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***Impact of High Natural  
Gas Prices on the U.S.  
Nitrogen Industry***

**December 13, 2005**

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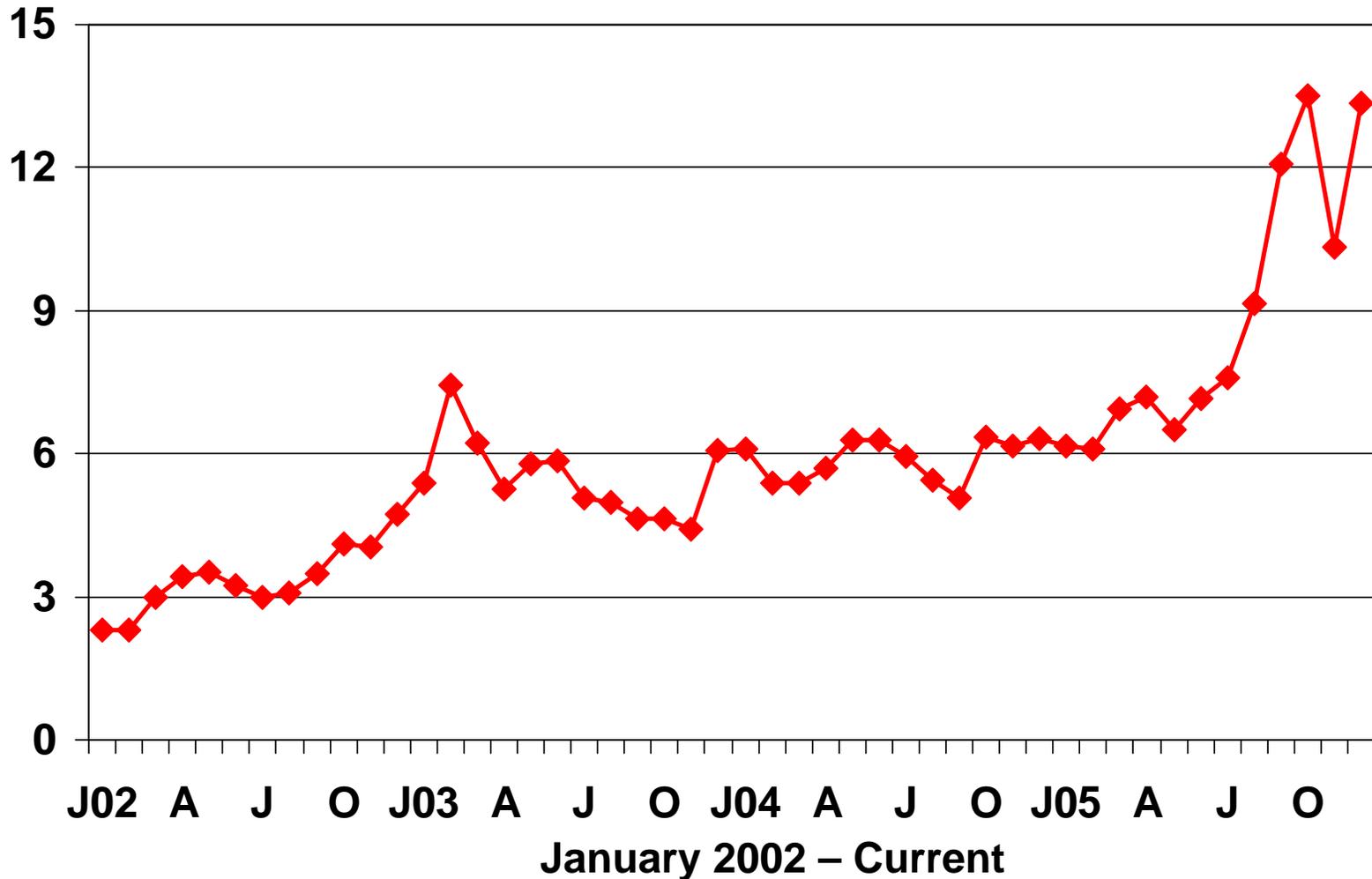
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# ***U.S. Nitrogen Industry Fact Sheet***

- ◆ **Natural gas is the primary feedstock used in the production of nitrogen fertilizers.**
  - ◆ **The price of natural gas has risen from an average of approximately \$2.50 per MMBtu during the late 1990s to a current price of over \$13.**
  - ◆ **The high cost of natural gas has put U.S. nitrogen producers at a competitive disadvantage.**
  - ◆ **Since 1999, almost 40% of the U.S. nitrogen fertilizer capacity has been forced to permanently close.**
  - ◆ **With the reduction in capacity, imports now account for over half of total U.S. nitrogen supply.**
  - ◆ **The recent run-up in natural gas prices has forced down U.S. nitrogen production to its lowest level in over 20 years.**
  - ◆ **The high cost of natural gas combined with the reduction in U.S. production, has resulted in a dramatic increase in the cost of nitrogen fertilizers to U.S. farmers.**
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# Average Monthly U.S. Natural Gas Prices

\$ Per MMBtu – Henry Hub Daily Average

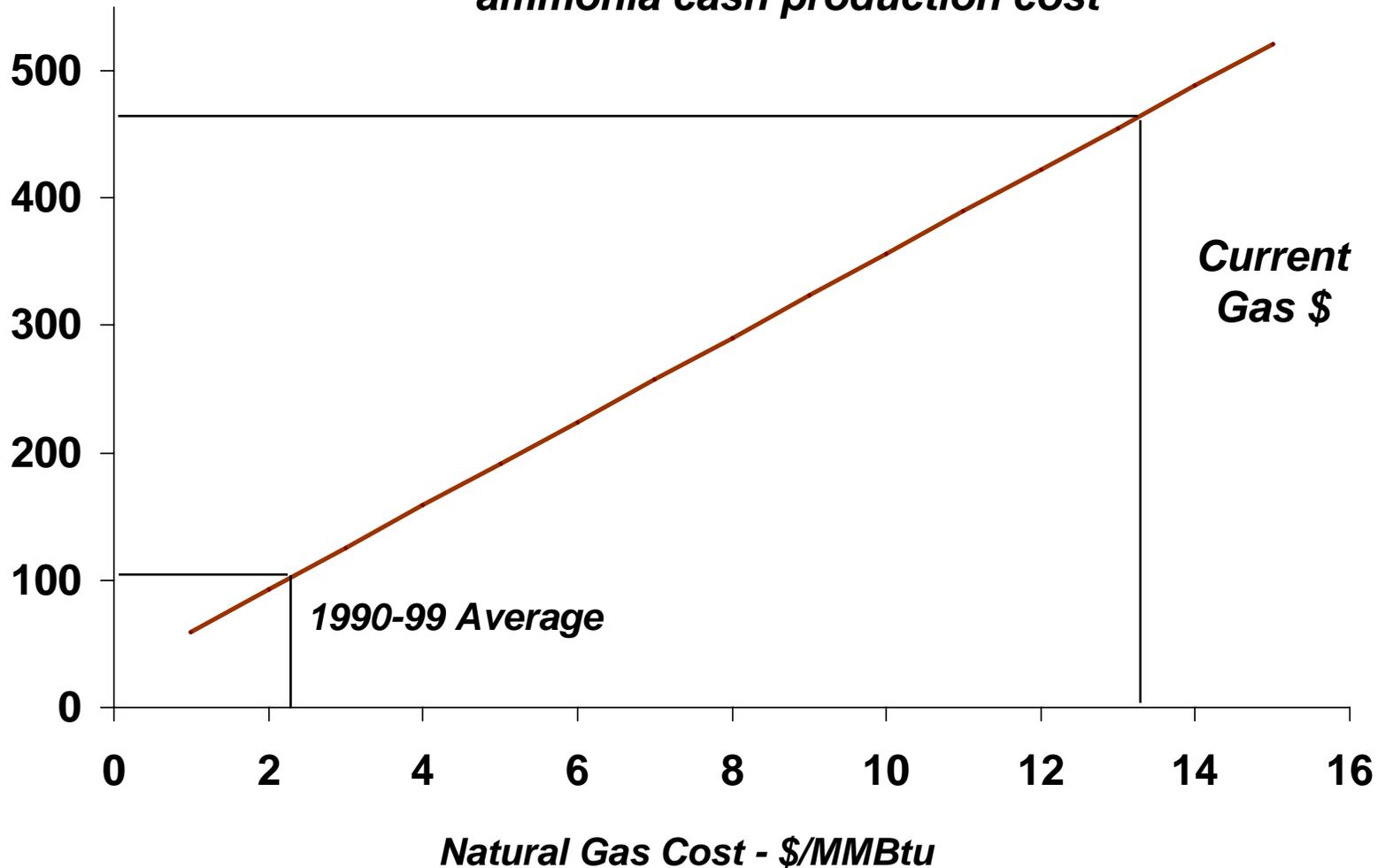


Source: Gas Daily

# Ammonia Cash Cost vs Natural Gas Cost

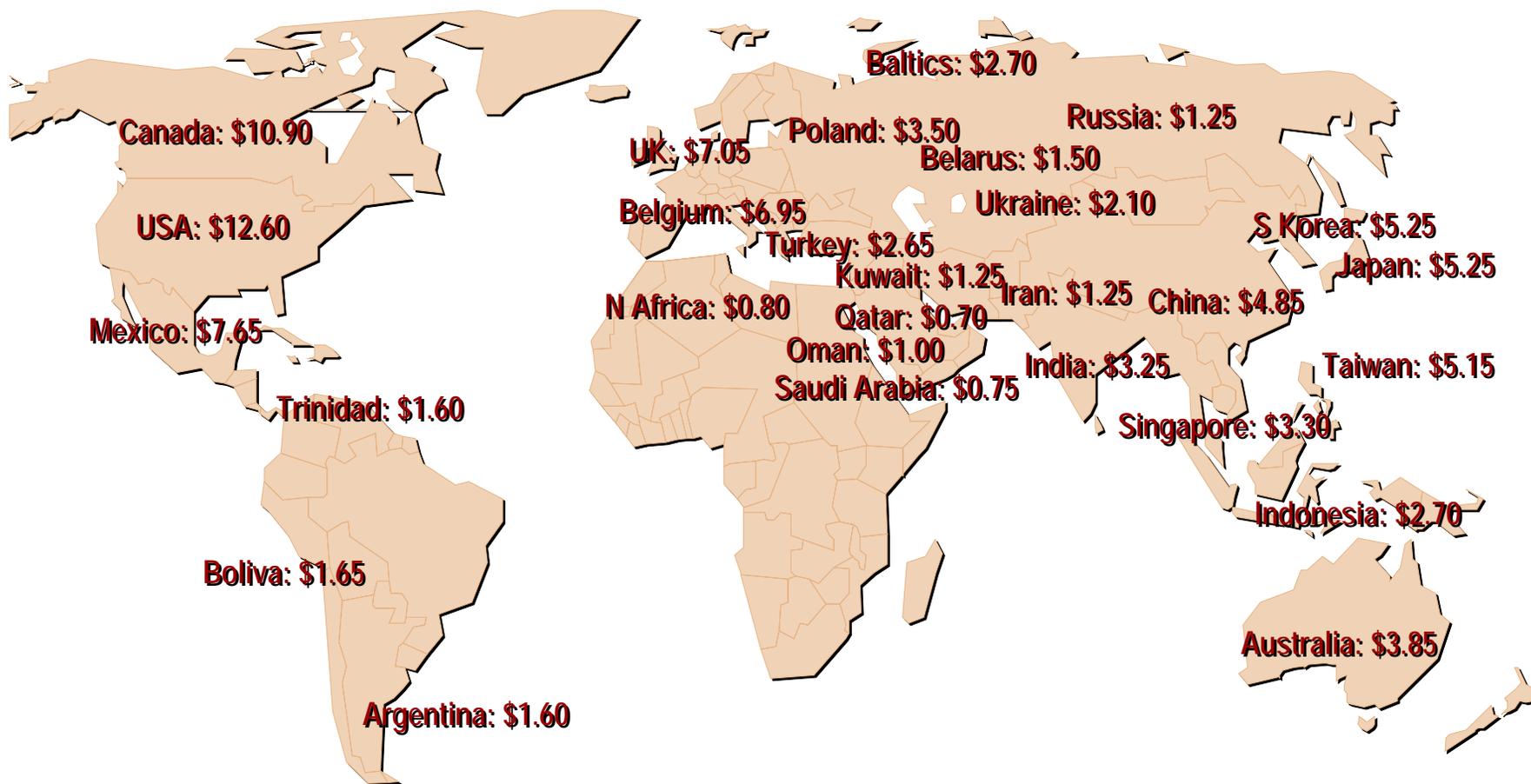
\$ Per Ton

*“Natural Gas now accounts for 95% of U.S. ammonia cash production cost”*



# Natural Gas Costs Around the World

(\$ US/MMBTU)



Updated mid-September 2005

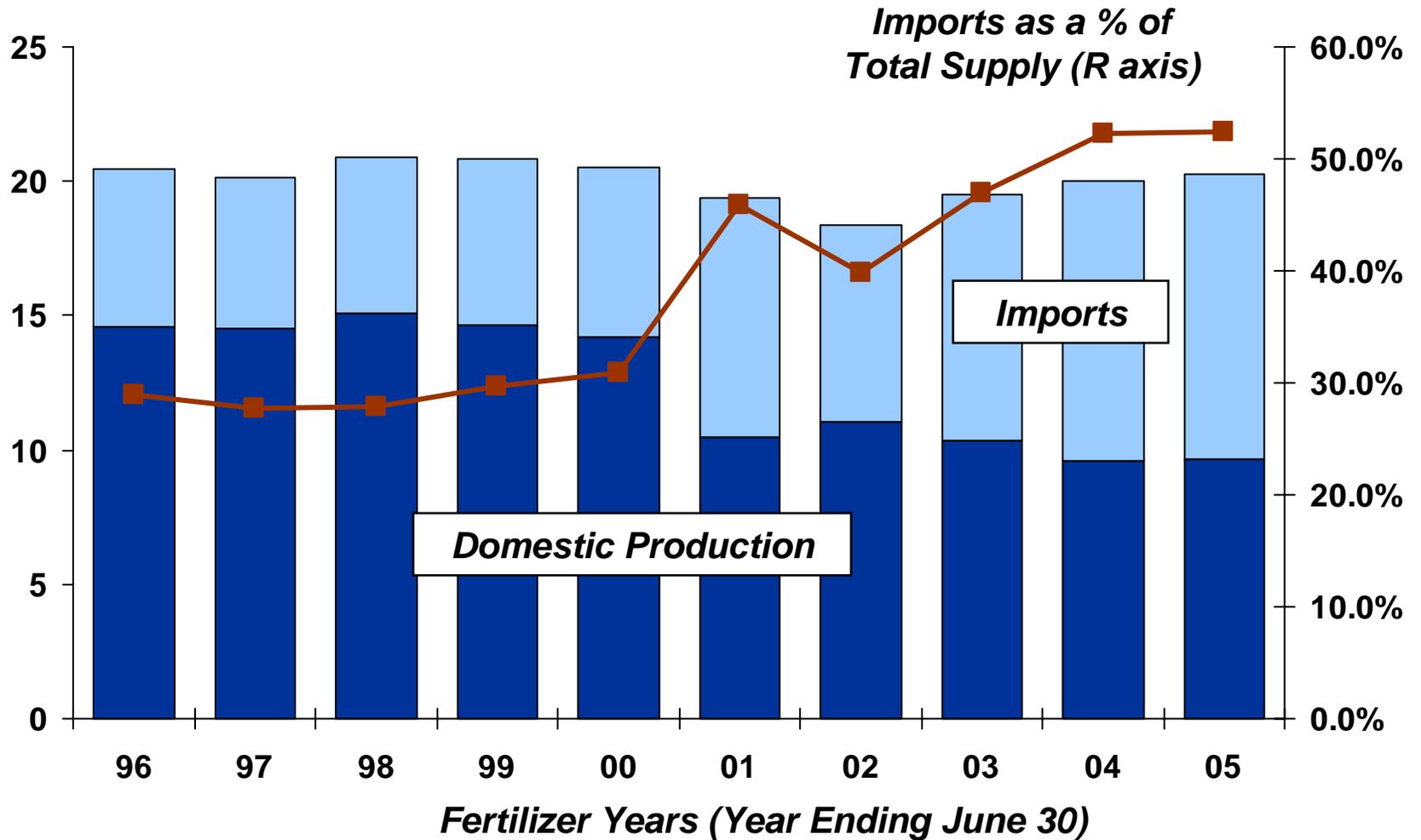
Source: American Chemistry Council

# ***U.S. Nitrogen Production Capacity Change Since 1999***

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

# U.S. Nitrogen Supply

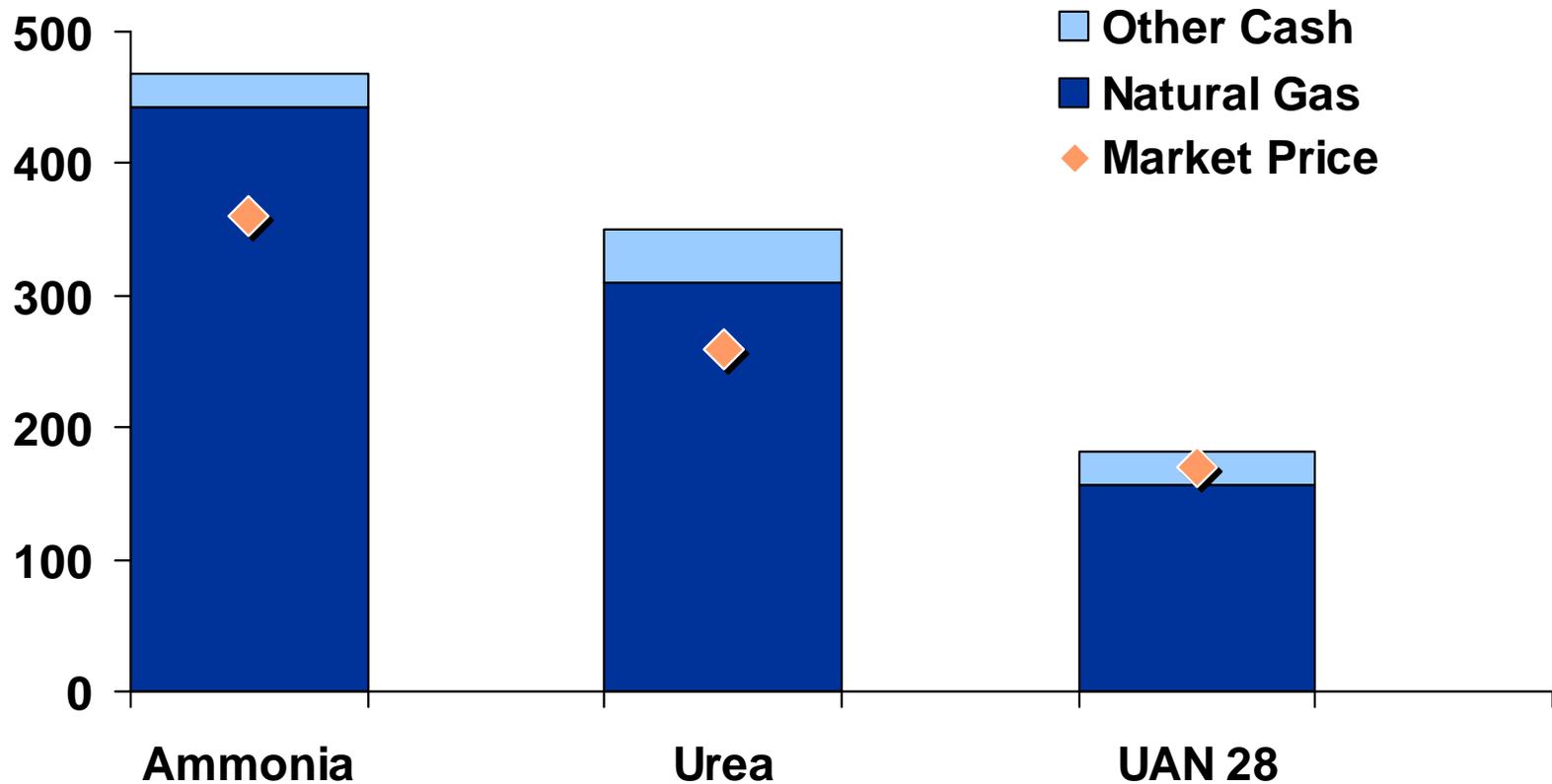
Million Tons N



Source: US Dept of Commerce, TFI

# Cash Cost\* vs Current Market Price

\$ Per Ton - Typical Gulf Producer

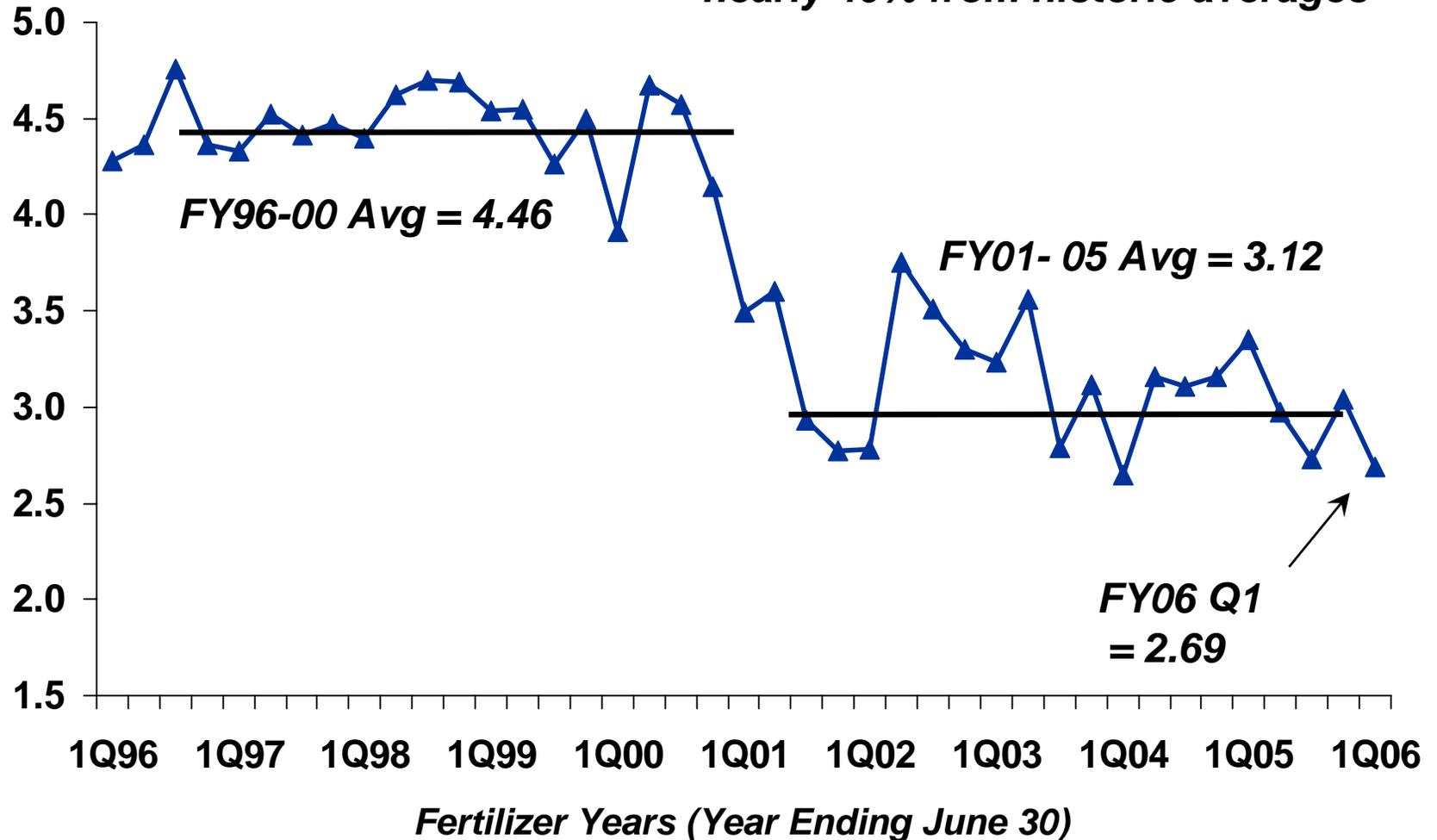


\* Cost based on average Henry Hub Daily Price Dec 1-9 = \$13.34 MMBtu

# U.S. Quarterly Ammonia Production

Million Product Tons

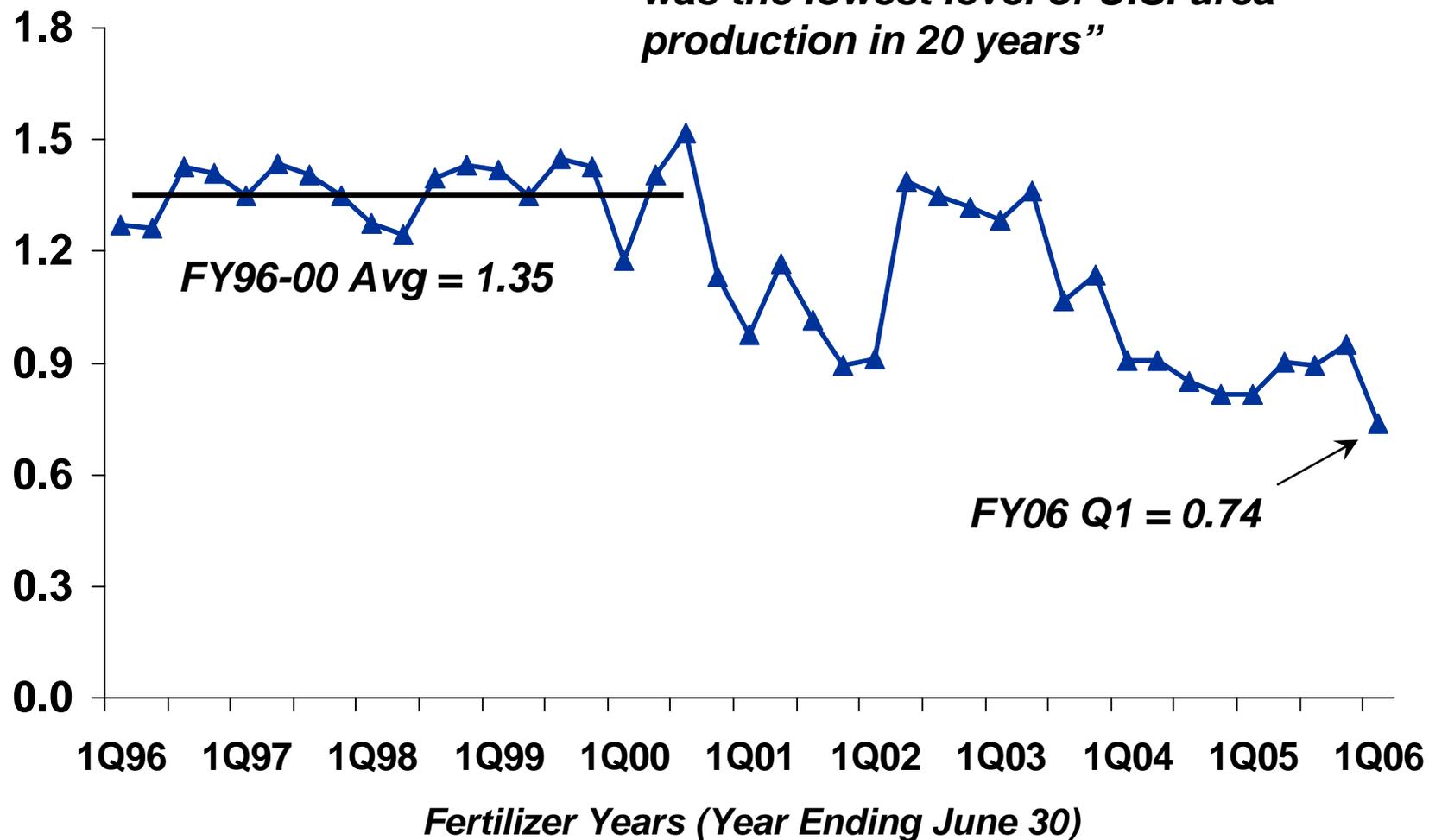
*“U.S. ammonia production down nearly 40% from historic averages”*



# U.S. Quarterly Dry Urea Production

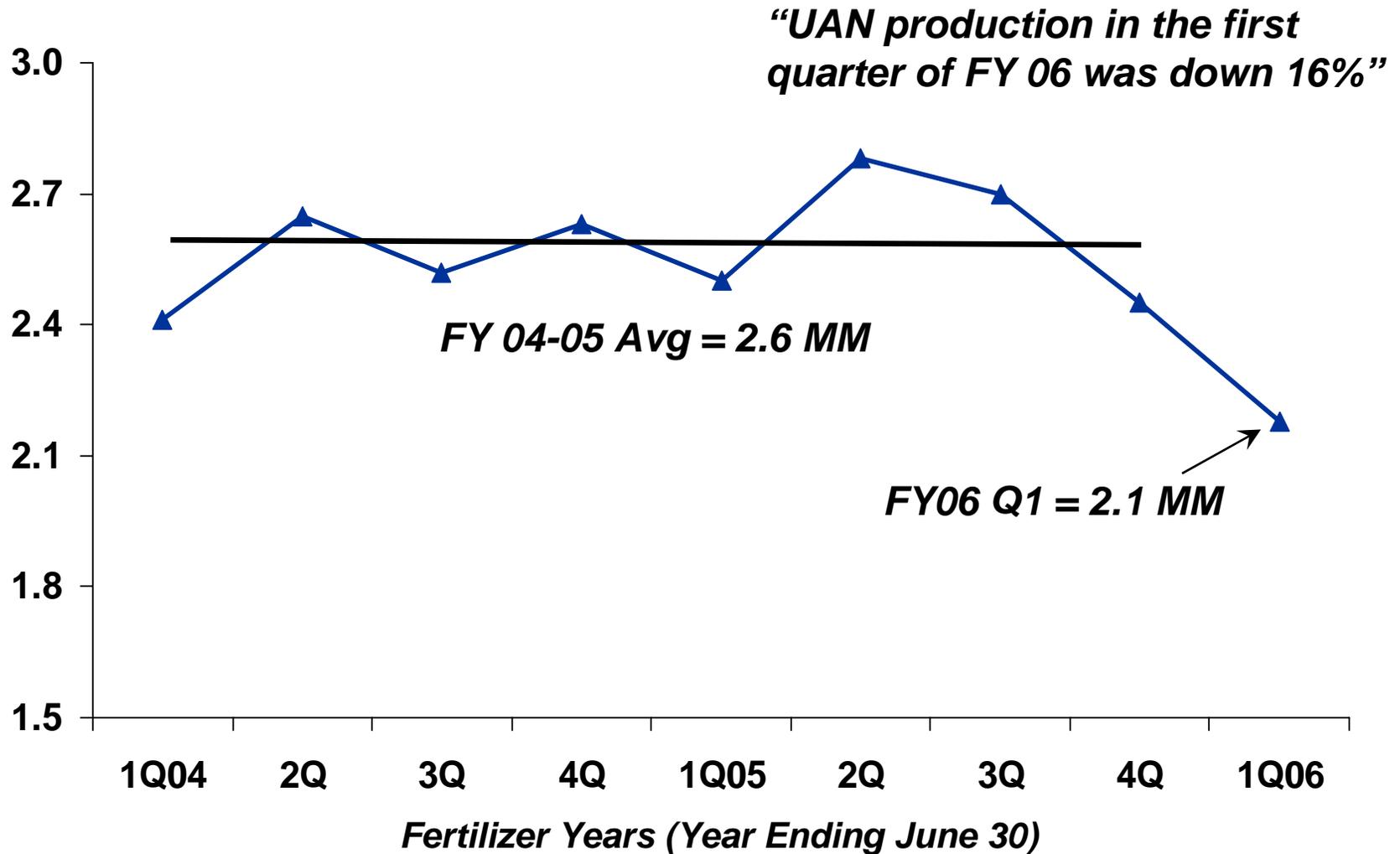
Million Product Tons

*“First quarter of FY 06 (July-Sept 05) was the lowest level of U.S. urea production in 20 years”*



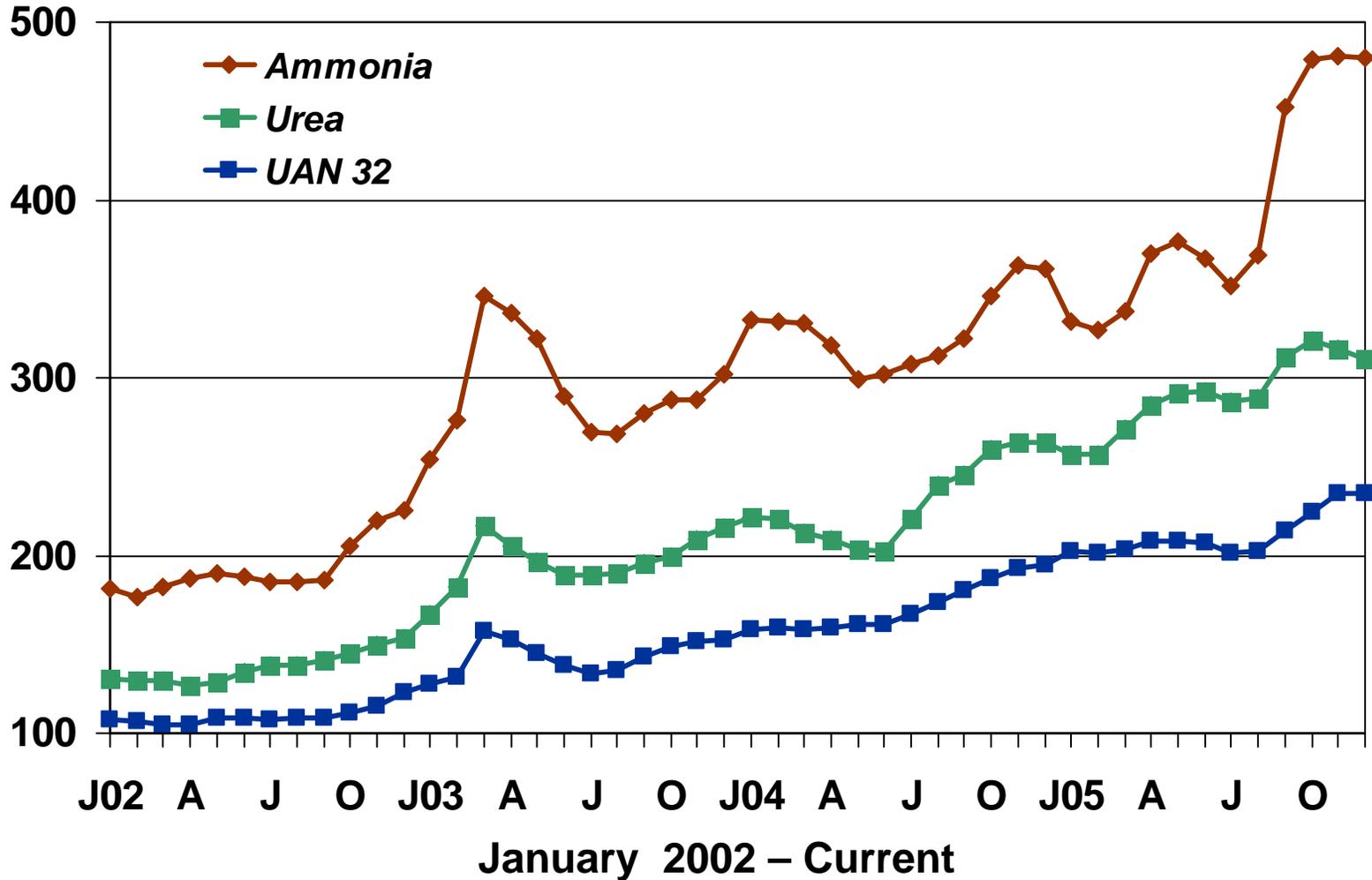
# U.S. Quarterly UAN Production

Million Product Tons – 28% Equivalent



# U.S. Midwest Nitrogen Fertilizer Prices

Dealer Average - \$ Per Short Ton

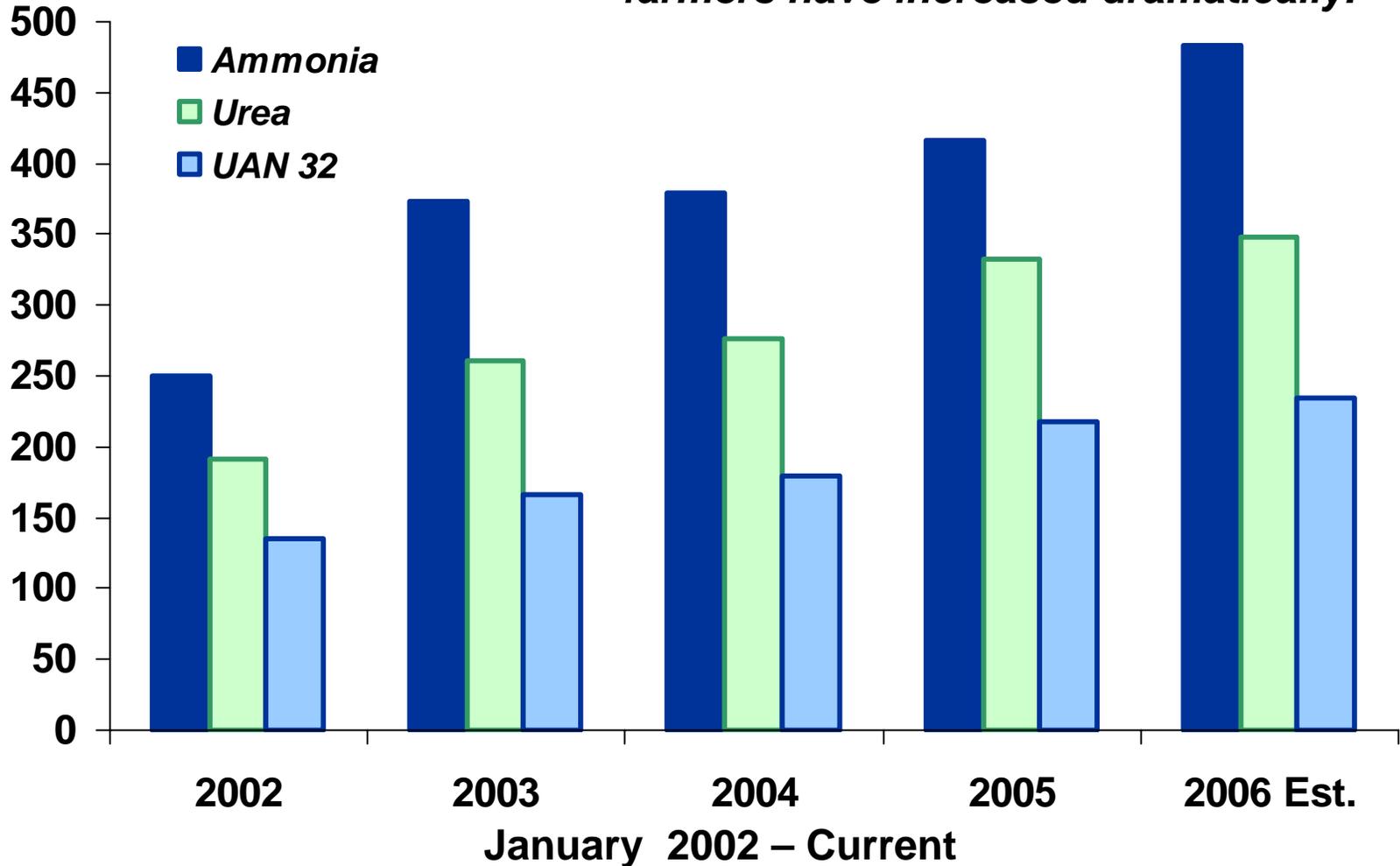


Source: Green Markets

# U.S. Farm Level Fertilizer Prices

\$ Per Short Ton

*“Since 2002, nitrogen fertilizer prices to farmers have increased dramatically.”*

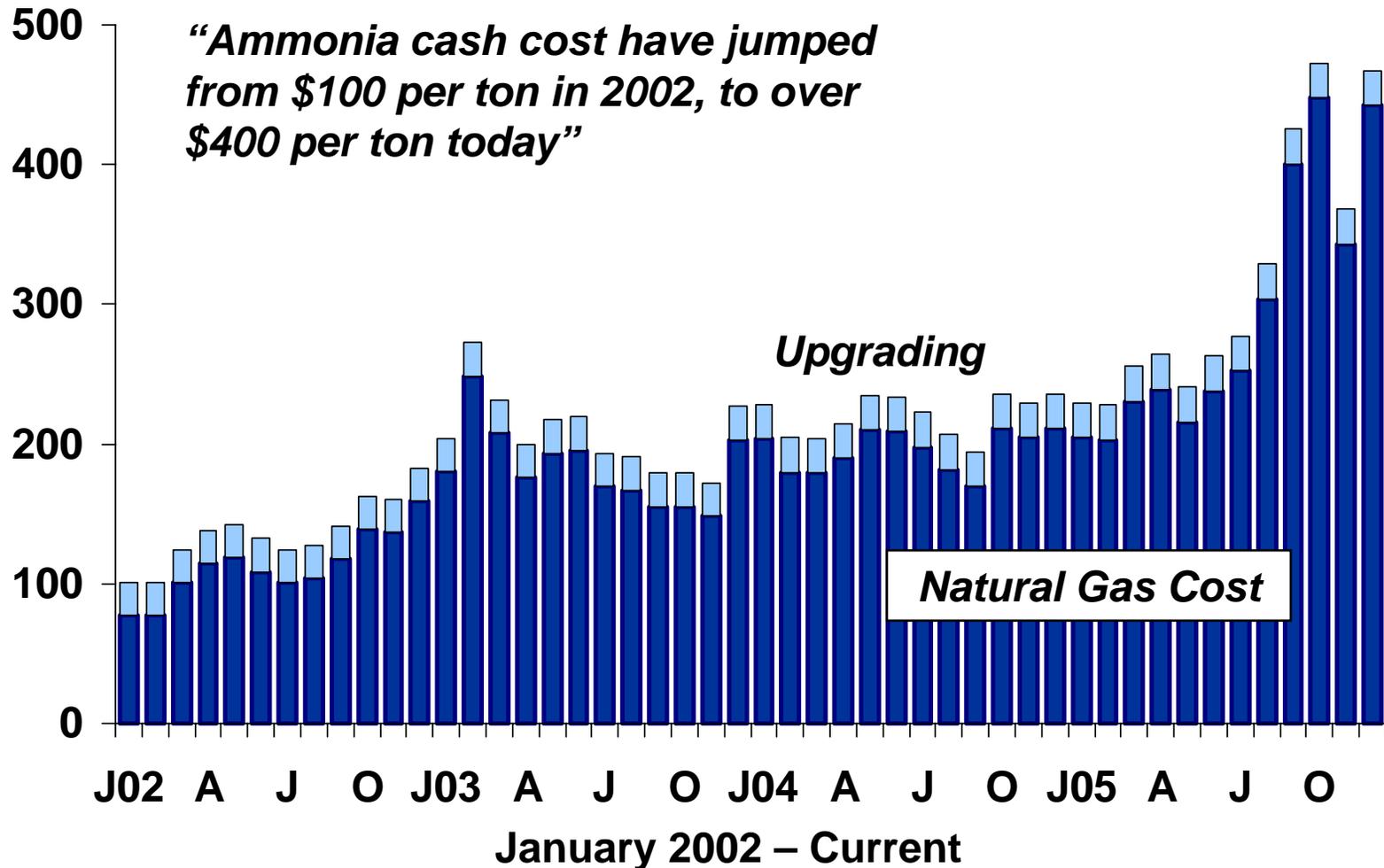


Source: USDA, Doane Ag Services

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- ◆ **Next couple of slides optional**

# U.S. Ammonia Production Cost\*

*\$ Per Ton – Typical Gulf Producer*

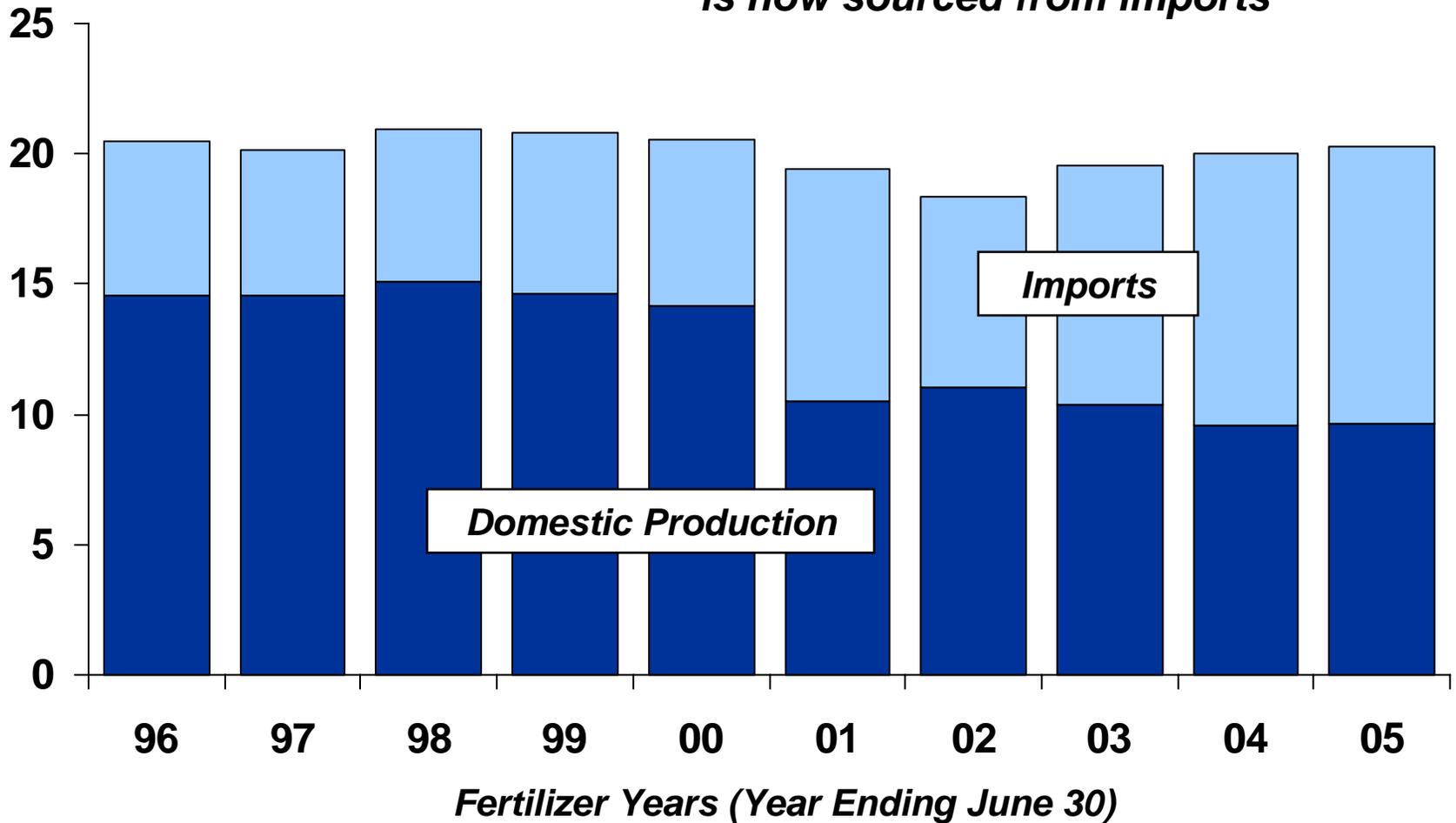


\* Cost based on average Henry Hub Daily Price

# U.S. Nitrogen Supply

Million Tons N

*“Over half of total U.S. nitrogen supply is now sourced from imports”*



Source: US Dept of Commerce, TFI