This is what you would expect a residual supplier to show. Non-U.S. exporters have shown only a small increase in their operating rate as it has remained relatively stable over the last four years.



This chart compares the world's DAP/MAP operating rate with the phosphoric acid operating rate updated with 2002 estimates. The DAP/MAP operating rate shows a much greater recovery in 2002 but this also follows a larger decline during 2001. The reason for the improved DAP/MAP recovery is that world production increased by a greater amount than phosphoric acid in 2002. In addition, the global DAP/MAP capacity increase will be slightly smaller.

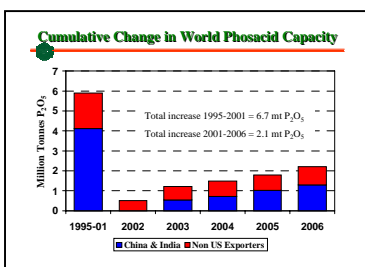


A much closer look at the 2002 DAP/MAP operating rate reveals that the U.S. shows one of the sharpest increases, indicating a strong cyclical recovery is underway. The U.S. DAP/MAP operating rate will increase to about 68% in 2002 compared with just 61% in 2001. Non-U.S. exporters show only a small increase in their operating rate, which has been basically unchanged over the last four years.

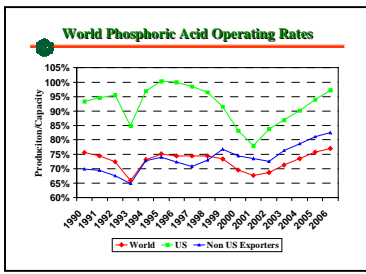


For the remainder of this speech I will look into my crystal ball and show projections of the world phosphate fertilizer situation through to 2006. These projections are based on an average annual growth rate of 2.3% for world phosphate fertilizer demand. I have used phosphoric acid and DAP production forecasts from both British Sulphur Consultants and the Fertecon Research Centre. In addition, IFA's projections of phosphate fertilizer capacities for 2002 to 2006 that were developed at the May meeting in Lisbon have been used.

This chart shows that we are projecting the phosphate fertilizer cyclical recovery to continue through to 2006 with world operating rates rising to levels above those seen during the 1990's upturn. There are several good reasons for this as I will explain further.

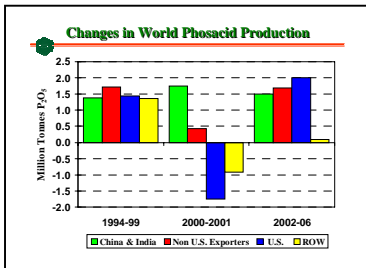


The key to this forecast for a sustained phosphate fertilizer recovery is that there is little new phosphoric acid capacity expected to come onstream over the next four years. This will be during a period of 2% plus demand growth. In fact, the published IFA capacity projection shows an increase of just 2.1 million tonnes P₂O₅ from 2001 to 2006 compared with nearly 7 million tonnes from 1995 to 2001. Current DAP and phosphoric acid prices are too low to finance new plants, so this scenario is likely correct unless DAP prices suddenly increase to above \$200 per tonne. Most of the new capacity currently expected to come onstream through 2006 will occur in China and South Africa. However, China will continue to be a large importer of DAP.

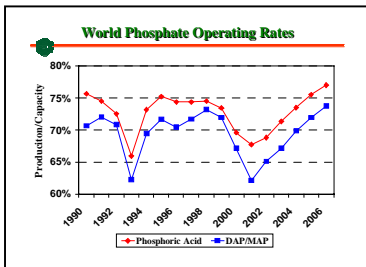


If we examine the phosphoric acid operating rates by region projected to 2006, we find the largest increase will occur for the U.S. However, notice that even in 2006, we are still projecting U.S. operating rates slightly below full capacity indicating additional U.S. capacity could still come onstream at that time.

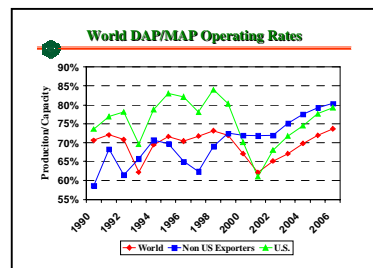
IMC Global currently has an idle phosphoric acid plant with a capacity of 0.6 million tonnes P₂O₅ capacity that could come onstream. The other important factor to note is that the operating rate for non-U.S. exporters will increase to record high levels. This is due to revamps that are ongoing plus better operating practices in these exporting countries, especially improved maintenance levels, a key to higher long term operating rates.



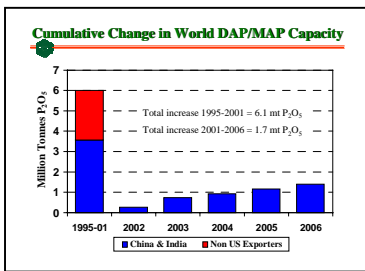
This chart has been updated to include phosphoric acid production changes from 2002 to 2006 by region. China and India will continue to show a large increase in production over the next four years. However, the largest increase in phosphoric acid production is forecast for the U.S. due to its role as a residual supplier to the world market. IMC Global has played a major role as one of the residual suppliers in the U.S. and still has one plant idle. Non-U.S exporters will show the second largest growth in phosphoric acid production during the 2002 to 2006 timeframe. Now let's examine the medium term forecast for the DAP/MAP markets.



The situation is similar for the DAP/MAP operating rate compared with phosphoric acid. We expect the DAP/MAP operating rate to continue increasing over the next four years to record high levels. By 2005, the global DAP/MAP operating rate is expected to reach 72%, or about the level seen during the 1995 to 1999 upturn. By 2006, the operating rate will be about equal to the peak level that occurred in 1998.



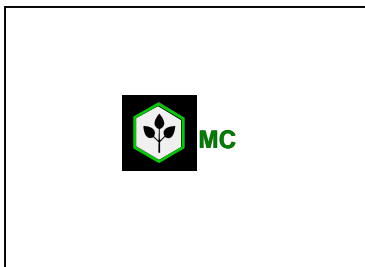
As with phosphoric acid, the U.S. will show the sharpest increase in operating rates as its role as a residual supplier continues. The U.S.' DAP/MAP operating rate will be close to 80% by 2006 which is similar to the levels seen during the last upturn, but this is still below the peak level of 84% that occurred during 1998. This suggests that the U.S. will still not be operating at full capacity during 2006. IMC Global currently has an idle DAP/MAP plant with about 1.2 million tonnes capacity available to come onstream should market conditions warrant.



A major factor during this recovery in DAP/MAP operating rates is that only a small amount of new capacity will come onstream. Only 1.7 million tonnes P₂O₅ of new DAP/MAP capacity is expected to be built during 2001 to 2006 according to published IFA capacity data. This is less than one-third of the increase that occurred during the 1995 to 2001 period. About 80% of this new capacity will be built in China and India. Currently, no new capacity is expected to come onstream for DAP/MAP exporters, although some new plants are under consideration.

- Summary of Operating Rates 2002-06**
- World operating rates begin cyclical recovery in 2002 and rise to record high levels by 2006.
 - There will be only a modest increase in phosphoric acid and DAP/MAP capacity through 2006. Most of increase will occur in China and India.
 - Operating rates will improve for most producers. As the residual supplier to the world, the U.S. will show the largest increase in operating rates followed by Non-U.S. exporters.

Let me summarize the phosphate fertilizer outlook for the 2002 to 2006 period. In 2002, we see the beginning of a cyclical recovery in phosphate fertilizer operating rates that will continue through to 2006. This is based on the assumption of 2% plus growth in phosphate fertilizer demand over this period while there is only a minor increase in capacity, especially when compared with the prior cycle. Most of the increase in capacity will occur in China and India. While operating rates will continue to improve throughout the world, the largest increase will occur in U.S. operating rates along with other exporters. Finally, let me point out that the grains situation is key to this outlook and currently the world grains stock to use ratio is the lowest in 25 years. U.S. grain stocks are also extremely low. If grains prices rise, than phosphate fertilizer demand growth will be above current expectations and the supply/demand situation will be tighter than forecast.



Thank you for your kind attention. I would be happy to address any questions that you may have.