Illinois Fertilizer & Chemical Association
Supply • Service • Stewardship

SUPPLY & DEMAND, ENERGY DRIVE GLOBAL FERTILIZER PRICES

The Fertilizer Institute
Nourish, Replenish, Grow

Fertilizer is a world market commodity

necessary for the production of

food, feed, fuel & fiber.

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 September 2007, 122 percent higher than the 1990-92 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 percent, phosphate demand grew by 13 percent and potash demand grew by 19 percent from fiscal year 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.

WORLD FERTILIZER DEMAND IMPACTS U.S. MARKET

Demand ↑ 14 percent

NITROGEN (N)

is a primary building block for all organisms. It is essential to making proteins, helps keep plants green and is a critical component of soil structure.

COMES FROM THE AIR

Demand ↑ 13 percent

PHOSPHORUS (P)

is found in every living cell. Phosphorus is a component of DNA and it also plays vital roles in capturing light during photosynthesis, helping with seed germination, and helping plants use water efficiently. Plants also use phosphorus to help fight external stress and prevent disease.

COMES FROM ANCIENT SEA LIFE

Demand ↑ 19 percent

POTASSIUM (K)

is essential to the workings of every living cell. It plays an important role in plant's water utilization and also helps regulate the rate of photosynthesis. Other aspects of plant health influenced by potassium include the growth of strong stalks, protection from extreme temperatures, and the ability to fight stress and pests such as weeds and insects.

COMES FROM EVAPORATED OCEANS

SUPPLY & DEMAND FACTORS

GLOBAL DEMAND FOR FERTILIZER HAS PLACED UPWARD PRESSURE ON FERTILIZER PRICES.

THE U.S. ETHANOL BOOM IS DRIVING FERTILIZER DEMAND HIGHER, THEREFORE PLACING UPWARD PRESSURE ON FERTILIZER PRICES.

HIGH NATURAL GAS PRICES IN THE UNITED STATES CONTINUE TO LEAD TO HIGHER FERTILIZER PRODUCTION COSTS, ALSO LEADING TO INCREASED FERTILIZER PRICES.

U.S. Ethanol Production is Increasing Domestic Fertilizer Demand.

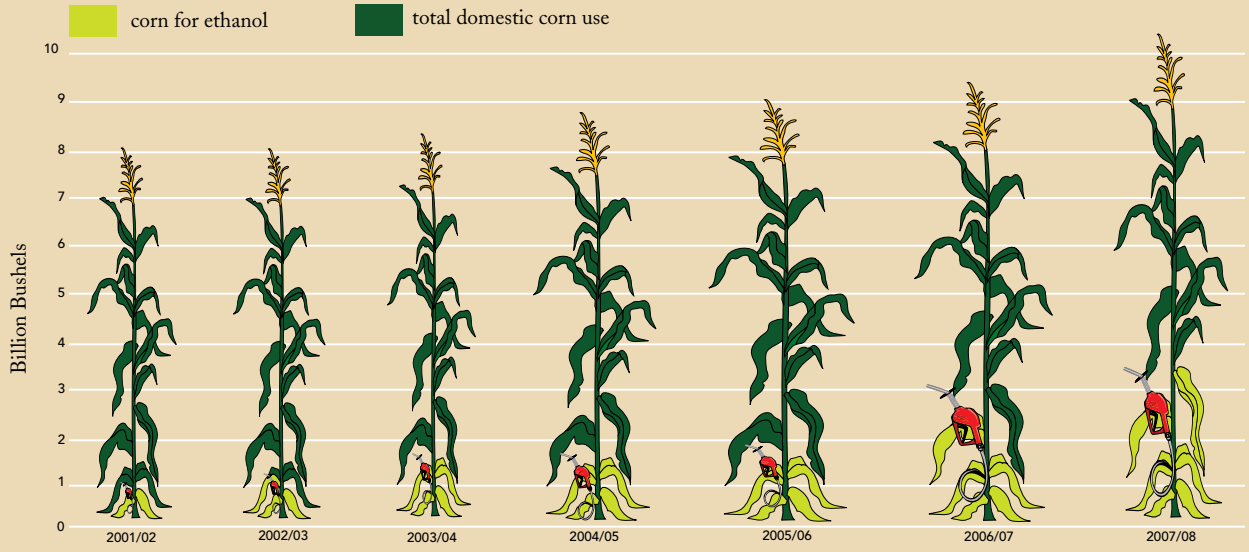
CORN, WHEAT, SOYBEANS AND COTTON ACCOUNT FOR 70 PERCENT OF TOTAL U.S. NUTRIENT USE, WHILE CORN ALONE ACCOUNTS FOR 43 PERCENT.

While world nutrient demand has risen significantly since fiscal year 2001, U.S. nutrient demand remained relatively flat, ranging from 20.7 to 23.4 million nutrient tons since fiscal year 2001. 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 92.9 million corn acres in 2007—a 19 percent increase from the 78.3 million acres planted in 2006 and the highest corn acres since 1944. The average corn price received by farmers, which stood at $1.97 per bushel in 2005 and $2.28 in 2006, reached $3.77 in June 2007—the highest since August 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.

Ethanol Demand Drives Corn Crop



AVERAGE U.S. AMMONIA PRODUCTION COSTS HAVE RISEN 172 PERCENT SINCE 1999.

U.S. farmers must compete with farmers from around the world for nitrogen, phosphate & potash.

The United States is the largest importer of nitrogen (about 50 percent of supply) and potash (about 90 percent 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 natural gas accounts for 70 to 90 percent 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 percent from fiscal year 1999 to fiscal year 2005.

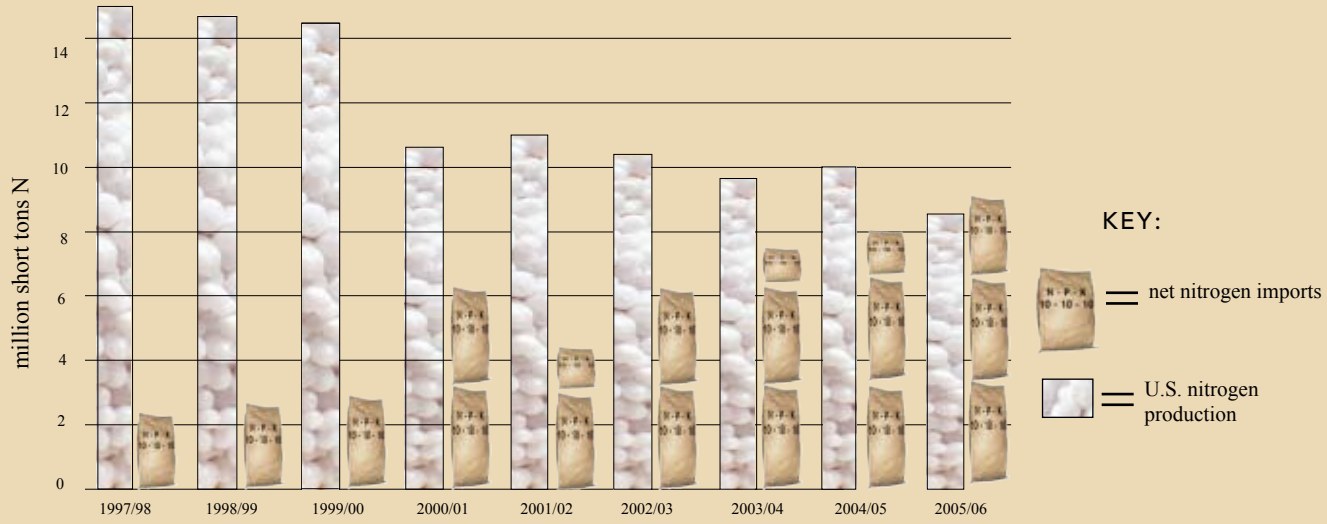
While fertilizer prices have risen, many U.S. producers have been faced with negative margins due to the severe escalation in production costs. High natural gas prices have caused 25 U.S. ammonia plants to close permanently since fiscal year 1999. Several plants also remain idle.

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

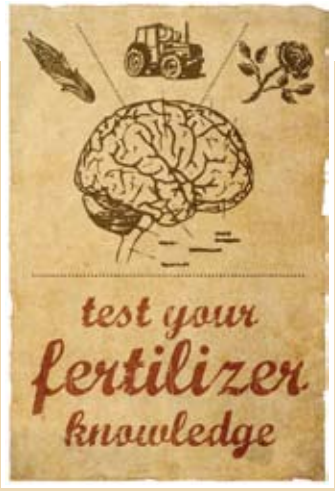
This situation also impacts phosphate fertilizer production, as average U.S. production costs for ammonium phosphates increased by 20 percent from 1999 to 2003. These costs are expected to show continued increases as ammonia prices have risen further.

After years of relative stability, North American potash prices increased significantly beginning in mid-July 2003. The bulk of the price increase realized has resulted from the 19 percent growth in global potash demand since fiscal year 2001.

U.S. Nitrogen Production Decreases and Imports Rise



SOURCE: COMPUTED BY THE FERTILIZER INSTITUTE FROM DATA REPORTED BY THE U.S. DEPARTMENT OF COMMERCE



1 WHAT ARE THE TOP THREE FERTILIZER-UTILIZING DOMESTIC CROPS?

Corn, wheat and soybeans.

2 HOW MUCH FERTILIZER DOES IT TAKE TO PRODUCE A BUSHEL OF CORN, WHEAT OR SOYBEANS?

Depending on the type of cropping system used,
corn: 1.5 to 2 pounds of fertilizer nutrients.
wheat: 2.5 to 3.5 pounds of fertilizer nutrients.
soybeans: 1.0 to 1.5 pounds of fertilizer nutrients.

3 WHY IS FERTILIZER IMPORTANT TO AGRICULTURE PRODUCTION?

Humans, animals and plants rely on a safe, healthy supply of food and nutrients like nitrogen (N), phosphorus (P) and potassium (K) for proper growth and development. Fertilizer is the 'food' that plants – from corn and wheat to pumpkins and apples – need to produce a healthy and bountiful crop. All crops require nutrients in one form or another.

4 WHAT ARE THE TOP THREE FERTILIZER-CONSUMING COUNTRIES IN THE WORLD?

China, India and the United States, respectively.

5 WHAT HAS HAPPENED TO DOMESTIC NITROGEN PRODUCTION?

High natural gas prices have caused 25 U.S. ammonia plants to close permanently since fiscal year 1999, and several additional plants are currently idle. As a result, U.S ammonia production fell by 6.2 million tons of nitrogen or by over 42 percent since fiscal year 1999. Consequently, the U.S. fertilizer industry which typically supplied 85 percent of farmers' domestic nitrogen needs from U.S. based production during the 1990s, now relies on net nitrogen imports for half of new nitrogen supplies.

6 WHY HAVE CORN ACRES INCREASED SO DRAMATICALLY?

In 2006, 78.3 million acres of corn were planted in the United States. In 2007, corn acres planted rose to 92.9 million acres. The U.S. Department of Agriculture (USDA) predicts that 25 percent of that corn crop will be converted into ethanol in 2007. For the first time, corn used in ethanol is estimated to exceed the amount of corn the United States exports. At the same time, the U.S. livestock industry is concerned about rising feed prices and reduced profitability, which are resulting from a limited corn crop. Increased acreages of corn will have to be planted in the United States in upcoming years in order to meet the demands of the rapidly expanding renewable fuels industry.

7 HOW DO FERTILIZER PRICES COMPARE TO OTHER FARM INPUT COSTS?

While fertilizer prices are up, the price increases realized are only slightly above those observed for most other major farm inputs. Despite the substantial increase in global fertilizer demand, the significant impact of rising natural gas costs, and the current expansion in U.S. nutrient demand resulting primarily from the expansion in ethanol production, average fertilizer prices in June 2007 stood at 102 percent higher than the 1990-92 level, according to USDA data. In comparison, the prices of seed, farm machinery and wage rates were up 76-111 percent, while fuel costs increased 161 percent over the same period.

The Fertilizer Institute
Nourish, Replenish, Grow

820 First Street, N.E., Suite 430 | Washington, D.C. 20002 | TEL (202) 962-0490 | FAX (202) 962-0577 | www.tfi.org
TFI 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.

Illinois Fertilizer & Chemical Association
Supply • Service • Stewardship

1201 East Bell Street | P.O. Box 1326 | Bloomington, IL 61701 | TEL (309) 827-2774 | FAX (309) 827-2779 | www.ifca.org
THE ILLINOIS FERTILIZER & CHEMICAL ASSOCIATION REPRESENTS THE CROP PROTECTION, INPUT AND SUPPLY INDUSTRY.