

Testimony of

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Chairman and CEO, CF Industries Holdings, Inc.

Representing the Views of:

CF Industries Holdings Inc.
and
The Fertilizer Institute

Before the

Senate Committee on Energy and Natural Resources

Regarding

Natural Gas Supply and

Sale 181 Area

February 16, 2006

**Statement of Stephen R. Wilson
Chairman and Chief Executive Officer
CF Industries Holdings, Inc.
Submitted to
The United States Senate
Committee on Energy and Natural Resources
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CF Industries is pleased to have the opportunity to discuss the urgent situation facing the U.S. fertilizer industry. The volatility and level of U.S. natural gas prices, virtually unprecedented in the history of our country, resulted in the permanent closure of almost 40% of U.S. nitrogen fertilizer capacity between 1999 and 2005. In the current environment this situation threatens an efficient U.S. industry and the thousands of workers who support it.

It is important to state up front that, while my comments focus on the fertilizer industry, they actually address a broader issue - food security. An estimated 40 percent of U.S. crop production is directly attributed to the use of commercial fertilizers. Consequently, if high natural gas prices continue to result in the outsourcing of the U.S. fertilizer industry, we as a country are basically putting our food security in the hands of major fertilizer export countries such as Saudi Arabia, Russia, the Ukraine and Venezuela.

CF also is appearing today on behalf of the Fertilizer Institute (TFI). TFI represents fertilizer from the plants where it is produced to the plants where it is used—and all points in between. Producers, retailers, trading firms and equipment manufacturers, which comprise TFI's membership, are served by a full-time Washington, D.C., staff in various legislative, educational and technical areas as well as with information and public outreach programs. Both CF Industries and TFI are also members of the Agriculture Energy Alliance, a broad-based coalition of 100 farm organizations and agribusinesses severely impact by high natural gas prices.

The following summarizes the key points in this statement:

- 1. Natural gas is the raw material used in the production of nitrogen fertilizer, accounting for over 93 percent of the total cash cost of production.**
- 2. High and volatile natural gas prices have a serious impact on the nitrogen fertilizer industry.**

- 3. American fertilizer manufacturing creates high paying jobs.**
- 4. Loss of this strategic U.S. industry leaves American farmers vulnerable.**
- 5. Energy conservation and fuel efficiency are priorities at CF Industries manufacturing facilities.**
- 6. The Energy Policy Act of 2005 was helpful, but new natural gas supply is needed.**
- 7. Congress needs to continue to change energy policy to increase supply and decrease demand for natural gas. Opening up Sale 181 area for production is a direct, positive action to increase the nation's domestic natural gas supply.**

Background

CF Industries Holdings, Inc., headquartered in Long Grove, Illinois, is the holding company for the operations of CF Industries, Inc. We are a major producer and distributor of nitrogen and phosphate fertilizer products. We operate world-scale nitrogen fertilizer plants in Donaldsonville, Louisiana and Medicine Hat, Alberta, Canada; conduct phosphate mining and manufacturing operations in Central Florida; and distribute fertilizer products through a system of terminals, warehouses, and associated transportation equipment located primarily in the midwestern United States. We were an agricultural cooperative for 59 years until we became a New York Stock Exchange listed public company last August.

In Louisiana, we employ approximately 450 full-time and contract workers. This facility contributes \$48 million a year in wages and \$12 million in sales and property taxes to the local community. The Company as well as the employees of this facility have been an integral part of the surrounding communities since 1966. During a normal production year, the facility converts approximately 78 million MMBtu of natural gas into 2.27 million tons of ammonia, 1.75 million tons of granular urea, and 2.35 million tons of UAN solutions. At capacity, the Complex has a daily requirement of over 200,000 MMBtu of natural gas as a feedstock and fuel, which at \$8 per MMBtu represents a daily natural gas bill of \$1.6 million. CF accounts for almost one-fourth of the nitrogen fertilizers applied in the United States and nearly one-third of the nitrogen fertilizers applied in the primary growing areas of the Midwest.

We also mine and manufacture phosphate fertilizers in Hardee County and Plant City, Florida and operate a distribution facility at the Port of Tampa. The Company has had operations in Florida since 1969. At Hardee, we employ approximately 200 full-time and contract workers.

This facility accounts for \$18 million per year in wages and \$8 million in severance, sales and property taxes. During a normal production year, the mine produces over 3.6 million tons of phosphate rock. At Plant City, we currently employ approximately 500 full-time and contract workers. This facility accounts for \$46 million a year in wages and \$2 million in sales and property taxes. During a normal production year, the facility produces 2.5 million tons of sulfuric acid, 1.0 million tons of phosphoric acid, and 2.0 million tons of diammonium phosphate (DAP) and monoammonium phosphate (MAP). The Complex consumes over 400 thousand tons of ammonia annually. In Tampa, CF currently employs 35 full-time and contract workers. This facility accounts for \$3 million a year in wages and \$0.7 million in wharfage and property taxes. During calendar year 2005, the facility handled over 1.1 million tons of dry fertilizer product and .600 thousand tons of ammonia. We account for 14% of the phosphate fertilizer applied in the U.S. and approximately 20 percent of the phosphate applied in the Midwest. Additionally, we are an exporter of phosphate fertilizer products.

Natural Gas is the Raw Material Used in the Production of Nitrogen Fertilizer

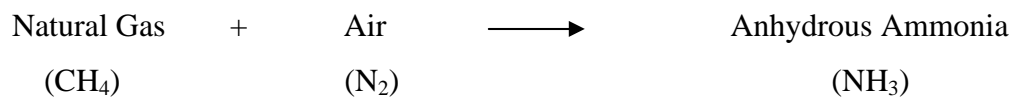
My purposes today are first to discuss the serious impact that the unprecedented high level and volatility of natural gas prices has had and is having on both the fertilizer industry and the American farmer, and second to discuss steps that Congress can take to alleviate the current situation. While I will address the latter in more detail later in my testimony, let me simply state that, as a country, we need to do everything possible to expand our supply of natural gas as quickly as possible.

To fully understand why high and volatile natural gas prices create such fundamental difficulties for the nitrogen fertilizer industry, a basic understanding of our products and manufacturing process is necessary.

Natural gas is the primary feedstock in the production of virtually all commercial nitrogen fertilizers manufactured in the United States (Figure 1). It is important to be very clear about this: natural gas is not simply an energy source for us; it is the raw material from which nitrogen fertilizers are made. This distinguishes our industry from most other large consumers of natural

gas in the United States. For example, the steel industry uses natural gas as a heat source, but can shift to other energy sources such as fuel oil.

Our production process involves a catalytic reaction between elemental nitrogen derived from the air and hydrogen derived from natural gas. The primary product from this reaction is anhydrous ammonia (NH₃). Anhydrous ammonia is used directly as a commercial fertilizer or as the basic building block for producing virtually all other forms of nitrogen fertilizers such as urea, ammonium nitrate and nitrogen solutions, as well as in the production of DAP and MAP. Natural gas is also used as an energy source to generate heat when upgrading anhydrous ammonia to urea.



Because natural gas is the source of the hydrogen used in producing nitrogen fertilizers, it is by far the primary cost component. Today, in the case of ammonia, natural gas accounts for 93 percent of the total cash cost of production (Figure 2).

High and Volatile Natural Gas Prices Have a Serious Impact on the Nitrogen Fertilizer Industry

Given this heavy reliance on natural gas, high and volatile natural gas prices have a serious impact on the domestic fertilizer industry. As you are well aware, natural gas prices began to increase from historical levels during calendar year 2000. Although prices moderated in 2001, they have been climbing ever since and in recent months spiked to over \$15 per MMBtu (Figure 3). To put this into perspective, the average natural gas price during all of the 1990s was just over \$2.00 per MMBtu. This climb in natural gas prices has forced U.S. fertilizer production costs to unprecedented levels. For example, ammonia cash production costs have jumped from a historical average of approximately \$100 per ton to an average over the last six months of just under \$400 per ton and a high in December of \$495 per ton.

Not surprisingly, over this period of high prices and intense volatility, the industry began to shut down production in response (Figure 4). Nearly 40 percent of the industry's nitrogen capacity permanently closed between 1999 and the current run-up in natural gas prices in 2005. Most of the remaining facilities have had to run at less than full capacity in recent months. During the last half of calendar year 2005, U.S. ammonia production totaled 4.9 million tons compared to 6.0 million tons for the same period in 2004 and average July-December production volume during the 1990s of 8.7 million tons.

While U.S. production was already at low levels, the situation was exacerbated by Hurricanes Katrina and Rita. Immediately after Rita hit the Gulf coast, natural gas prices spiked to over \$15 per MMBtu. The spike in gas prices combined with shortages of natural gas resulted in U.S. nitrogen fertilizer production dropping to its lowest level in over 30 years (Figure 5).

The sharp rise in natural gas prices and the resulting curtailment of U.S. fertilizer production also has had a dramatic impact on fertilizer prices throughout the marketing chain and, in particular, at the farm level. According to U.S. Department of Agriculture data, the U.S. average spring price to farmers for ammonia climbed from \$250 per ton in 2002, to approximately \$375 per ton in 2003 and 2004, to \$416 per ton in 2005. Similarly, urea prices from 2002 to 2005 climbed from \$191 per ton to \$332 per ton and UAN solutions prices from \$148 per ton to \$243 per ton. Although farm-level data is not yet available for 2006, average prices this spring will likely be even higher (Figure 6).

While natural gas prices have had a dramatic impact on nitrogen fertilizer cost, they have also had a significant impact on the cost of phosphate fertilizers, DAP and MAP, that we produce in Central Florida. DAP and MAP are produced using ammonia and contain 18 percent and 11 percent nitrogen, respectively. As a result of the sharp increase in ammonia cost, the cost of producing DAP and MAP and the cost of these products at the farm level have also risen significantly. For example, DAP production cost has increased from approximately \$125 per ton in 2002 to just under \$200 per ton in December 2005. Similarly, farm level prices for DAP during the spring season have jumped from \$227 per ton in 2002 to \$303 per ton in the spring of 2005.

American Fertilizer Manufacturing Creates High Paying Jobs

Clearly, a scenario of sustained high natural gas prices could lead to more U.S. fertilizer plant closures and abandonment of infrastructure in rural communities. This would result in the further loss of high-paying, stable jobs in host communities. For example, the chemical industry in Louisiana (which depends heavily on natural gas) provides nearly 30,000 jobs at an average annual salary of nearly \$55,000 and creates an additional 6.8 jobs for every direct job in the chemical industry. These companies also bring \$800 million to the state treasury and local governments through household earnings generated directly and indirectly by the chemical industry.

In Florida, over 6,000 employees are directly employed by the phosphate industry, with an average total compensation of \$72,000. The industry also supports an additional 5 jobs for each phosphate job. The Port of Tampa attributed more than 41,000 jobs and \$5.9 billion in total economic benefits to phosphate and related chemical industries in 2001. The industry also paid over \$85 million in severance, property, sales and other taxes and fees in 2003.

Loss of This Strategic Industry Leaves American Farmers Vulnerable

However, the most significant impact would be on the American farmer. The continued loss of production from the domestic nitrogen industry would force farmers to rely on a highly uncertain and highly volatile world market with no assurance that they will be able to obtain enough product to meet their full demand. This is particularly important when considering the importance of nitrogen to farmers. For example, according to the University of Illinois, 30-50 percent of corn yields can be directly attributed to nitrogen fertilizer.

Since the 1940s, farm demand for nitrogen fertilizers has always been supported by a large, efficient domestic fertilizer industry. For example, during the 1990s approximately 70-75% of the nitrogen fertilizers consumed by American farmers was supplied by domestic production. Since most of the nitrogen fertilizer in the U.S. is consumed within very short time frames in the fall and spring application seasons, an extensive distribution and storage infrastructure has developed to move product from the manufacturing plants to the major fertilizer consuming

regions in order to bridge this seasonal gap. This system of production facilities and downstream infrastructure was designed specifically to ensure that American farmers would have adequate supplies of fertilizers at the right time and at the right place.

On the other hand, offshore supply was largely constructed to compete opportunistically in the world market. In other words, offshore exporters have little, if any, commitment or infrastructure to serve the U.S. market and generally sell wherever they can get the highest price netted back to these plants. That means that supply can and would be shifted from U.S. customers to other global customers based on relative price movement.

Imports also are subject to changes in world economic conditions, fluctuating exchange rates and political and/or policy changes in other countries. This point is particularly important when looking at the list of major nitrogen fertilizer exporting countries. These include Russia, Ukraine, Saudi Arabia, Qatar, Kuwait, Oman, the United Arab Emirates, Indonesia and Venezuela.

Higher import volume does not mean lower price. This can be demonstrated by looking at import volumes versus product prices. Since 1999 when U.S. natural gas prices first began to escalate, nitrogen imports have almost doubled from 6.3 million tons to a record volume last year of 11.3 million tons, with imports now accounting for just over half of the U.S. total nitrogen supply (Figure 7). During this same time period, average farm level prices have not gone down but have escalated at a record pace. Ammonia, urea and UAN solutions prices have climbed by 89 percent, 87 percent and 83 percent, respectively, since 1999 (Figure 8). This has forced a typical farmer's total fertilizer bill to increase by more than 50 percent during the same time period.

Energy Conservation, Fuel Efficiency and Other Investments Are Top Priorities at CF Industries Manufacturing Facilities

Our company has focused for many years on improving the conversion of natural gas into fertilizer and on energy efficiency in general. We have a very strong economic interest in doing

so. CF has completed several energy efficiency projects and continues to look for opportunities to conserve energy at all of our facilities.

The preponderance of natural gas we purchase is used as a chemical feedstock, rather than as an “energy” source at our Donaldsonville, Louisiana Nitrogen Complex. Our production process uses that feedstock gas as efficiently as possible. Each of our four Donaldsonville ammonia plants was designed to produce 1,000 short tons per day of anhydrous ammonia at an average energy consumption of 37.8 MMBtu per ton. As a result of investing over \$100 million in efficiency improvement and debottlenecking projects in Louisiana, production capacity has been increased by 62% above the original design, while energy consumption has decreased by 13% per ton. We are investigating additional energy improvement projects that could reduce energy consumption by another 6% per ton from current levels.

Despite these steps and the fact that our nitrogen facilities are first class globally competitive assets, we cannot conserve our way out of this situation. It is the price of natural gas, not the lack of technology, that has created this serious situation. CF spent about \$1 billion in the 1990’s improving and expanding our operations. Unfortunately, like other U.S. energy-intensive manufacturers, we must now look offshore for future projects.

In Florida the company spent \$28 million on efficiency improvements. At our Plant City Complex, CF installed a cogeneration unit to generate electricity from waste heat (steam). The unit eliminated a monthly power bill of approximately \$1.5 million at today’s energy costs and converted the facility into a net exporter of electricity. CF also installed air preheaters to utilize high pressure steam to heat dryer air and eliminate the use of natural gas to heat air, resulting in a savings of \$2 million per year at today’s natural gas cost. Heat exchangers were installed at Plant City to utilize waste heat (hot water) from scrubbing systems to vaporize ammonia in lieu of steam. The savings when converted to electricity are worth approximately \$1 million per year at today’s energy costs.

CF Industries recently was selected to participate in April 2006 in the Department of Energy’s “Save Energy Now” program in which DOE sends experts to the nation's most energy-intensive

manufacturing facilities to conduct energy savings assessments. The purpose of the assessments is to identify immediate opportunities to save energy and money, primarily by focusing on steam and process heating systems.

The Energy Policy Act of 2005 Was Helpful but New Natural Gas Supply Is Needed

H.R. 6, the *Energy Policy Act of 2005*, was an important first step in moving our country towards a comprehensive energy policy. The energy bill facilitates the diversification of energy sources used to generate electricity, including encouraging development of alternative energy sources, and promotes the efficient use of energy in our homes, businesses and government facilities. These provisions should alleviate some of the demand pressure on natural gas.

The energy bill also has specific provisions to increase natural gas supplies including:

- creating incentives for natural gas production from deepwater wells and from ultra-deep wells in shallow water;
- allowing for more expedited leasing and permitting of production from federal lands and improved management of federal oil and gas leasing programs by all federal agencies;
- clarifying liquefied natural gas (LNG) terminal siting and safety responsibilities among federal and state agencies; and
- facilitating the expansion of natural gas delivery infrastructure.

Despite these initiatives, high natural gas prices remain the most serious threat to the fertilizer sector and to farmers in general, since the energy shocks of the 1970s. We need an increase in supply and a resulting reduction in price to ensure an adequate and stable domestic supply of nitrogen fertilizer for our farmers into the future.

Congress Should Continue to Change Energy Policy to Increase Supply and Decrease Demand for Natural Gas

So what can Congress do now? Put simply, Congress should continue the good work begun in the *Energy Policy Act of 2005* and take further measures to reduce gas demand and increase gas supply. With regard to the issue of demand, Congress should continue to encourage the electric power industry to explore and invest in alternative technologies for power generation, including

“clean coal” and next-generation nuclear plants. These technologies offer the best hope for limiting the increasing natural gas demand of the electric power sector.

With regard to the issue of supply, Congress should also take action to open up the Sale 181 area. This would be a direct, positive action to increase the nation’s domestic natural gas supply to help relieve the high prices now pressuring American consumers. Allowing exploration and development in the Sale 181 area is an essential commitment that our nation must make.

Back when the full Sale 181 area was analyzed in the 1990’s, it was determined that it had the potential to produce 7.8 TCF of natural gas and 1.9 billion barrels of oil. However, these numbers may be much higher today. They are based on the 1995 resource estimates and oil and gas prices that were much lower than today, and they did not include the data now available from the leasing that has gone on in a quarter of the original area. These natural gas resources belong to all Americans and should be developed for the benefit of the entire nation. Responsible development of natural gas resources represents the most significant policy option before Congress to address current and future natural gas needs in this country. We believe that opening the Sale 181 area would send a strong signal to natural gas markets and could increase the elasticity in North American natural gas markets.

Conclusion

For those of us in the fertilizer industry, “the future is now.” We encourage this Committee, the Congress, and the Administration to continue to look aggressively for ways to expedite those projects that will increase natural gas supplies and help get supplies to the fertilizer industry in the near term.

CF Industries supports the expedited opening of the Sale 181 area. We believe that access to these reserves can be of substantial benefit in meeting the nation’s energy needs without compromising other legitimate interests, including environmental protection. The Sale 181 area should be opened to environmentally responsible production.

Congress also should continue its efforts to support the construction of new LNG terminal facilities and the proposed Alaska Natural Gas Pipeline.

In summary, it is imperative that adequate supplies of natural gas be developed for the benefit of the American farmer given that almost one-third of U.S. crop production is derived from nitrogen fertilizer.

Thank you for the opportunity to discuss these issues with you today. We look forward to working with you over the next few months, and I would be pleased to answer any questions you may have on the fertilizer industry and natural gas pricing issues.

Figure 1

Nitrogen Fertilizer Production

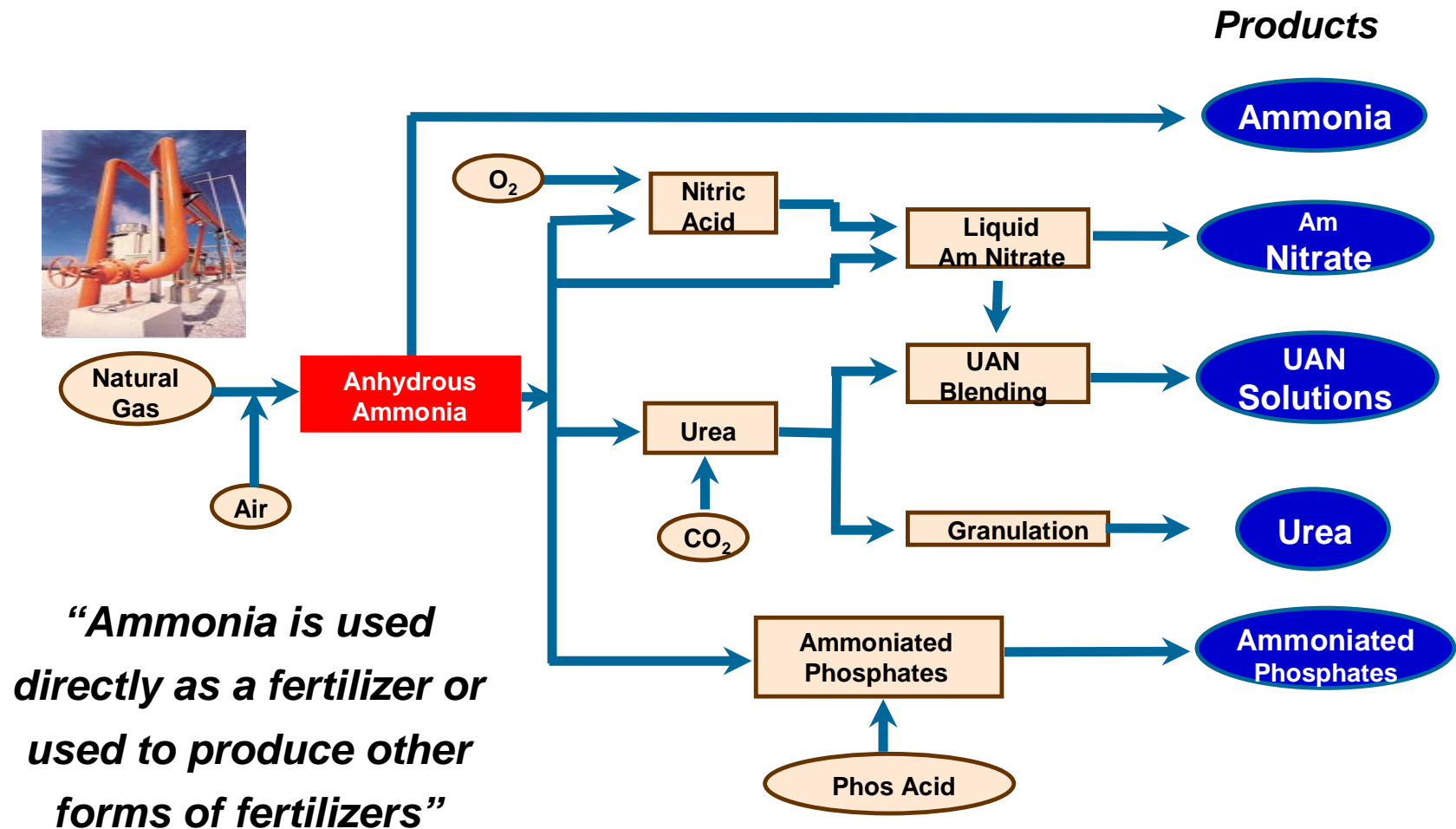
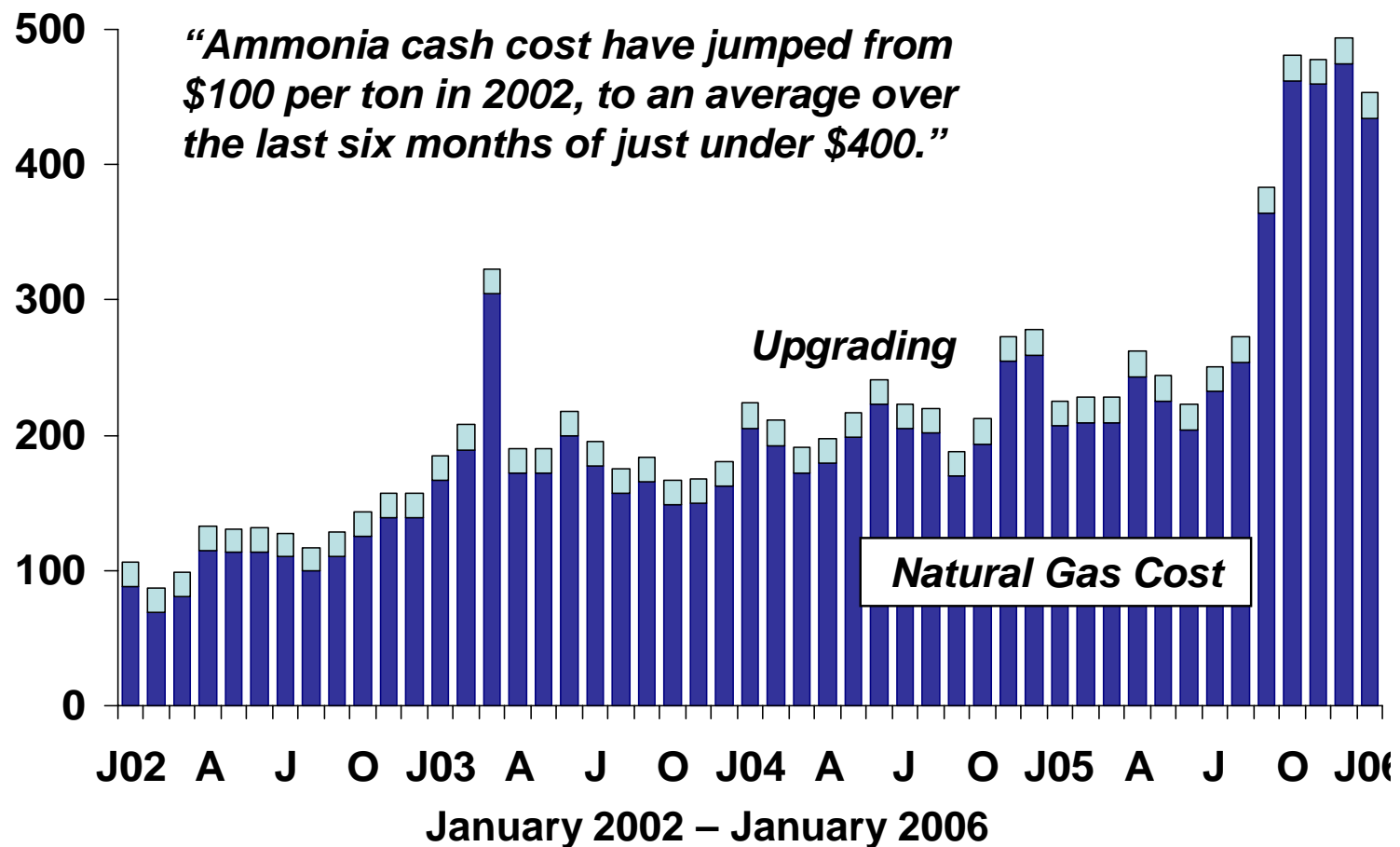


Figure 2

U.S. Ammonia Production Cost*

\$ Per Ton – Typical Gulf Producer

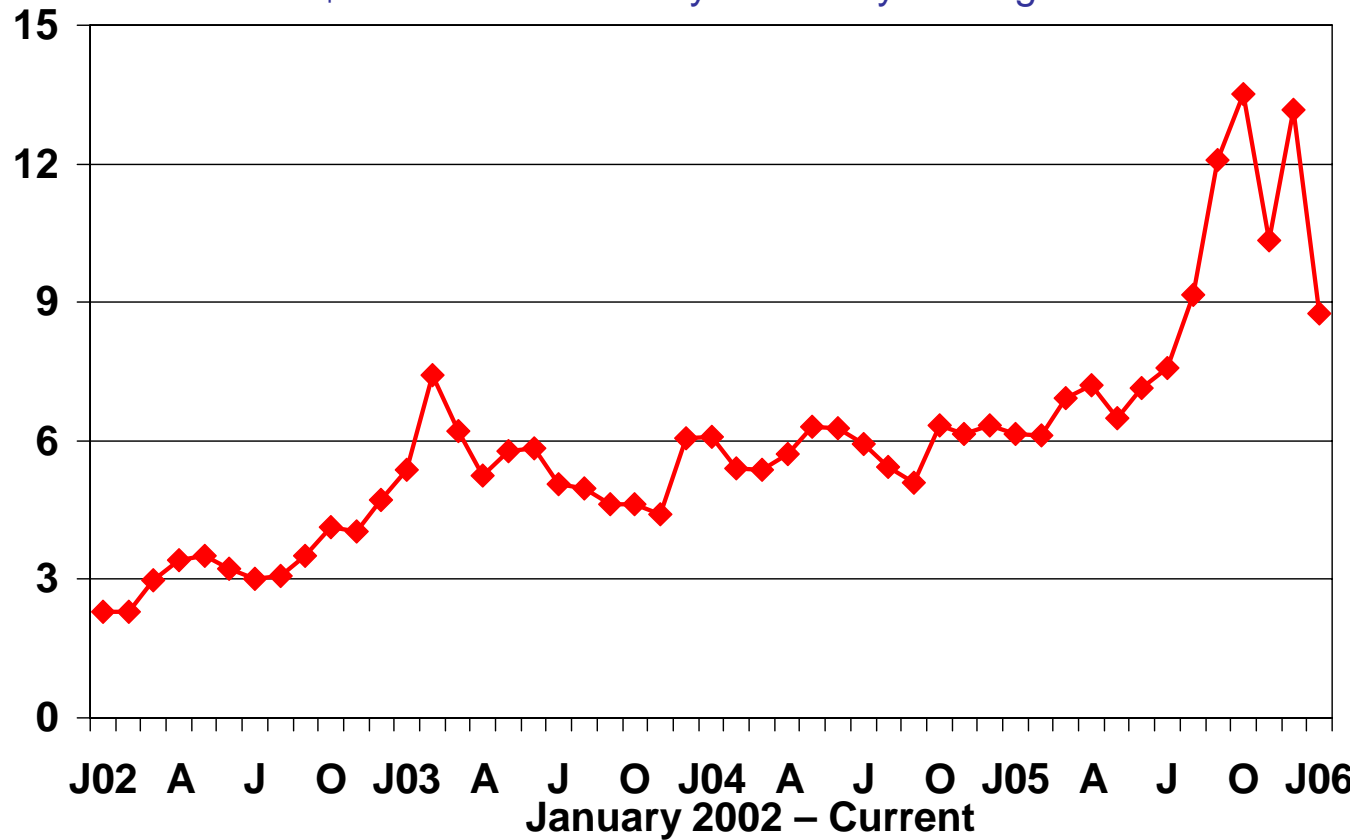


* Cost based on FERC monthly prices

Figure 3

Average Monthly U.S. Natural Gas Prices

\$ Per MMBtu – Henry Hub Daily Average



Source: Gas Daily

Figure 4

U.S. Nitrogen Production Capacity Change between 1999 and 2005

	<u>Ammonia</u>	<u>Urea</u> 000 Tons	<u>UAN 32%</u>
Capacity Beginning FY1999	19,946	10,277	11,701
Permanent Closures	8,405	3,671	2,475
Additions to Capacity			
New Capacity	640	190	525
Expansions/Debottlenecks	<u>241</u>	<u>109</u>	<u>101</u>
Total	881	299	626
Net Change	<u>-7,524</u>	<u>-3,372</u>	<u>-1,849</u>
Total	12,422	6,905	9,852
% Reduction in Capacity	38%	33%	16%

Source: Fertilizer Publications

Figure 5

U.S. Quarterly Ammonia Production

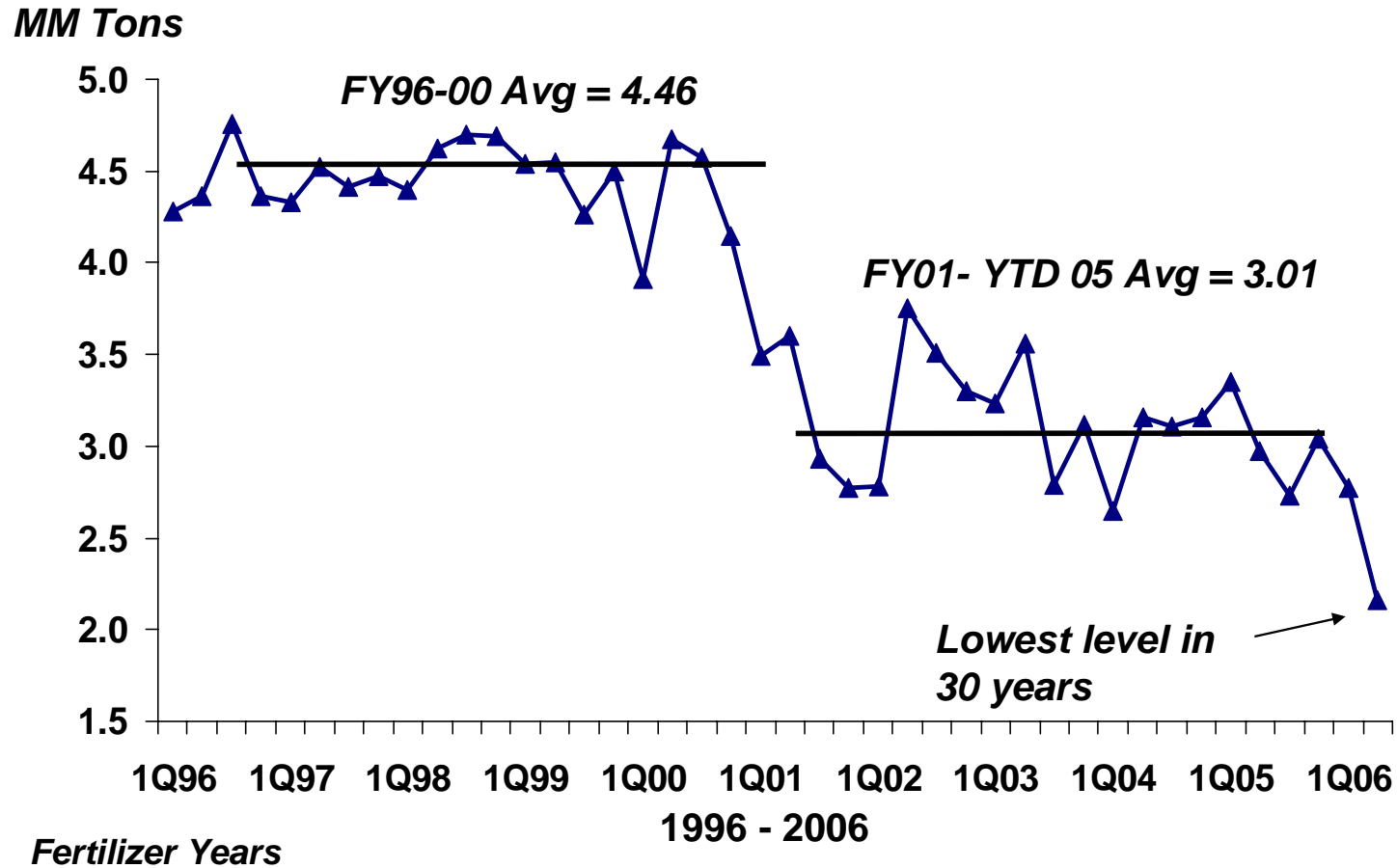
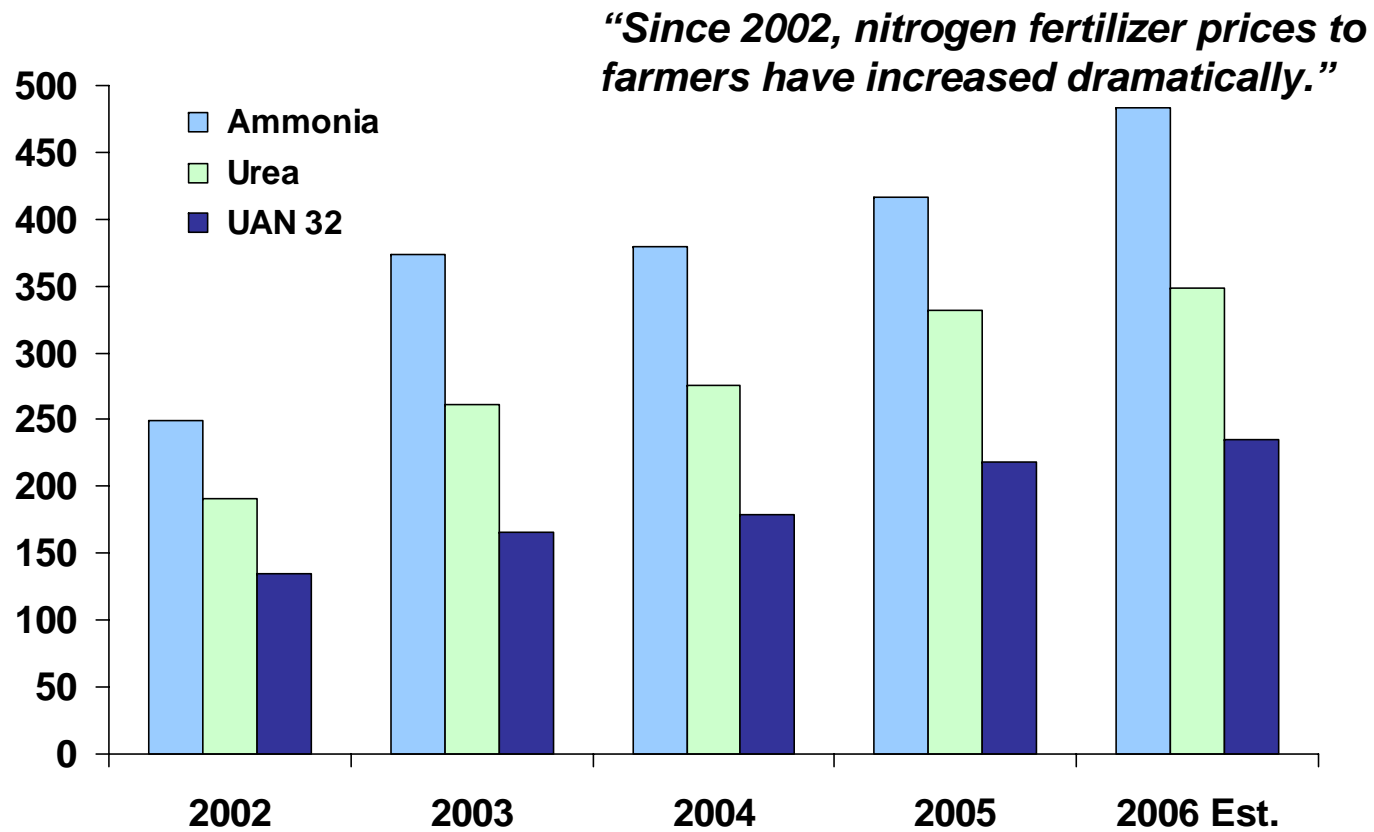


Figure 6

U.S. Farm Level Fertilizer Prices

\$ Per Short Ton



Source: USDA, Doane Ag Services

Figure 7

U.S. Nitrogen Supply

Million Tons N

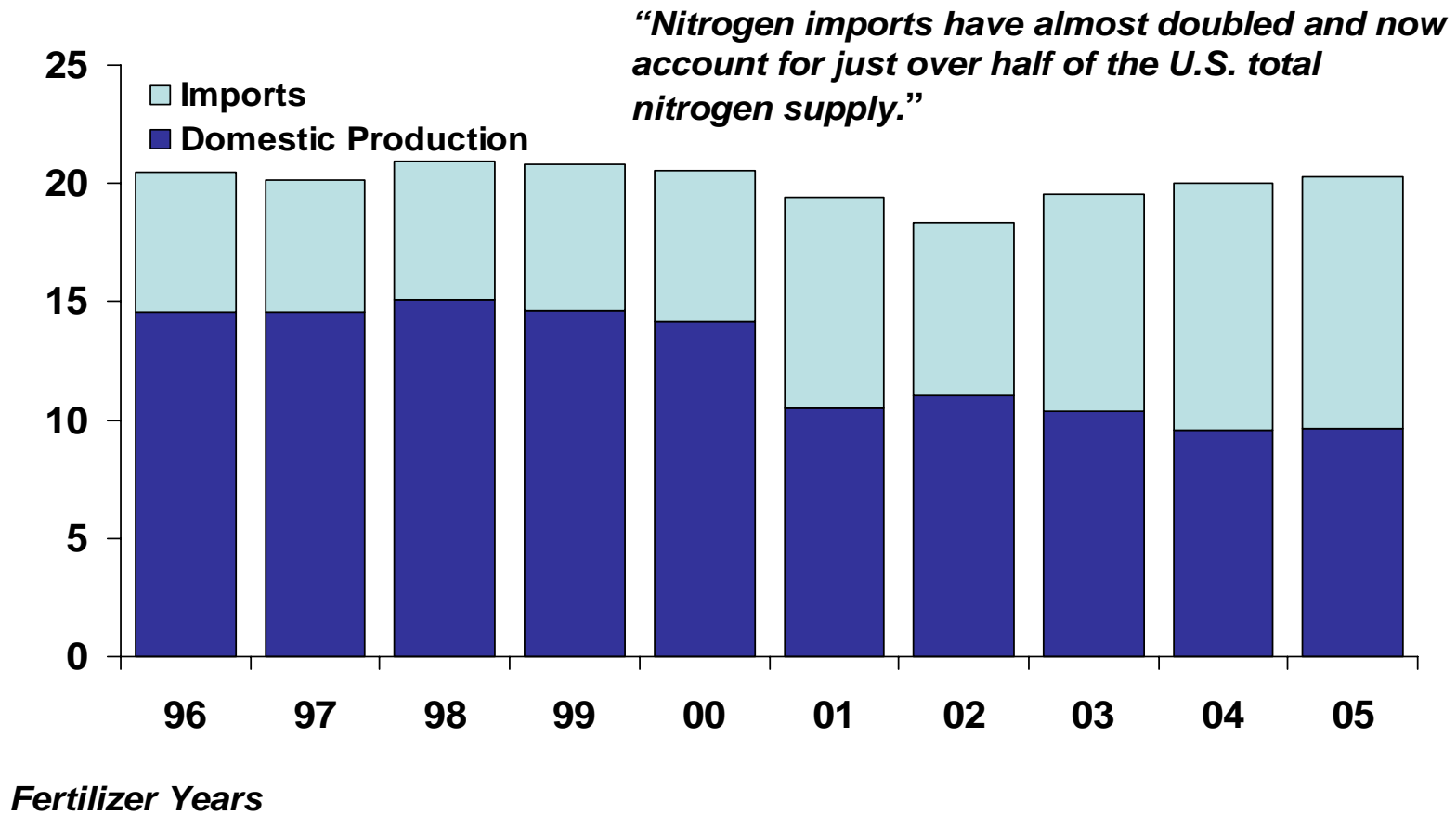
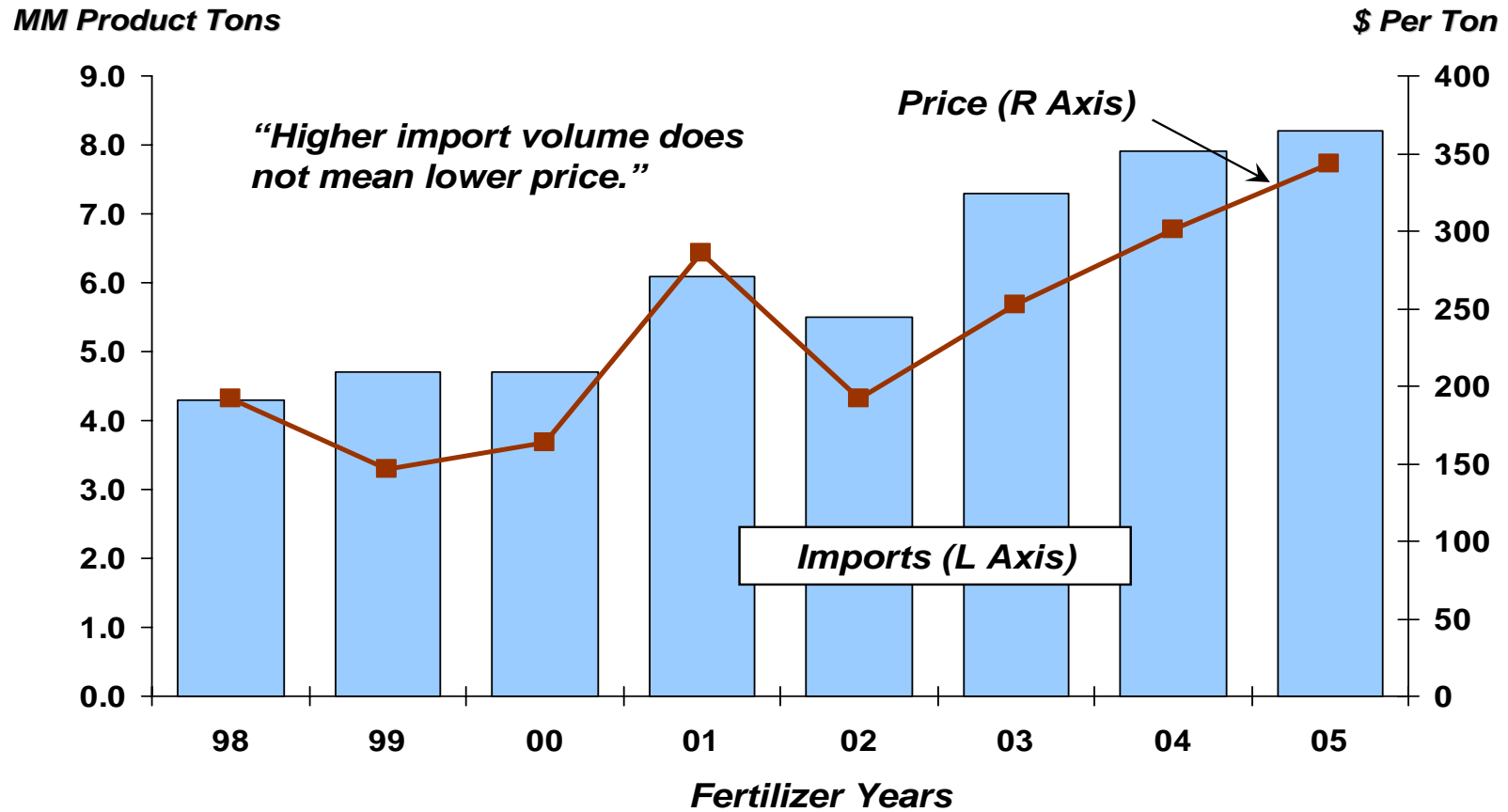


Figure 8

U.S. Ammonia Imports vs. Midwest Dealer Price



Source: USDOC, Green Markets



Agriculture Energy Alliance

Representing agriculture as a producer and consumer of energy

Agribusiness Association of Iowa
Agribusiness Council of Indiana
Agricultural Council of California
Agricultural Retailers Assn.
Agrilience, LLC
Agrium Inc.
Alabama Crop Management Assn.
American Farm Bureau Federation
American Plant Food Corporation
American Soybean Assn.
Arkansas Plant Food Assn.
Ben-Trei Ltd.
Brandt Consolidated
CF Industries
CHS Inc.
California League of Food Processors
Chemical Industry Council of Illinois
CoBank (CO)
Colorado Grain & Feed Assn.
Crop Production Services
CropLife America
D.B. Western, Inc.—Texas
Delaware Maryland Agribusiness Assn.
Diamond of California
Far West Agribusiness Assn. (WA)
Florida Fertilizer & Agrichemical Assn.
Georgia Agribusiness Council, Inc.
Georgia Feed & Grain Assn., Inc.
GROWMARK, Inc.
Hartung Brothers, Inc.
Hawaiian Alliance for Responsible
Technology & Science
Helena Chemical Company
Illinois Fertilizer & Chemical Assn.
Indiana Grain & Feed Association
Indiana Plant Food & Ag Chemicals Assn.
Intermountain Farmers Assn.
International Chemical Corporation
International Commodities Export Corp.
International Raw Materials Ltd.
Iowa Institute for Cooperatives
JR Simplot Company
Jim Hicks & Company
Johnston Seed Company
Kansas Agribusiness Retailers Assn.

Kansas Grain and Feed Assn.
Land O' Lakes, Inc.
Louisiana Ammonia Producers
MFA Incorporated
Mayo Fertilizer Inc.
Michigan Agri-Business Assn.
Minnesota Agri-Growth Council
Minnesota Crop Production Retailers
Missouri Ag Industries Council, Inc.
Monsanto Company
Montana Agricultural Business Assn.
National Association of Wheat Growers
National Barley Growers Assn.
National Chicken Council
National Corn Growers Assn.
National Council of Farmer Cooperatives
National Grange
National Renderers Association, Inc.
National Sorghum Producers
National Sunflower Assn.
National Turkey Federation
Nebraska Agri-Business Assn.
North Dakota Agricultural Assn.
Northern Ag Suppliers, Inc.
Oklahoma Ag Retailers
Oregon Wheat Growers League
Plant Food Association of North
Carolina, Inc.
PotashCorp
Rocky Mountain Agri-Business Assn.
Society of American Florists
South Carolina Fertilizer and
Agrichemical Assn.
South Dakota Agri-Business Assn.
Southern Crop Production Assn. (GA)
Southern States Cooperative, Inc.
Tennessee Agricultural Production Assn.
Tennessee Farmers Cooperative
Terra Industries
Texas Ag Industries Assn.
Texas Agricultural Cooperative Council
The Andersons, Inc.
The Fertilizer Institute
The McGregor Company (WA)
The Mosaic Company

**3-D Fertilizer
U.S. Canola Assn.
USA Rice Federation
United Suppliers, Inc.
Virginia Crop Production Assn.
Virginia Poultry Federation, Inc.
W.B. Johnston Grain Company
Washington State Council of Farmer
Cooperatives
West Central Inc.
Western Peanut Growers Association (TX)
Western Plant Health Association (CA)
Wheeler Bros. Grain and Fertilizer Co.
Willard Agri-Service of Frederick, Inc. (MD)
Wisconsin Fertilizer and Chemical Assn.**

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