



# **Risk Management Challenges In A Changing Crop Nutrients Industry**

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## Crop Nutrients

- Crop Nutrients marketplace defined
- Changes in crop nutrients industry landscape
- Crop nutrients hedging strategies



## Who we are

**CHS is a diversified Fortune 200 company providing essential grain, food and energy resources to businesses and consumers around the world.**





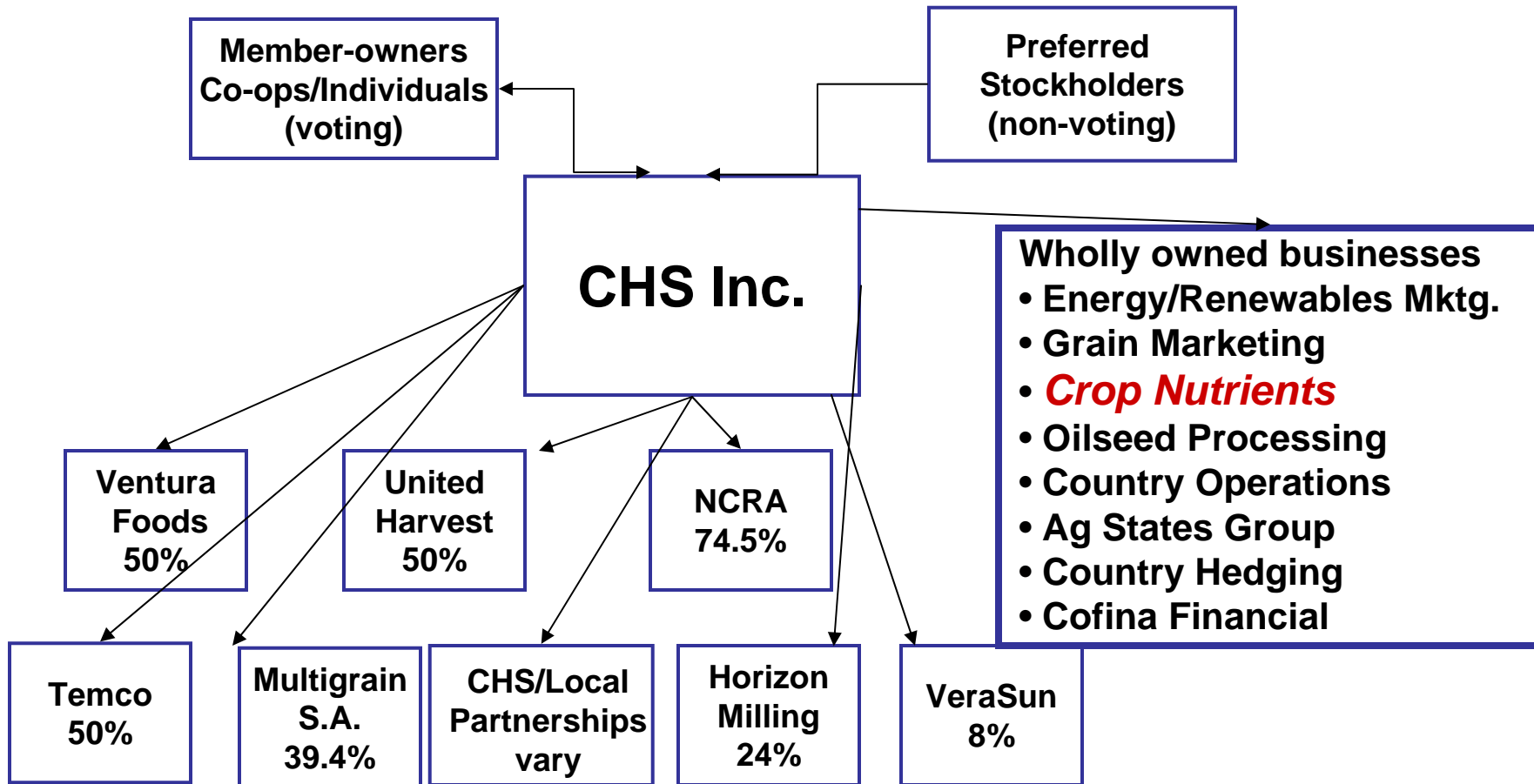
## About CHS

**Serves producers in 26 states and  
consumers in 50 states**

**Supplies grain in 60 countries worldwide  
7,000 employees**



# Structure





## CHS Crop Nutrients

- Distribution system serving North America's largest dealer network with more than 7 million tons sold annually
- Global product sourcing, including a deep water port at Galveston, Texas, and river facilities at Memphis, Tenn.; Little Rock, Ark.; Muscatine, Iowa; Winona and St. Paul, Minn.
- Owns/leases 90 crop nutrients terminals. Backed by CHS expertise in risk management, global markets, logistics and distribution complementary to crop nutrients business





# Crop Nutrients Marketplace

## Nitrogen

Ammonia (NH<sub>3</sub>)

Urea (Dry)

UAN (Liquid)

Potash

Phosphates

Others - Micronutrients



## Changes In Crop Nutrients Marketplace Landscape





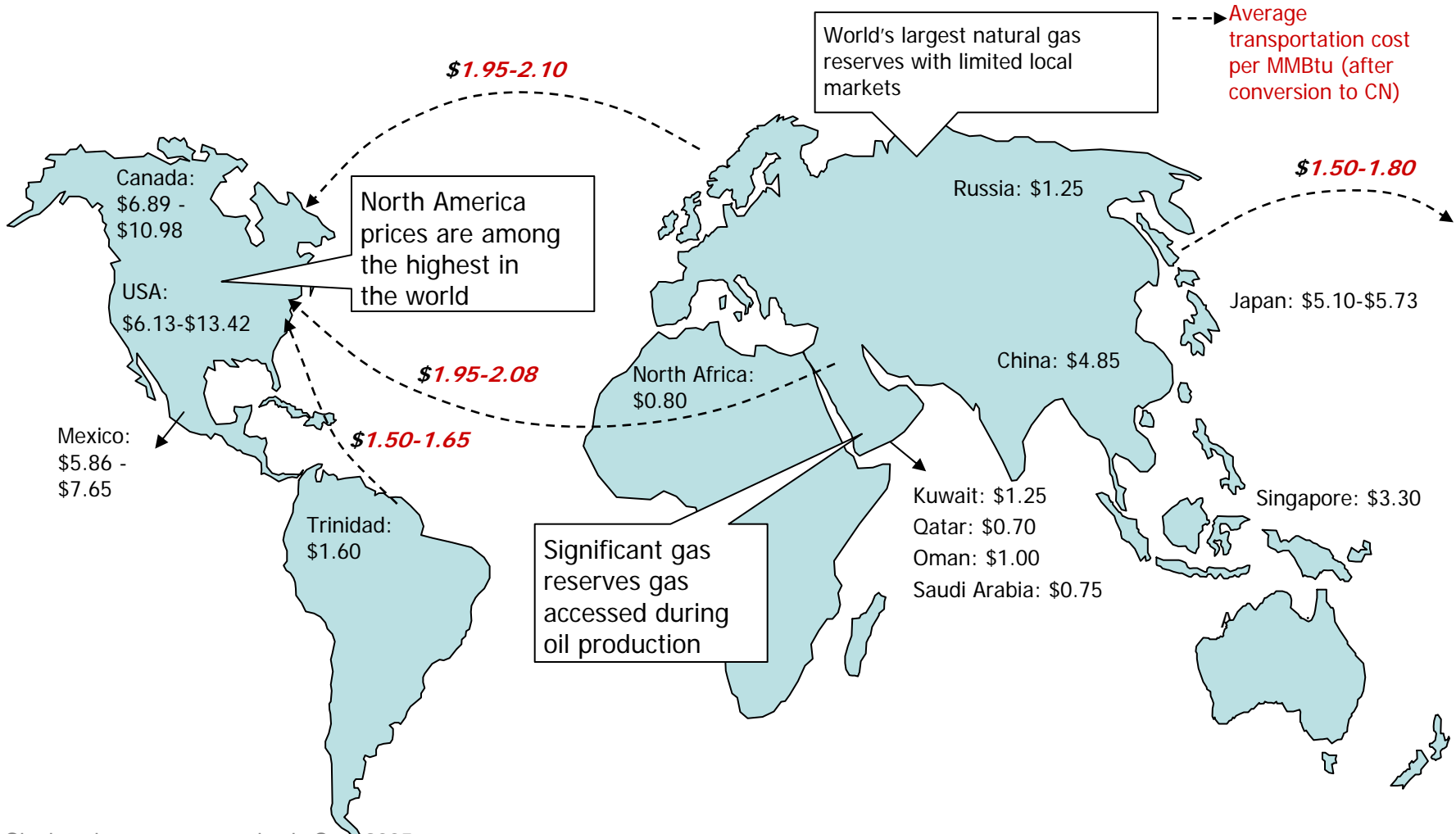
# Natural Gas

U.S. CN manufacturers hit with margin squeeze-leaving them them globally noncompetitive



# Global Natural Gas Prices

U.S. manufacturers hit with margin squeeze leaving them globally noncompetitive



\* Single values represent price in Sept 2005.

Source: American Chemistry Council; The Fertilizer Institute.

Agway  
 Arcadian  
 Borden  
 Chevron  
 Coastal Chem  
 Farmland  
 First Miss  
 Freeport  
 IMC Global  
 Kalium  
 LaRoche  
 Miss Chem  
 Mobil  
 Mulberry  
 Nu-West  
 Occidental  
 Royster Clark  
 Texasgulf  
 Unocal  
 US Chem  
 Viridian  
 Vigoro

- 1. Mosaic 30%
- 2. PCS 26%
- 3. Agrium 13%
- 4. CF 8%
- 5. Terra 6%
- 6. Koch +6%

89%

**Urea**

- 1. ~~CF 22%~~
- 2. Agrium 16%
- 3. Terra 13%
- 4. Mosaic 13%
- 5. PCS 12%
- 6. ~~Yara 7%~~

83%

**UAN**

- 1. Terra 27%
- 2. CF 22%
- 3. PCS 14%
- 4. Koch 12%

75%

**Phosphates**

- 1. Mosaic 50%
- 2. PCS 21%

71%

**Potash**

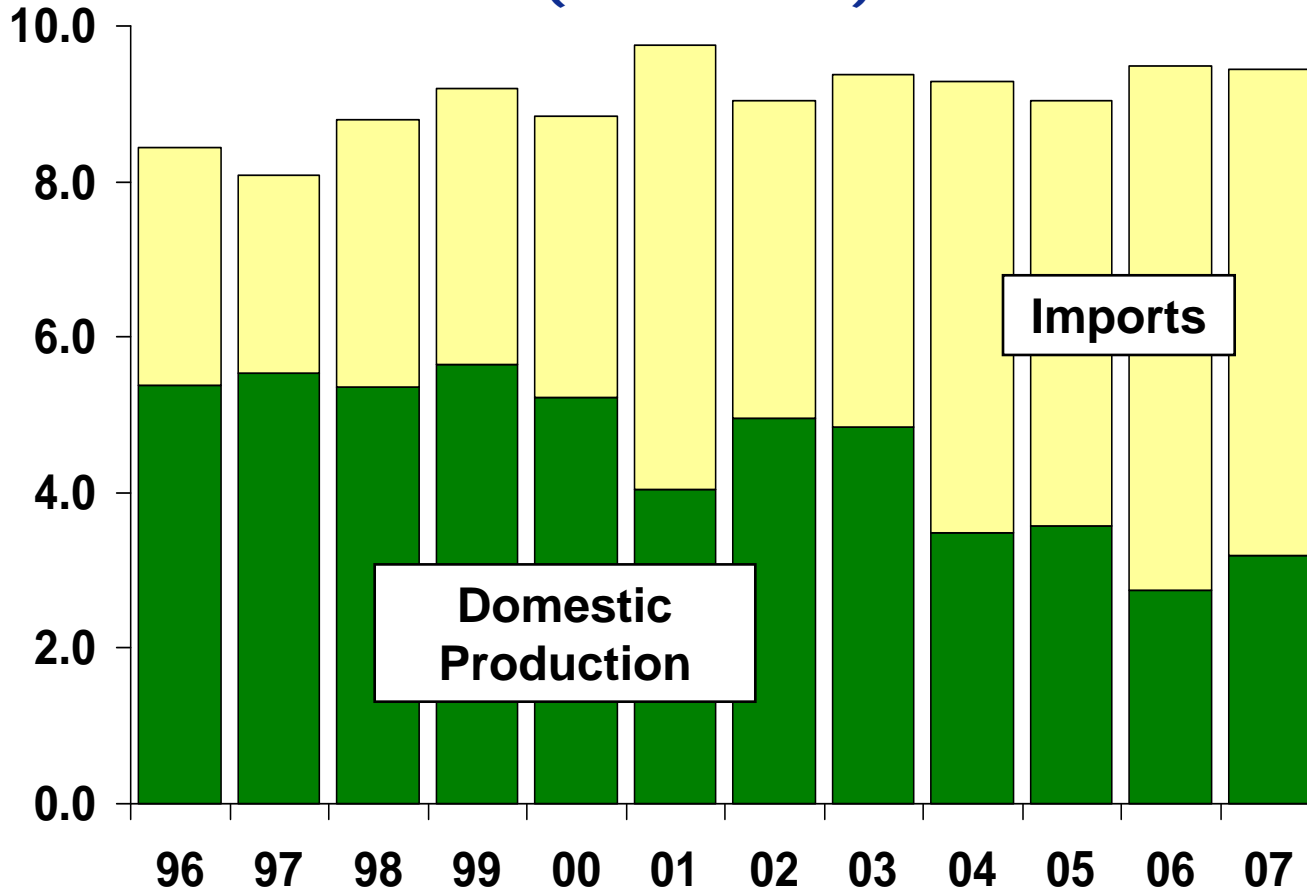
- 1. PCS 48%
- 2. Mosaic 39%

87%

Abu Qir  
 Achema  
 Acron  
 Agrolinz Melamin  
 Amonil  
 Asmidal  
 Asen Bintilu  
 Cherepovets  
 Cherkassy  
 Eurochem  
 Fertilizantes  
 Nitrogenados  
 Grodno  
 Novomoskovsk Azot  
 PIC  
 Profertil S.A.  
 Pulway  
 QAFCO  
 SABIC  
 Sichuan Chemical  
 Togliatti

# U.S. Dry Urea Supply

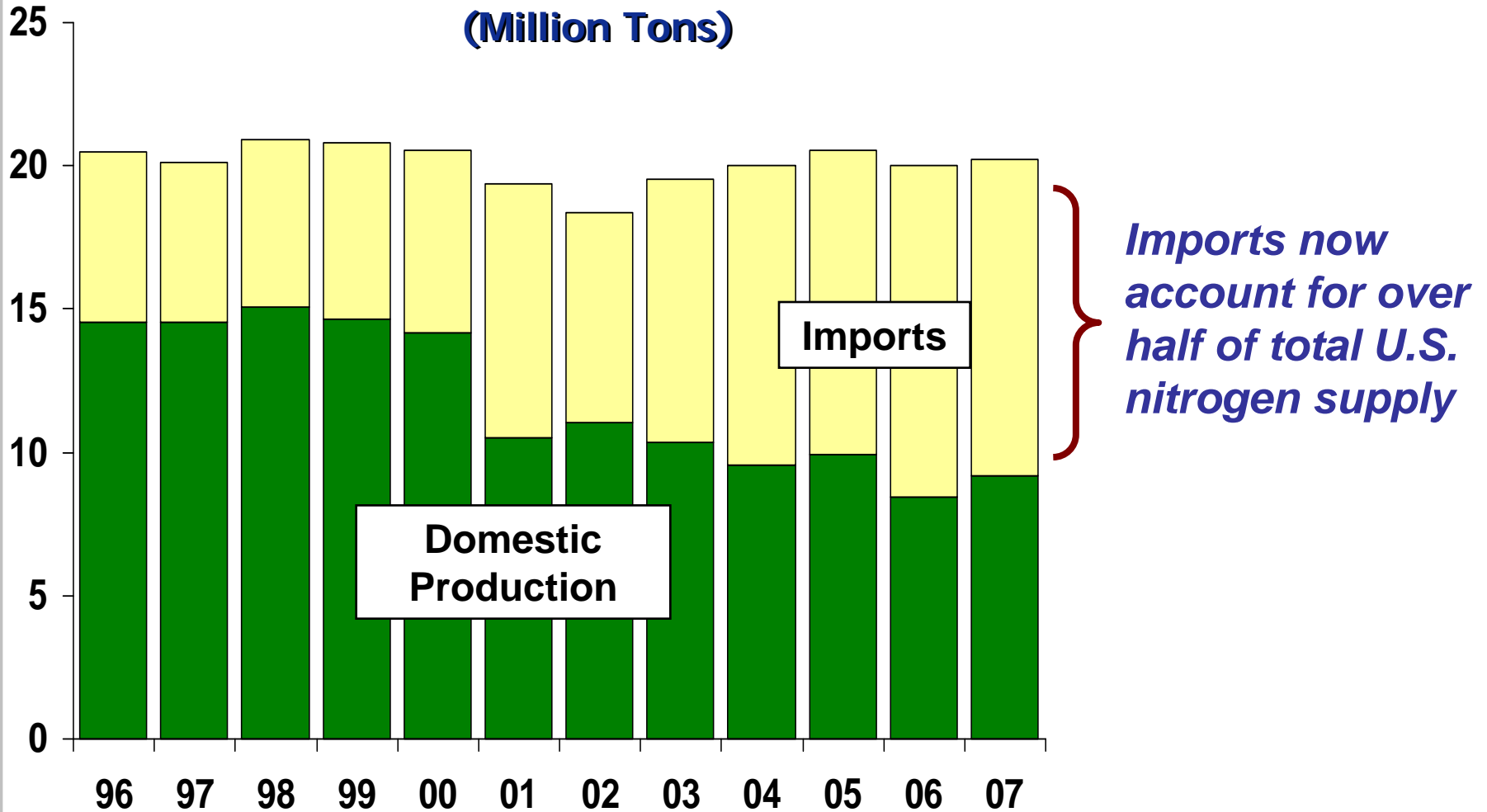
(Million Tons)



*Imports now account for almost 70% of total U.S. dry urea supply*

# U.S. Nitrogen Supply

(Million Tons)



# Corn

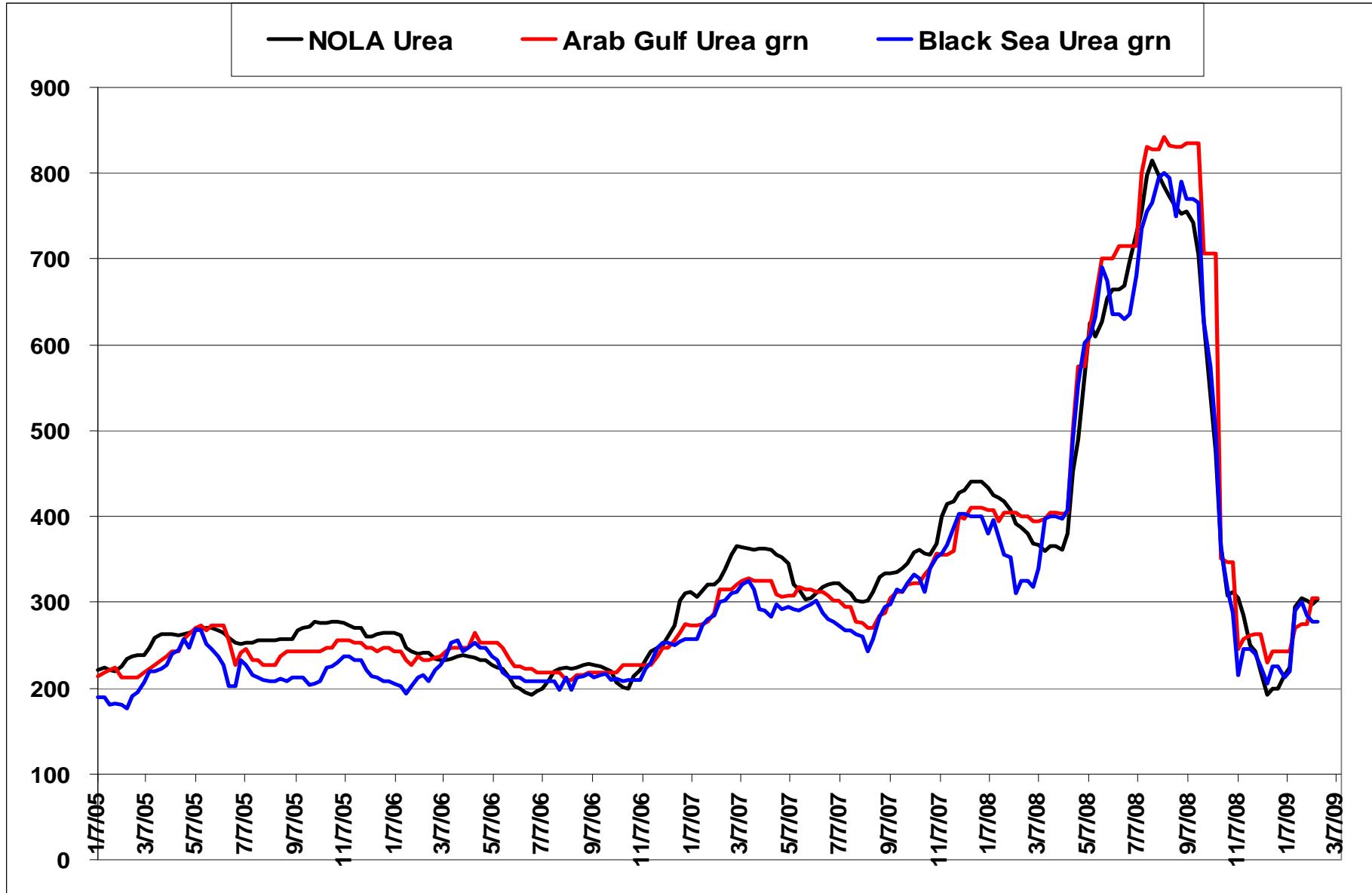
**DEPLETED U.S. CN INDUSTRY WAS NOT PREPARED TO SATISFY FUTURE DEMAND SURGE**

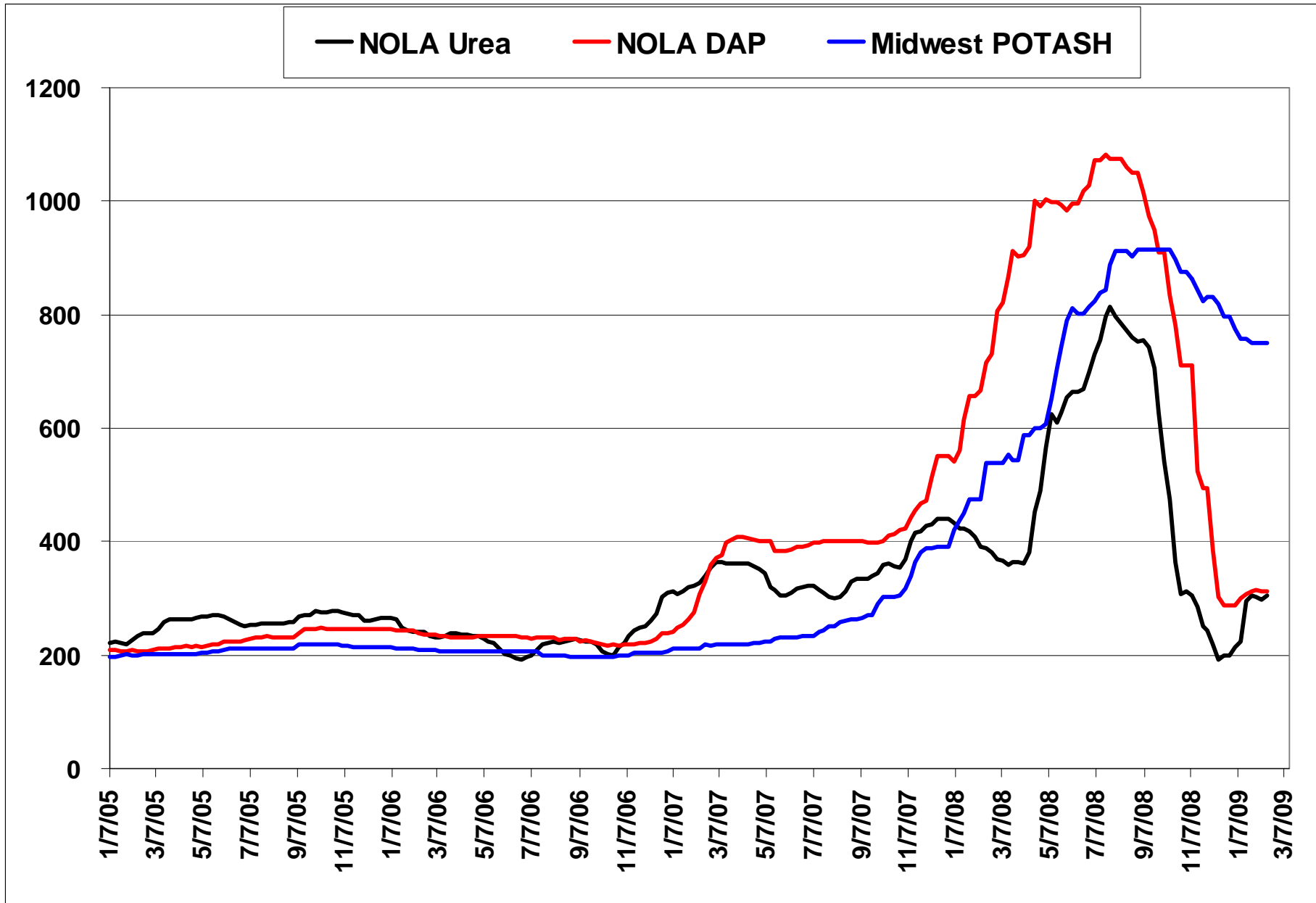


DTN ProphetX



# Global Urea Price Correlation



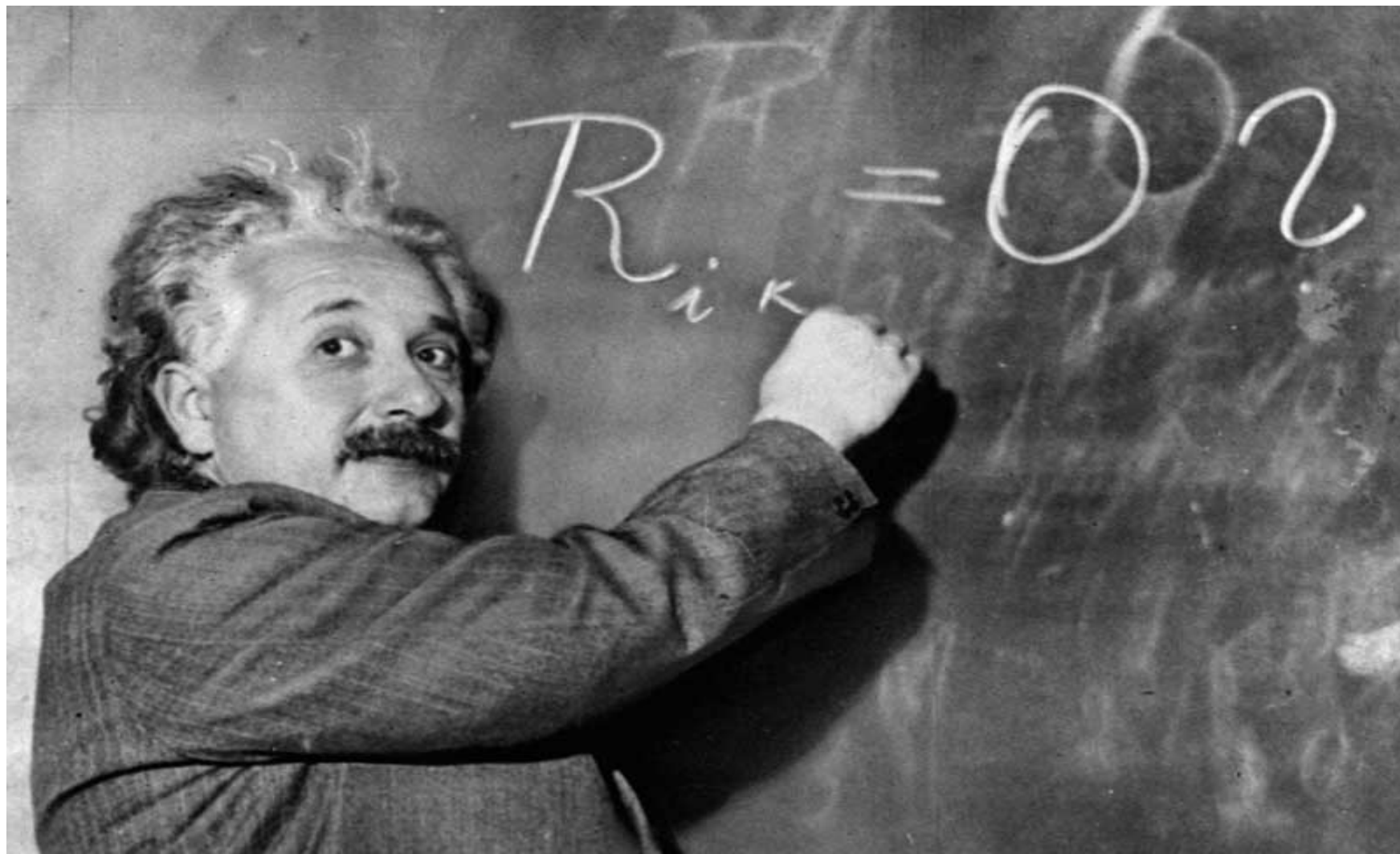




## Current Wholesale / Retail CN Conundrum

- Retail level selling is just in time however retail buying activities are as much as 6 to 9 months ahead of time – bulk commodity logistics
- Wholesale prices collapsed after retailers accumulated inventories
- Currently, in many instances wholesale prices are below retail values

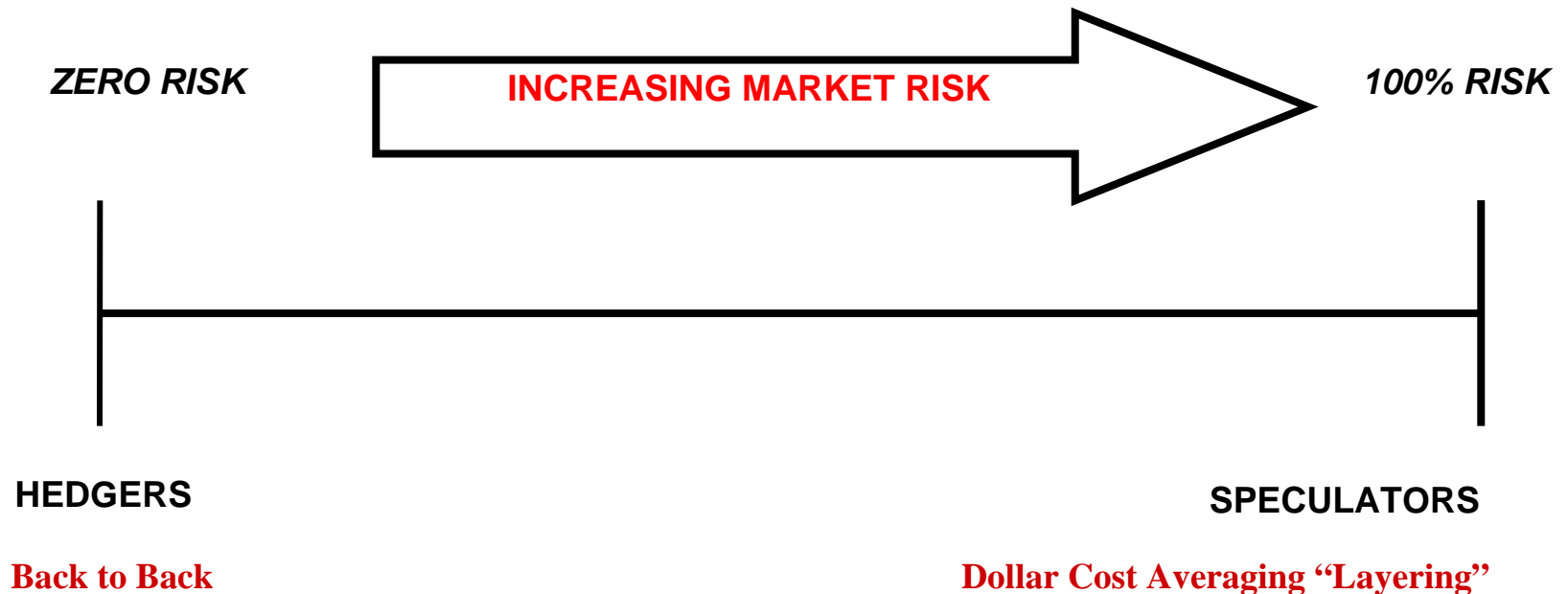
## Crop Nutrients Hedging Strategies



## **Crop Nutrients Industry Shortcomings**

- Fertilizer industry not experienced in commodity merchandising techniques
  - Crop nutrients industry participants need overnight hedging education
- Sophisticated CN hedging strategies are needed given the lack of a viable traditional derivative market
- Marketplace volatility calling for hedging skills
- Industry transparency lacking without a traditional price discovery mechanism

# Crop Nutrients Risk Spectrum





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## **Hedging As Risk Management**

Develop Crop Nutrients Risk Management Policy

Develop Daily Position Report (DPR)

## **Assess Crop Nutrients Risk**

The next step in risk management is an on-going assessment of what current market place risks are (risk profile) broken down by:

- Price risk
- Supply risk
- Demand risk

## Crop Nutrients Hedging Strategies

Where/ when possible:

- Establish short (long) OTC swap position

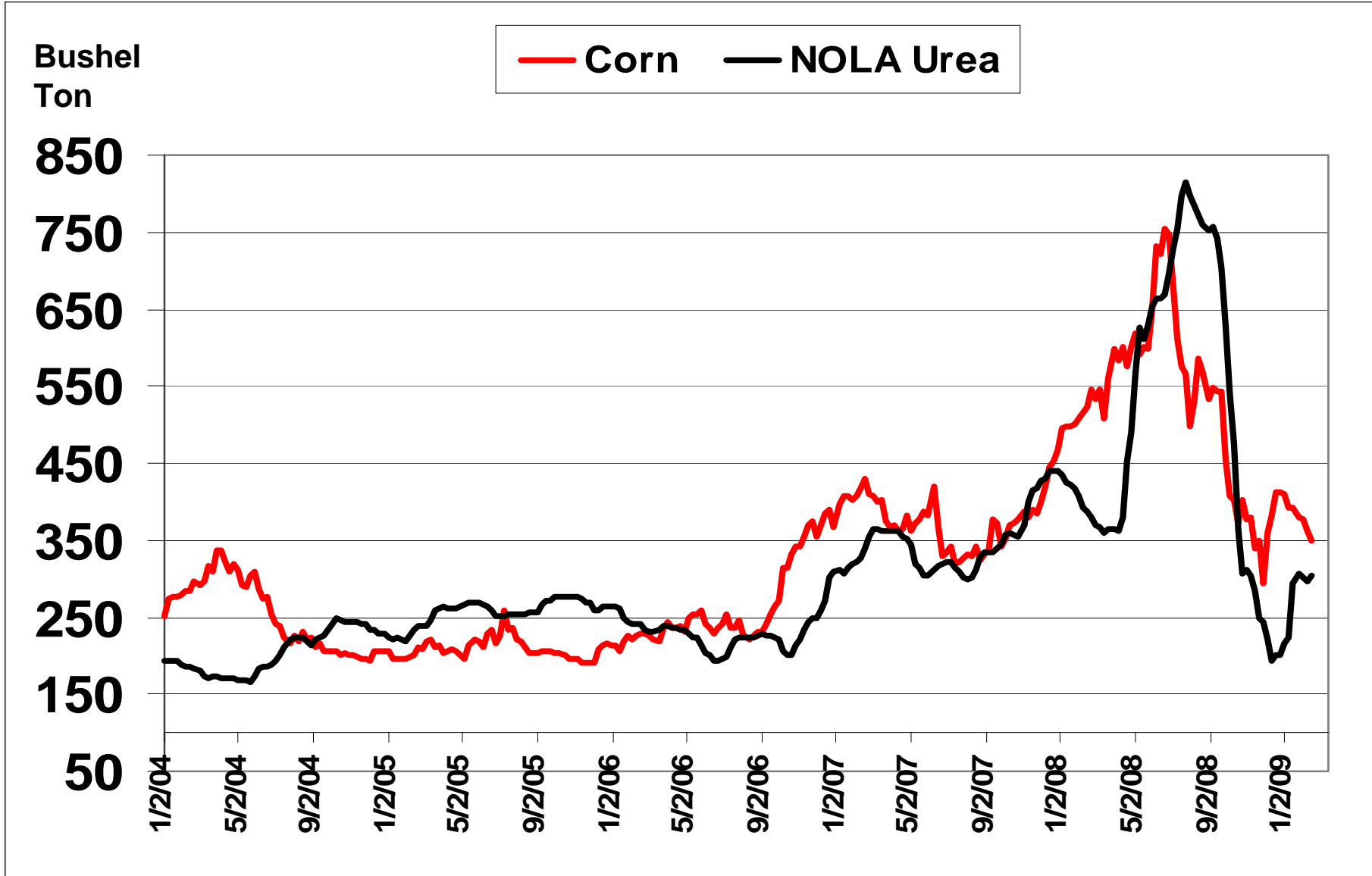
- Establish short (long) cash forward position

  - Work with farmer in deferred “acre margin” lock

- Source “un-priced” product for owned warehouse space



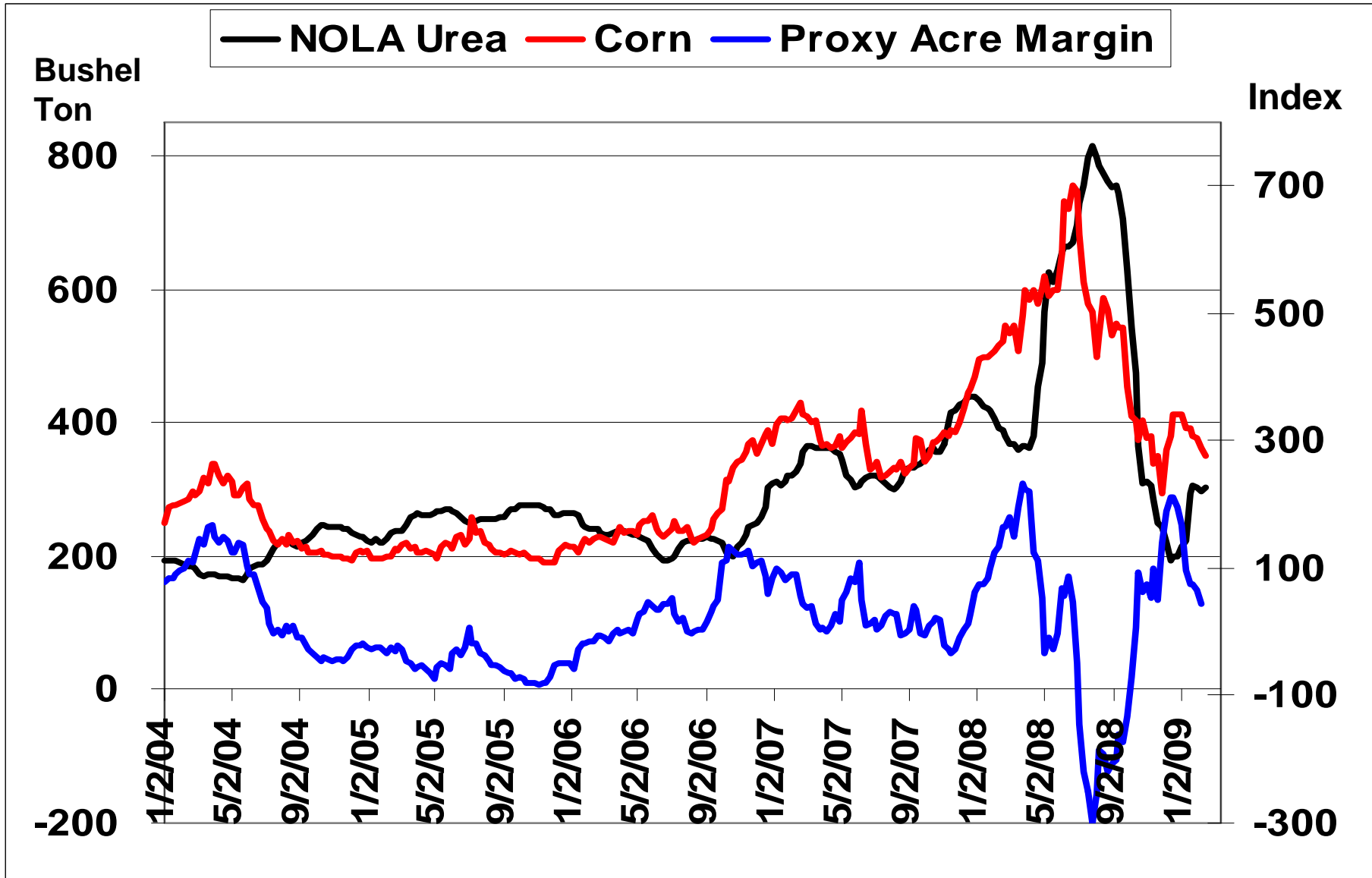
# Corn / NOLA Urea







# Proxy Acre Margin





# Thank you

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