N, P & K Outlook
Fluid Fertilizer Foundation
Fresno, California
December 7, 2011

Presenter: Jay Yost, Vice President Fertilizer
World Population
Significant Urban Growth in Developing Countries

Population - Billions

Source: United Nations
World Grain Production and Consumption
Grain Production Has Not Kept Pace With Rising Demand

Based on crop year data. For example, 11F refers to the 2011/12 crop year.

Light bars reflect years when consumption exceeds production.

Source: USDA
World Grain Stocks-to-Use Ratio
Grain Inventories Expected to Remain Tight Beyond 2012

Based on crop year data. For example, 11F refers to the 2011/12 crop year.

Source: USDA, PotashCorp
US Corn Supply and Demand
Corn Stocks Reduced to Historically Low Levels

Billion Bushels

Stocks-to-Use - Percent

2011F refers to the 2011/12 crop year

Source: USDA
World Crop Prices
Prices Remain Well Above Historical Averages

Source: Bloomberg
Fertilizer Cost Percentage of Crop Revenue
Expect Fertilizer Cost Percentage Will Remain Below Historical Levels

Source: USDA, IPNI, PotashCorp
US Net Cash Farm Income
Farm Income Growth Has Accelerated in Recent Years

US$ Billions

Record years since 2000

Source: USDA
Nitrogen Overview
Natural Gas Prices in Key Producing Regions
US Gas Price Increasingly Competitive

$US/MMBtu

Source: Fertecon, PotashCorp
China Urea Exports
China Is Major Swing Factor For Global Urea Trade

Million Tonnes Urea

Source: Brilliant Pioneer Consultants, PotashCorp
India Urea Imports

India’s rapid import growth has tightened the global urea market

Source: Fertecon, PotashCorp
US Nitrogen Consumption

US Nitrogen Demand Expected to Remain Strong in 2011

Million Tonnes

5-year Average (2006-2010)

Source: Fertecon, PotashCorp
Urea, Barge Prices  FOB NOLA
Ammonia ston Tampa
Nitrogen

- Prices have pushed up due to increased demand and limited supply
  - Main Reason is Dramatic Increase in Crop Commodity Prices
  - Fill Large Dealer/Distributor Storage
- Gas Costs - $3.75 + producers in North America are in the drivers seat.
Cost of Gas in Ammonia vs. Ston Tampa Price

Ammonia: Gas cost in ammonia based on capacity weighted average efficiency for nine Louisiana ammonia plants x midweek close nearest natural gas future NYM exchange.
Relative Value of N in Fertilizers (Ill., Ia., Mo.)

$/Unit N
Nitrogen

- PCS to restart Geismar, LA plant – 1,135,000 tons of UAN 32% production
- Coffeyville now looking at completing their UAN 32% expansion at Coffeyville, Kansas 350,000 – 400,000 additional per year
- Gas curtailment in Trinidad – 30%
  - Production - 5,655 Mstpy
  - Curtailment – 1,696 Mstpy
Phosphoric Acid / 10-34-0 supply and issue

- Limited production in the US
- No opportunities for imports
- Reduced production in the US
- Supplies are impacted in the short run

New Ammonia Capacity* vs Demand
Medium Term Ammonia Market Expected to Remain Balanced to Tight

*Capacity includes several projects classified by sources as uncertain, and excludes projects classified as unlikely. Construction time for a greenfield nitrogen plant is 3 years.

Source: Fertecon, PotashCorp
New Urea Capacity* vs Demand
Near Term Urea Market Expected to be Balanced to Tight, Excluding China

Million Tonnes Product, Cumulative Growth
- Middle East
- Africa
- Other
- China
- Demand Growth
- Demand Growth excl. China

*Capacity includes several projects classified by sources as uncertain, and excludes projects classified as unlikely. Construction time for a greenfield nitrogen plant is 3 years.

Source: Fertecon, CRU, PotashCorp
Phosphate Overview
Global Phosphoric Acid Production and Operating Rate
Expect Relatively Tight Market in the Short Term

*Capacity includes several projects classified by sources as uncertain, and excludes projects classified as unlikely

Source: CRU, Fertecon, FMB, PotashCorp
India DAP Supply
India’s Demand Expected to Remain Strong in 2011

Million Tonnes DAP

Source: FAI, Fertecon, PotashCorp
China DAP and MAP Exports
Domestic demand expected to limit exports

Million Tonnes Product

Source: Fertecon
Integrated vs Non-Integrated Phosphoric Acid Capacity

Approximately 70 percent of Global Phosphoric Acid Producers are Integrated

Source: PotashCorp
Integrated vs Non-Integrated Cost of DAP Production

Significant Advantage for Integrated Producers

Integrated producers account for approximately 70 percent of production, non-integrated producers account for about 30 percent of production.

Source: Fertecon, PotashCorp
DAP Barge Prices FOB NOLA

$/ston

DAP, Urea Barge Prices FOB NOLA Ammonia ston Tampa

$/ston

DAP

Ammonia

Urea

12/6 2/6 4/6 6/6 8/6 10/6 12/6
Phosphates

Production Issues

• Mosaic – Permitting Issues in Florida
• Agrifos – 800,000 – Out of Production
• New production coming on around the world
  • Saudi Arabia
  • Morocco
Phosphates

- Phos Acid / 10-34-0 supply and issue
  - Limited production in the US
  - No opportunities for imports
  - Reduced production in the US
  - Supplies are impacted in the shortrun
New Global Phosphoric Acid Capacity* vs Demand
Limited New Phosphoric Acid Capacity Expected Until 2013

Million Tonnes P₂O₅, Cumulative Growth

*Capacity includes several projects classified by sources as uncertain, and excludes projects classified as unlikely

Source: CRU, Fertecon, FMB, PotashCorp
Potash Overview
World Potash Production and Demand
Major Consuming Markets Are Heavily Dependent on Imports

Million Tonnes KCl – 2010

North America: 16.6
Europe: 5.3
FSU: 19.0
Asia: 22.5
Latin America: 2.2
Middle East: 0.7
Africa: 0.8

Domestic Sales: 22%
Potash Trade: 78%

Source: Fertecon, PotashCorp
Potash Shipments by Selected Market

Expect Record Global Demand Despite Reduced Shipments to India

Million Tonnes KCl

- China
- India
- Other Asia
- Latin America
- North America

* Record year previous to 2011

Source: Fertecon, PotashCorp
North American Potash Producer Shipments and Inventories
Strong Demand Has Tightened Inventory Levels

Shipments (12-Month Rolling Average)

Million Tonnes KCl

Producer Ending Inventory

Million Tonnes KCl

Source: Fertecon, IPNI, PotashCorp
World Potash Shipments and Operating Rate

Expect Global Operating Rates to Remain at Historically High Levels

Shipments - Million Tonnes KCl

Operating Rate* - Percent

* Based on percentage of operational capability.
2012 operating rate scenarios based on global shipments of 58 to 60 million tonnes

Source: Fertecon, PotashCorp
World Potash Producer Profile
Largest Producer by Capacity

Million Tonnes KCl – 2011F to 2015F

PotashCorp
Uralkali (Russia)
Mosaic (Canada, US)
Belaruskali (Belarus)
ICL (Israel, Spain, UK)*
K+S (Germany)
China*
APC (Jordan)*
SQM (Chile)*
Agrium (Canada)
Intrepid (US)
Vale (Brazil)

* PotashCorp investments: ICL (14%), APC (28%), SQM (32%) and Sinofert (22%)
Note: PotashCorp based on operational capability (estimated annual achievable production) while competitor capacity is stated nameplate, which may exceed operational capability.

Source: Fertecon, CRU, IFA, PotashCorp
Estimated Greenfield Potash Capital Costs

Greenfield Projects Require Significant Investment

CDN$ Billions

- **Conventional Mine and Mill***: $4.1B
- **Development of Infrastructure**: $0.6M-$1.2B
- **Acquisition of Deposits**: $0.0B-$1.0B
- **Potential Greenfield Cost**: $4.7B-$6.3B

* Based on 2mmt per-year conventional mine in Saskatchewan; costs could vary depending on conventional vs. solution mine, depth of ore body, geographic location, and other factors.

** Dependent on geographic location, access and distance to port. Includes railcars, utility systems, port facilities, etc.

*** Based on publicly reported cost of recent purchases.

Source: AMEC, PotashCorp
PotashCorp project costs exclude infrastructure.

* New Brunswick cost per tonne based on new 2MMT mine (net addition totals 1.2MMT).
** Based on 2MMT conventional greenfield mine constructed in Saskatchewan.
Fall Supply Issues
- Producers are tying in new production causing outages at existing mines
- Producers moving prices up because they can
- Time will tell if higher prices have an appreciable affect on demand
Corn, Wheat, Soybean Prices
Thurs. Close CBOT

$/ Bu.
Watch commodity prices – if commodity prices fall fertilizer will follow
Falling commodity prices will cause buyers to be cautious and producers to be concerned
Move from a demand driven market to a supply driven market
Questions?

Independent Agribusiness Professionals
UAN Price
FOB St. Louis

$/Unit N

Graph showing the price of UAN (Uniaxial Anisotropic) from December 6 to December 6 with peaks and troughs indicating fluctuations in price.
North American Potash Use and Crop Production
Corn Is the Largest Potash Consumer

**Potash Use by Crop**

- Corn: 44%
- Soybeans: 28%
- Fruits & Vegetables: 6%
- Cotton: 5%
- Wheat: 3%
- All Other Crops: 14%

**Grain and Oilseed Production**
- 1970
- 1980
- 1990
- 2000
- 2010E

2010E refers to the 2010/11 crop year.

Source: IFA, FAO, USDA, PotashCorp
China Potash Consumption and Crop Production

Significant Growth in Production of Fruits and Vegetables

Potash Use by Crop

- Rice: 50%
- Fruits & Vegetables: 28%
- Wheat: 4%
- Sugar Crops: 5%
- All Other Crops: 13%

Major Crop Production

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Source: IFA, FAO, USDA, PotashCorp
India Potash Use and Crop Production
Rice and Wheat Account for Nearly Half of Potash Consumption

Potash Use by Crop

- Rice: 34%
- Wheat: 26%
- Fruits & Vegetables: 22%
- Sugar Crops: 10%
- All Other Crops: 8%

Major Crop Production

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Source: IFA, FAO, USDA, PotashCorp