

The Rising Cost of Fertilizer

*Courtesy of Chris Hoff, Precision Turf & Chemical, Inc.
and the Golf Course Superintendents Association of America*

The Fertilizer Institute serves to promote and protect the Fertilizer Industry, representing the public policy, communication and statistical needs of producers, importers, wholesalers and retailers of fertilizer, as well as those companies that provide vital services to the Fertilizer Industry.

Golf course superintendents can't help but notice the steady rise in the price of fertilizer. Why is that? According to The Fertilizer Institute, there are five principal factors at play.

1) Increasing World Demand

World fertilizer demand has grown by 14%, nearly equivalent to a new U.S. market -- 20.6 million nutrient tons.

Fertilizer is a world market commodity, which means that supply and demand factors in major markets around the world impact the price U.S. farmers pay for fertilizer. Average prices paid by U.S. farmers for the major fertilizer nutrients reached the highest level on record in January 2008, 130% higher than the January 2000 level, according to the U.S. Department of Agriculture.

Increased global demand for fertilizer has played a large part in placing upward pressure on fertilizer prices. Overall, world nitrogen demand grew by 14%; phosphate demand grew by 13%, and potash demand grew by 19% from FY 2001 to 2006. China, India, and Brazil are the three largest contributors to the growth in world nutrient demand.

The quest for healthier lives and better diets in developing countries is the primary driving factor behind the increased global demand for fertilizer. People in China, India and Brazil are seeking more food-requiring more nutrients to replenish the soil.

2) Increased Ethanol Production

U.S. ethanol production is increasing domestic fertilizer demand.

While world nutrient demand has risen significantly since FY 2001, U.S. nutrient demand remained relatively flat, ranging from 20.7 to 23.4 million nutrient tons. Then came the ethanol boom. The annual capacity of the U.S. ethanol sector stood at 5.6 billion gallons in February 2007. Ethanol plants under construction or expansion are expected to add another 6.2 billion gallons of capacity. According to

the U.S. Department of Agriculture, U.S. ethanol production could easily reach 11 billion gallons in 2011. Farmers are responding to higher corn prices resulting from the increase in demand by planting more corn acres.

Farmers planted 93.6 million corn acres in 2007, a 19% increase from the 78.3 million acres planted in 2006, and the highest corn acres since 1944. The average annual corn price received by farmers stood at \$1.97 per bushel in 2005, \$2.28 in 2006, and \$3.39 in 2007 -- the highest annual average since 1996.

Changes in U.S. nutrient use are driven by two factors: changes in crop acres planted and changes in application rates. Strong international demand coupled with increased domestic demand will continue to place upward pressure on fertilizer prices.

3) Higher Transportation Costs

Higher energy prices, a significant demand for transportation, and even weather-related events, have caused shipping and distribution costs to rise. Shipping rate increases include all methods of fertilizer transportation -- ocean freight, rail, barge and truck.

Ocean freight rates are up significantly. Continued strong demand for vessels, strong import demand for iron ore and coal, and exports of steel by China and higher fuel costs have been the primary drivers of higher ocean freight rates. Weather disturbances and port congestion have also contributed to higher ocean freight rates by tying up vessels and lengthening the shipping times.

The cost of shipping fertilizer by rail has increased significantly due to fuel costs, security requirements and liability concerns.

Barge rates have risen primarily due to steep demand spurred by competition from other industries. Also factoring in are higher fuel costs and new, time-consuming and expensive security requirements.

Truck rates have been significantly impacted by the continued high cost of fuel.

Transportation providers have significantly higher capital costs such as fleet replacement and expansion. With much of the fertilizer applied in the United States having its origin beyond U.S. borders, it is

not only possible but likely that the fertilizer applied on a field in Missouri has taken each of these transportation modes to arrive at the field. Thus, the combined transportation costs are significant.

4) The Devaluation of the U.S. Dollar

The value of the U.S. dollar has decreased significantly, increasing the cost of imported goods-including fertilizer.

The exchange rate allows for the conversion of one country's currency into that of another, thereby facilitating international trade, and it allows price comparison of similar goods in different countries. The exchange rate is a significant factor influencing the competitiveness of commodities, including fertilizer. Simply put, a weak U.S. dollar increases the price of imported commodities.

The value of the U.S. dollar has fallen significantly in the past few years, increasing the costs of the goods we import. The United States now imports over half its nitrogen and over 90% of its potash. With most fertilizer materials priced in U.S. dollars, foreign producers have to raise the price of fertilizer in U.S. dollars to offset the fall in the value of the dollar to maintain the revenue they receive in local currency. For example, if a fertilizer material is priced at \$300 per ton and the value of the U.S. dollar falls by 30% relative to the currency in the country where the material is produced, producers in that country will experience a 30% decline in local revenue if all else remains equal. In order to maintain revenue in local currency, the price of the material in U.S. dollars has to be increased by 43% as follows. The new price in U.S. dollars, \$429, is equivalent to the revenue the foreign producer received in local currency (\$300) before the dollar declined, since $\$429 \times 0.7 =$ the equivalent of \$300 in local currency.

5) Rising Ammonia Production Costs

The United States is the largest importer of nitrogen (over 50% of supply) and potash (over 90% of supply) and the largest exporter of phosphate.

Natural gas is the feedstock for producing ammonia, which is the building block for all nitrogen fertilizers. The cost of

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natural gas accounts for 70-90% of the production cost of ammonia. Thus, with U.S. natural gas prices increasing significantly since 2000, average U.S. ammonia production costs rose by 172% from fiscal year 1999 to fiscal year 2005.

While fertilizer prices have risen, many U.S. producers were faced with negative margins due to the severe escalation in production costs. High natural gas prices have caused 26 U.S. ammonia plants to close permanently since FY 1999. Several plants also remain idle.

As a result of ammonia plant closures, U.S. ammonia production fell by more than 42% since FY 1999. Consequently, the U.S. fertilizer industry, which typically supplied 85% of farmers' domestic nitrogen needs from U.S.-based production during the 1990s, now relies on net nitrogen imports for more than half of new nitrogen supplies.

This situation also impacts phosphate fertilizer production, as average U.S. production costs for ammonium phosphates increased by 20% from 1999 to 2000. These costs are expected to show continued increases as ammonia prices have risen further.

Somerset CC-

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green and third tees is well worth it. Somerset has been thinning out green ash trees to create many vistas it once had.

After World War II the golf course was in need of a face-lift so Stanley Thompson, who was flamboyant in his own right, was hired to do the job. Some of you may know Mr. Thompson's work from the North Oaks Golf Club. Most of his work was re-contouring the putting surfaces and bunker work. It was the era of the bulldozer so one change was the lowering of Somerset's 3rd green by 7 feet! Unfortunately some of that work was done with little regard for topsoil. If you are a long ball hitter, you'll find Somerset's par fives reachable in two strokes, but it can come back to haunt you in the four pars, with more than a couple over 450 yards from the back tees. One last thing to keep in mind if you play are the false fronts if the greens are fast.

I am sure you have heard enough about me over the past few years but I am very fortunate to work for good members and to be surrounded by a great staff that makes me look good. What makes my mechanic, Kim Huebscher, special is his attitude. He realizes what we are trying to accomplish and he is very approachable by young kids (or old ones like me) who break things accidentally. Jason my long time assistant is a very hard worker and when it comes to reshaping tees with a skid-loader, he's at the top of the list. Josh is a new young gun from the University of Minnesota turfgrass program, he knows his stuff and gets along with the staff well. And then there is Jose who arrived from California right before the Halloween Blizzard of 1991. Thankfully, for me, that didn't chase him out of town. He is indispensable to my assistants and me, because he knows exactly what we want done, and can accomplish everything well the first time. Finally, Sheree the gardener greets all of our members with a smile, and her gardens set the tone for a great day at the club. Enjoy!

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Soybean Extract Fertilizers

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Turf Foundation™ 10-3-5 delivers a tighter, denser turf with vigor and provides primary plant nutrients for balanced growth. Turf Foundation™ is great for ball mark recover, excellent for turf stress relief under extreme conditions, and beneficial to use during aerification for a quicker healing time.

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► After trialing Turf Foundation™ 10-3-5, a universal comment by golf course superintendents is that use of this fertilizer improved turf health and vitality without stimulating rapid vertical growth.

► Regular use of Turf Foundation™ 10-3-5 will improve turf root systems and thus improve the ability of turf to more efficiently absorb nutrients. Improving general plant health and vigor will decrease the need for chemical and other nutrient additives.

► Turf Foundation™ 10-3-5 works great in temperatures as low as 45° F.

► Turf Foundation™ 10-3-5 is derived from soybean seed oil extract. This organic material contains a multiplicity of vitamins, which the seed uses for germination, development and growth.

► Turf Foundation™ 10-3-5 increases lateral growth without excessive top growth. Great for ball mark recovery on greens, Par 3 tees and driving range tee areas. It also accelerates aerification healing.

To learn more about Turf Foundation™ 10-3-5, please contact us today!

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