Current Situation and Near Term Outlook:

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NAICC
Memphis, TN
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Safe Harbor Statement

Certain statements contained herein constitute "forward-looking statements" as that term is defined under the Private Securities Litigation Reform Act of 1995. Although we believe the assumptions made in connection with the forward-looking statements are reasonable, they do involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of The Mosaic Company, or industry results generally, to be materially different from those contemplated or projected, forecasted, estimated or budgeted (whether express or implied) by such statements.

These risks and uncertainties include but are not limited to the predictability of fertilizer, raw material, energy and transportation markets subject to competitive market pressures; changes in foreign currency and exchange rates; international trade risks; changes in governmental policy, including but not limited to governmental activities to address rising food and crop nutrient prices; changes in environmental and other governmental regulation; adverse weather conditions affecting operations in central Florida or the Gulf Coast of the United States, including potential hurricanes or excess rainfall; actual costs of asset retirement, environmental remediation, reclamation and other environmental regulation differing from management's current estimates; accidents and other disruptions involving our operations, including brine inflows at our Esterhazy, Saskatchewan potash mine and other potential mine fires, floods, explosions, seismic events or releases of hazardous or volatile chemicals, as well as other risks and uncertainties reported from time to time in The Mosaic Company's reports filed with the Securities and Exchange Commission. Actual results may differ from those set forth in the forward-looking statements.

What is top of mind with dealers, farmers, and manufacturers?

- **What is the availability of fertilizer this spring and next fall?**
- **At what cost?**
- **What are the consequences if I cut back for a year or two?**

We must remember our overall goals

Produce more food, feed, fiber and fuel on less acres every year

- The world's food supply is currently being grown on less than 1/8 of the world's surface area
- Cities continue to take more prime land out of production
- Production needs to double on existing acres to keep up with growing demand

World population growth estimates

Region	2007	2050	% Change
World	6,671	9,191*	+ 38%
High Income	1,223	1,245	+ 2%
Low Income	5,448	7,946	+ 46%
Africa	965	1,998	+107%
Asia	4,030	5,266	+ 31%
Latin America	572	769	+ 34%
North America	339	445	+ 31%
Europe	731	664	- 9%

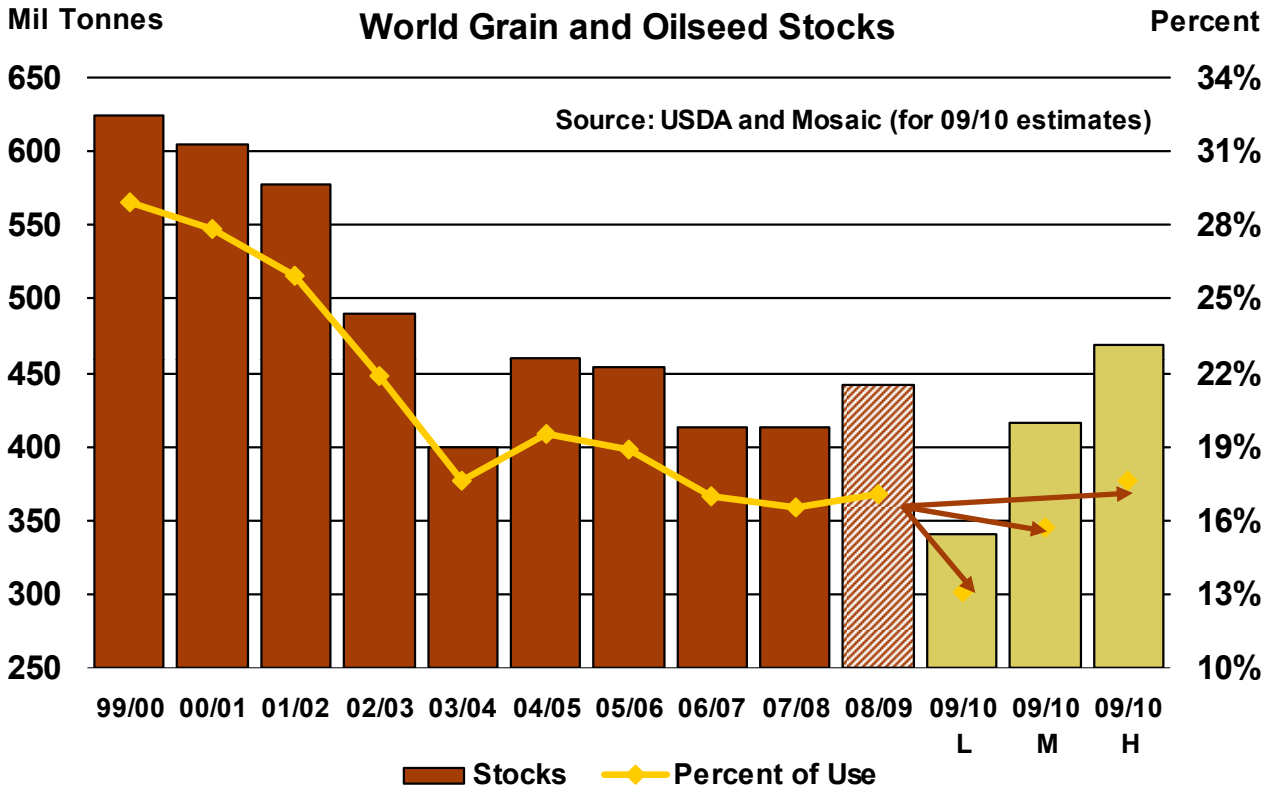
Dynamics of Global Food Demand – better diets

- **1.1 billion people live on less that $1/day; 854 million of them suffer under-nutrition or hunger.**
- **2.7 billion people live on less than $2/day; by $2 per day, most hunger (calorie) problems solved.**
- **Between $2 and $10 per day people eat more meat, dairy products, fruits, vegetables & edible oils, causing rapid growth in raw ag commodity demand**
- **After $10 per day, people buy more processing, services, packaging, variety, and luxury forms, but not more raw ag commodities**

Projected World Food Demand

- **World food demand could double by 2050**
  - ⇨ **50% increase from world population growth – all in developing countries**
  - ⇨ **50% increase from broad-based economic growth in low income countries**
- **The World Bank estimates that the number of people in developing countries living in households with incomes above $16,000 per year will rise from 352 million in 2000 to 2.1 billion by 2030.**
- **How many presently low income consumers are lifted out of poverty will be the *most important* determinant of the future global demand for food.**

Stock drawdown stopped but not reversed



Stocks are forecast to account for only 17% of use at the end of the 2008/09 crop year.

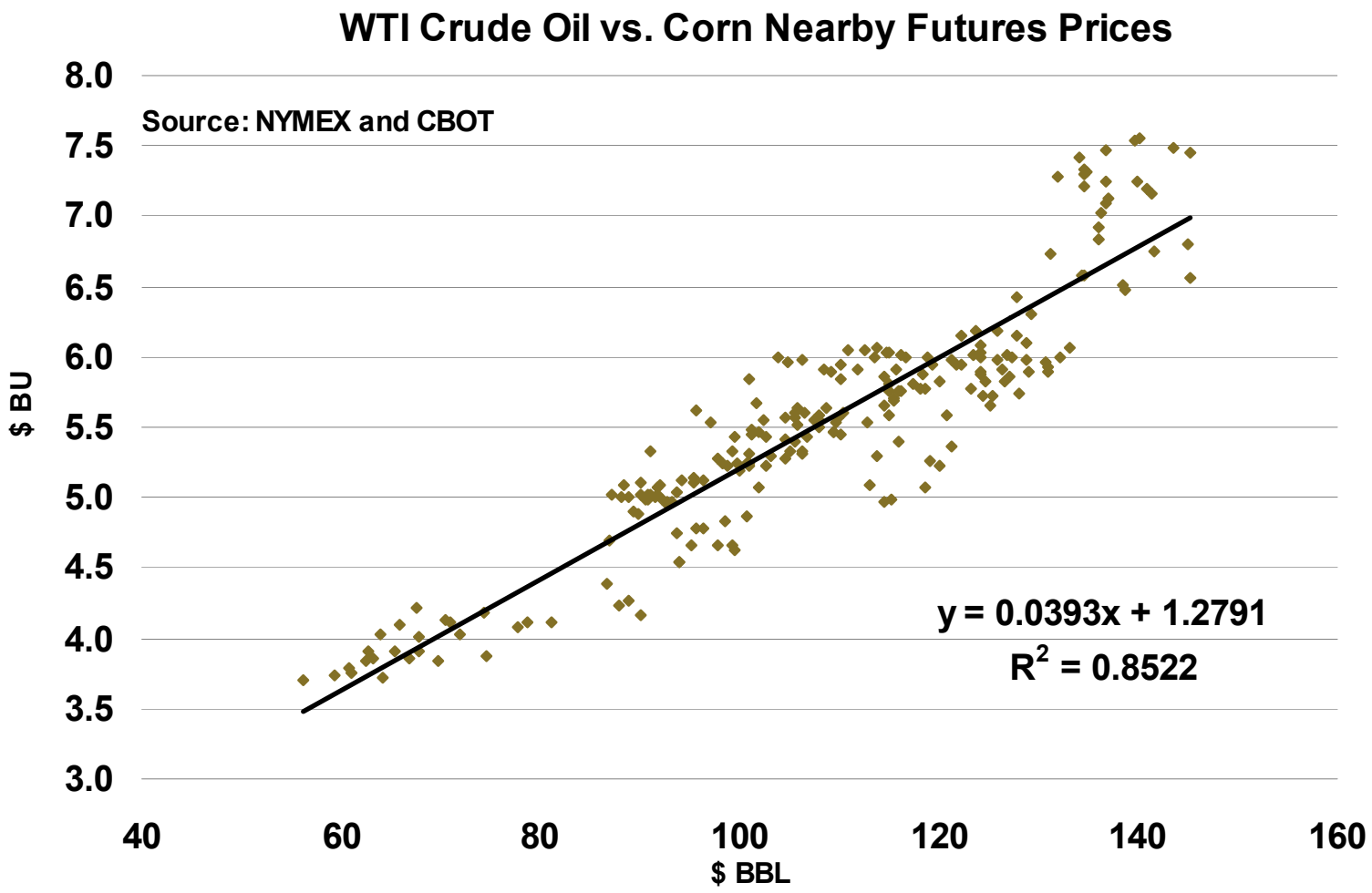
An ideal growing season is required in 2009 to begin to build stocks to more secure levels (the 2009/10 high production scenario). A short crop would reduce stocks to the lowest percentage of use in modern history (the 2009/10 low production scenario) and an average crop still would result in a small drawdown of stocks (the 2009/10 medium production scenario).

THE PERFECT STORM

What drove high fertilizer prices last year?

- Energy costs – heat, fuel and shipping
- Very strong worldwide demand – shortages
- Logistics problems – rail diverted to hauling scrap iron, rail cars becoming scrap iron, and shipping other commodities instead of grain and fertilizer
- Hedge fund investors jumped into the fuel, grain and ag inputs markets
- Raw material suppliers wanted more of the pie – rock 2x, ammonia 4x, sulfur 5x
- Weak US dollar limited imported products to North America
- Cool, wet spring caused concerns over reduced yields before planting occurred

Nearby oil vs corn prices



Like all storms, there was damage

- Once corn prices exceeded $5.00/bu, ethanol became less attractive
- Once phosphate fertilizer exceeded $900/ton, growers began to look for ways to cut back
- Dealers normally empty their warehouses in the spring and refill them in July/August to prepare for the fall application season
- Costs were high in May, but every indicator said grain prices would stay high because of late planting throughout the US
- Fertilizer was in short supply and expected to get tighter
- Dealers filled their warehouses in May/June

Aftermath

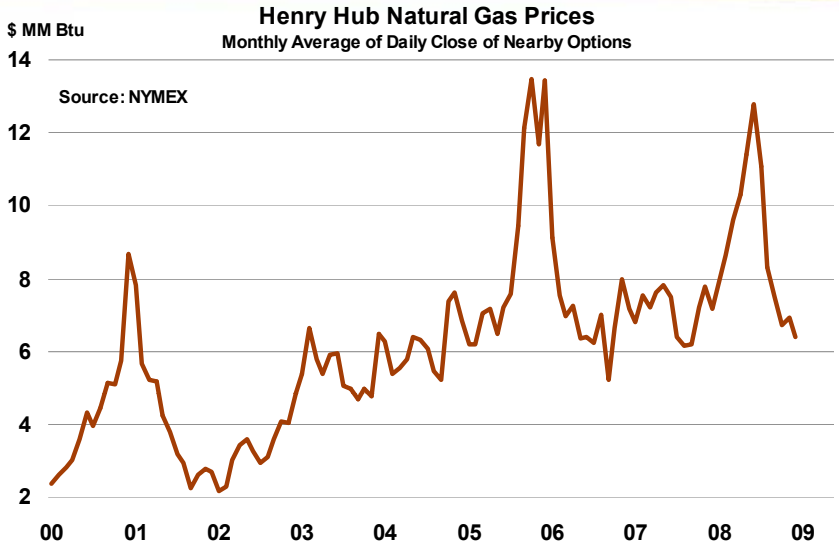
- Economy began to collapse on a worldwide basis – hedge fund investors sold their positions to cover their positions and got out of ag commodities
- Grain prices fell
- Dealers were upside down on price and can't capitalize on lower replacement fertilizer until higher priced product moves out of their system
- Selling at replacement value would bankrupt some
- Storage facilities in North America are full at the dealer level and manufacturer level
- Most Worldwide P & K production has been idled until space opens up and shipments start

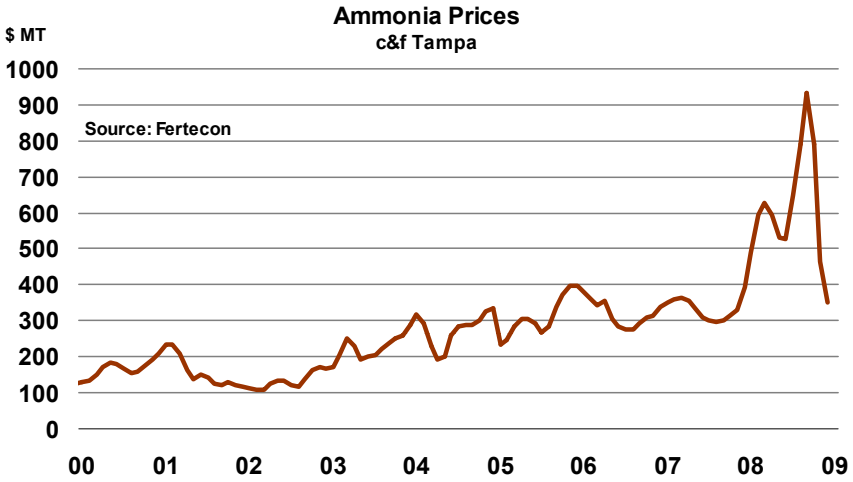
A game of chicken

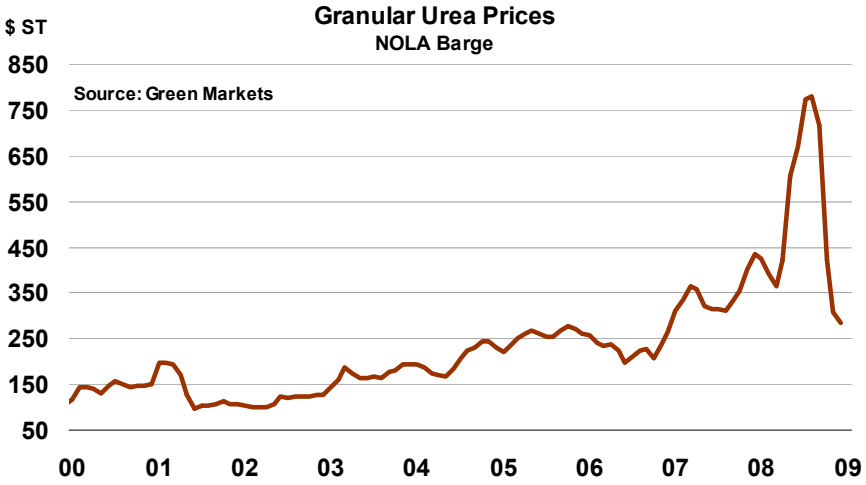
- Dealers and growers are seeing who will give first
- Dealers without large, high priced inventories could buy cheaper product and sell to new customers
- Is this in the best interest to the growers?
  - ⇨ Lose connection with dealers who know their operation
  - ⇨ Smaller dealers may not be able to service additional growers well
  - ⇨ Current supplier may go out of business or greatly reduce staff – less options for grower going forward

Nitrogen Outlook

Nitrogen price drivers



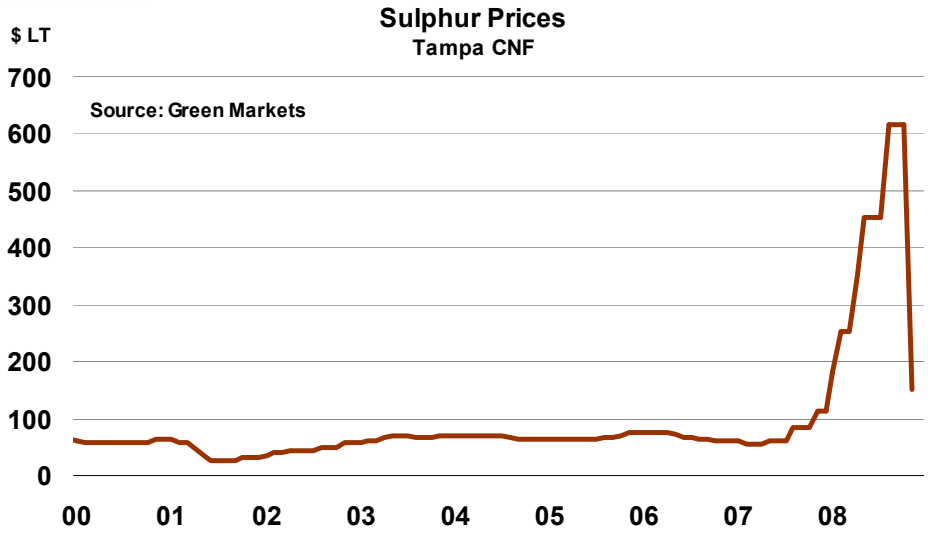


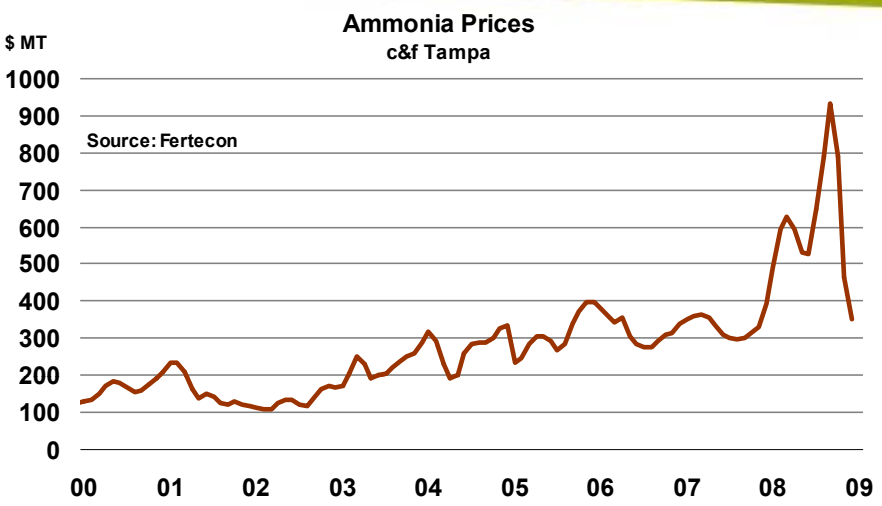


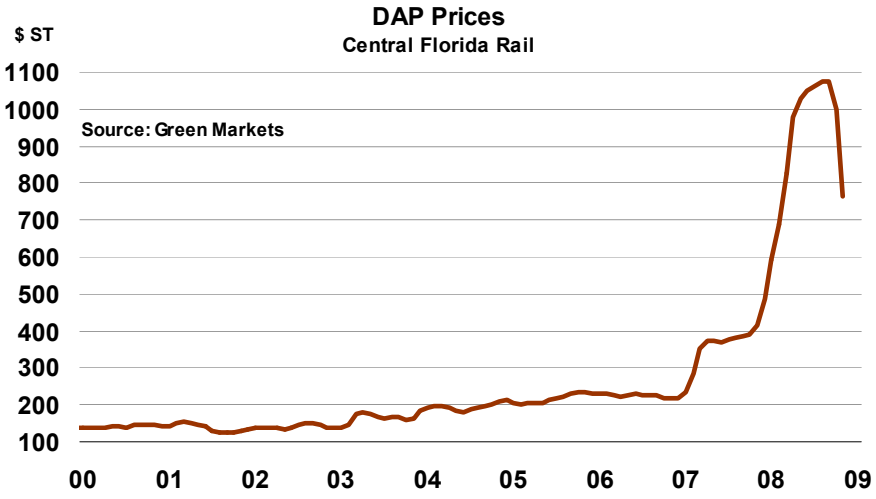
Buyers step away from the market

Phosphate Outlook

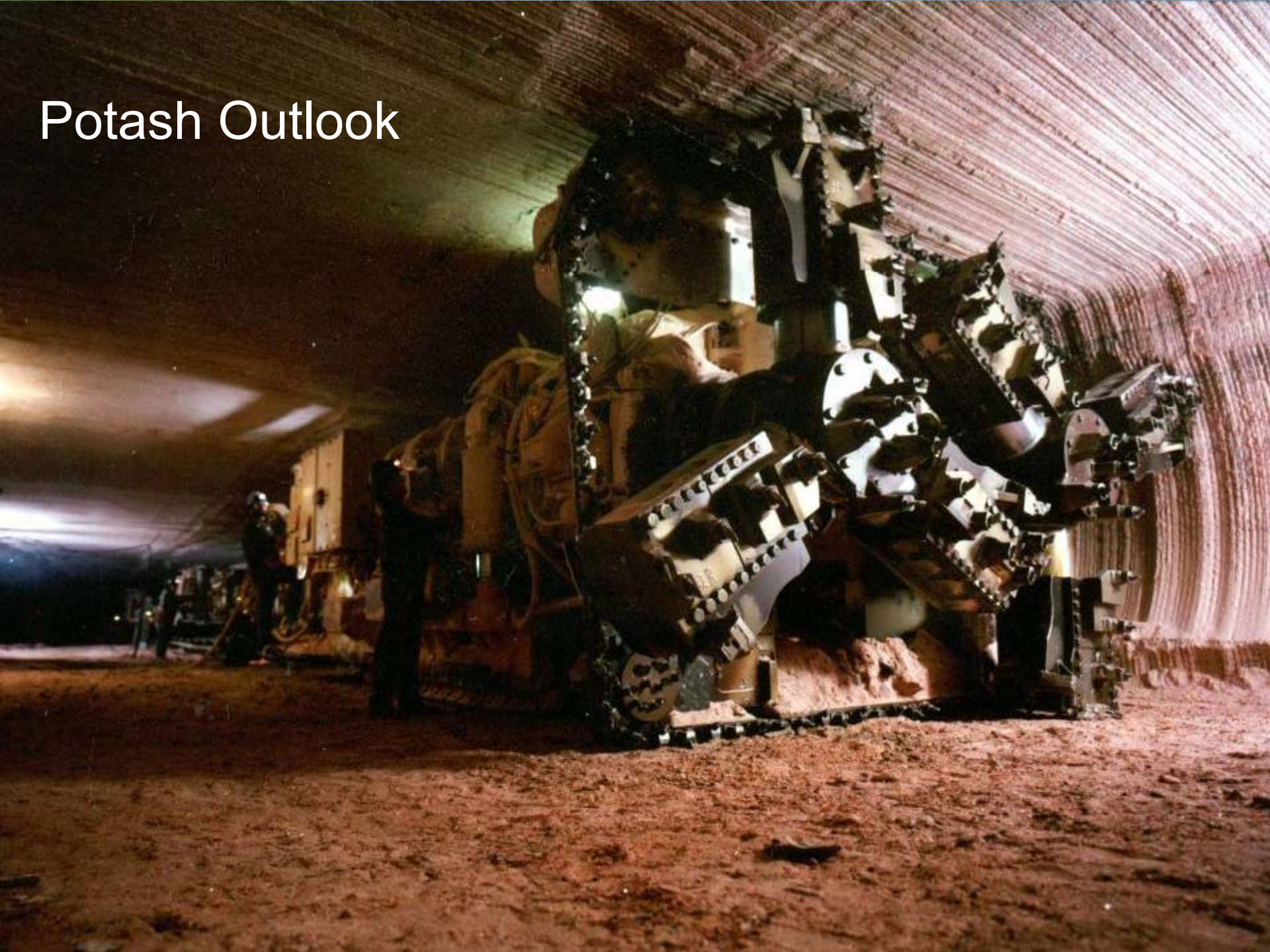
Diammonium Phosphate (DAP) drivers







Potash Outlook



Potash supply

Berezniki I mine in Russia – sink hole

Supply – the good news

- **If corn acres don’t go over 90 myn acres, there should be enough N & P; K could still be tight**

Enough fertilizer for first 1/2 to 2/3 of spring season

Some issues to consider

- **Will growers cut back on P & K**
- **If corn prices go up, will we have more corn acres**
- **Can dealers get all of the fertilizer applied for both fall and spring if season is compressed**
- **Do dealers have enough application equipment or people to get all of the fertilizer applied**
- **Weather – will we have another spring like 2008**
- **Can dealers get resupplied in season**
  - ⇨ **Railroads have laid off people**
  - ⇨ **Will imports make it into the US**
  - ⇨ **Will dealers choose to run out to avoid being long on product**

Price

- No one knows how it will turn out
- Likely to not go down much before warehouses begin to empty and resupply arrives
- Dealers did not charge growers full replacement cost ($200-300 more) when prices were rising rapidly
- Should growers expect them to charge replacement cost ($200-300 less) when the prices decreased overnight

What can you do as a consultant/agronomist?

- Make sure the grower understands his options
- Select realistic yield goals
  - ⇨ New hybrids have much higher yield potential
- Know what the soil should supply
  - ⇨ Soil test
- Consider variable rate P & K applications to cut total fertilizer cost without hurting yield
- Fertilize for only one crop
- Keep fertility balanced
  - ⇨ Temptation is to cut back on P & K and keep N higher
  - ⇨ OK if soil test levels are high to very high

Can you cut back on P & K for 1-2 years?

- **Yes, if your soil test levels are high enough and you are confident spring weather will make soil nutrients available ahead of crop needs**
- **No, if you have been mining the soil for many years**
- **Also depends on University philosophy differences**
  - ⇨ **East = build and maintenance approach**
  - ⇨ **West = maintenance approach due to higher pH and more soil fixation**

Fertilizer Allocation Tool

Customer Name:	Dean Fairchild
Field ID:	Pivot 13-A
Location:	Pheasant Farm

Fertilizer Economics Decision Support Tool

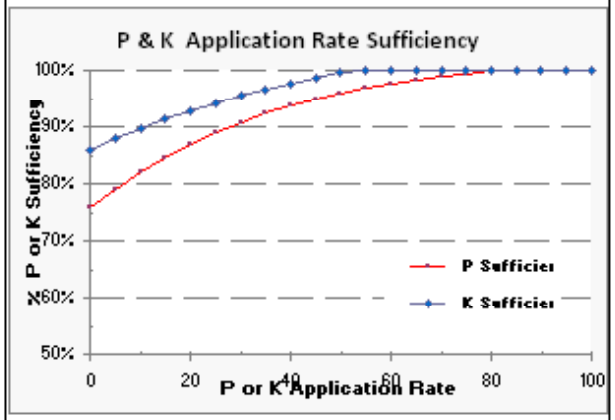
The Mosaic Company
www.mosaicco.com

January 22, 2009

Field Details

Acres	1		
Yield Potential	180	Bu/A	
Estimated Yield Without N	100	Bu/A	55.6%)
Bray P1	10	ppm	75.8%)
Exch. K Soil Test	120	ppm	86.0%)
Corn Price	$3.50	per Bu	
Fertilizer N Cost	$0.50	per Lb N	
Fertilizer P Cost	$0.55	per Lb P_2O_5	
Fertilizer K Cost	$0.75	per Lb K_2O	
Total Budget Available	$133.00		
Previous Crop	2	(1=Corn, 2=Sbean)	
P and K Build Years	6		

Phosphorus and Potassium Sufficiency



Customer Rates

N Application	150	Lb N/Acre
P_2O_5 Application	57	Lb P_2O_5/Acre
K_2O Application	36	Lb K_2O/Acre
Expected Yield Potential	168	Bu/A
Total Fertilizer Cost	$133.35	
Estimated Marginal Return	$106.39	

Economic Optimum Rates

Expected Yield	178	Bu/A
N Recommendation	139	Lb N/Acre
P_2O_5 Recommendation	76	Lb P_2O_5/Acre
K_2O Recommendation	49	Lb K_2O/Acre
Total Fertilizer Cost	$148.07	
Estimated Marginal Return	$125.65	

Limited Dollars Rates

Expected Yield	173	Bu/A
Adjusted N Application	131	Lb N/Acre
Adjusted P_2O_5 Application	63	Lb P_2O_5/Acre
Adjusted K_2O Application	41	Lb K_2O/Acre
Adjusted Fertilizer Cost	$130.94	
Estimated Marginal Return	$124.11	

Sufficiency Rates

Yield potential	180	Bu/A
N Recommendation	142	Lb N/Acre
P_2O_5 Recommendation	82	Lb P_2O_5/Acre
K_2O Recommendation	52	Lb K_2O/Acre
Total Fertilizer Cost	$154.83	
Estimated Marginal Return	$125.17	

Case 1 – low P & low K

Field Details

Acres	1		
Yield Potential	180	Bu/A	
Estimated Yield Without N	100	Bu/A	(55.6%)
Bray P1	10	ppm	(75.8%)
Exch. K Soil Test	120	ppm	(86.0%)
Corn Price	$3.50	per Bu	
Fertilizer N Cost	$0.50	per Lb N	
Fertilizer P Cost	$0.55	per Lb P_2O_5	
Fertilizer K Cost	$0.75	per Lb K_2O	
Total Budget Available	$133.00		
Previous Crop	2	(1=Corn, 2=Sbean)	
P and K Build Years	6		

Sufficiency Rates

Yield potential	180	Bu/A
N Recommendation	142	Lb N/Acre
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K_2O Recommendation	52	Lb K_2O/Acre
Total Fertilizer Cost	$154.83	
Estimated Marginal Return	$125.17	

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Expected Yield	178	Bu/A
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Total Fertilizer Cost	$148.07	
Estimated Marginal Return	$125.65	

Case 1 – low P & low K

Field Details

Acres	1		
Yield Potential	180	Bu/A	
Estimated Yield Without N	100	Bu/A	(55.6%)
Bray P1	10	ppm	(75.8%)
Exch. K Soil Test	120	ppm	(86.0%)
Corn Price	$4.00	per Bu	
Fertilizer N Cost	$0.50	per Lb N	
Fertilizer P Cost	$0.55	per Lb P_2O_5	
Fertilizer K Cost	$0.75	per Lb K_2O	
Total Budget Available	$133.00		
Previous Crop	2	(1=Corn, 2=Sbean)	
P and K Build Years	6		

Limited Dollars Rates

Expected Yield	173	Bu/A
Adjusted N Application	131	Lb N/Acre
Adjusted P_2O_5 Application	63	Lb P_2O_5/Acre
Adjusted K_2O Application	41	Lb K_2O/Acre
Adjusted Fertilizer Cost	$130.94	
Estimated Marginal Return	$160.54	

Case 1: Farmer defined rates (70%) vs limited dollars – low P & low K

Customer Rates

N Application	150	Lb N/Acre
P_2O_5 Application	57	Lb P_2O_5/Acre
K_2O Application	36	Lb K_2O/Acre
Expected Yield Potential	168	Bu/A
Total Fertilizer Cost	$133.35	
Estimated Marginal Return	$140.64	

Limited Dollars Rates

Expected Yield	173	Bu/A
Adjusted N Application	131	Lb N/Acre
Adjusted P_2O_5 Application	63	Lb P_2O_5/Acre
Adjusted K_2O Application	41	Lb K_2O/Acre
Adjusted Fertilizer Cost	$130.94	
Estimated Marginal Return	$160.54	

+ $19.90/acre

Case 2: Farmer defined rates (70%) vs limited dollars – high P & low K

Customer Rates

N Application	150	Lb N/Acre
P_2O_5 Application	0	Lb P_2O_5/Acre
K_2O Application	36	Lb K_2O/Acre
Expected Yield Potential	174	Bu/A
Total Fertilizer Cost	$102.00	
Estimated Marginal Return	$194.00	

Limited Dollars Rates

Expected Yield	177	Bu/A
Adjusted N Application	138	Lb N/Acre
Adjusted P_2O_5 Application	0	Lb P_2O_5/Acre
Adjusted K_2O Application	44	Lb K_2O/Acre
Adjusted Fertilizer Cost	$101.72	
Estimated Marginal Return	$207.48	

+ $13.48/acre

Case 3: Farmer defined rates (70%) vs limited dollars – low P & high K

Customer Rates

N Application	150	Lb N/Acre
P_2O_5 Application	57	Lb P_2O_5/Acre
K_2O Application	0	Lb K_2O/Acre
Expected Yield Potential	174	Bu/A
Total Fertilizer Cost	$106.35	
Estimated Marginal Return	$190.88	

Limited Dollars Rates

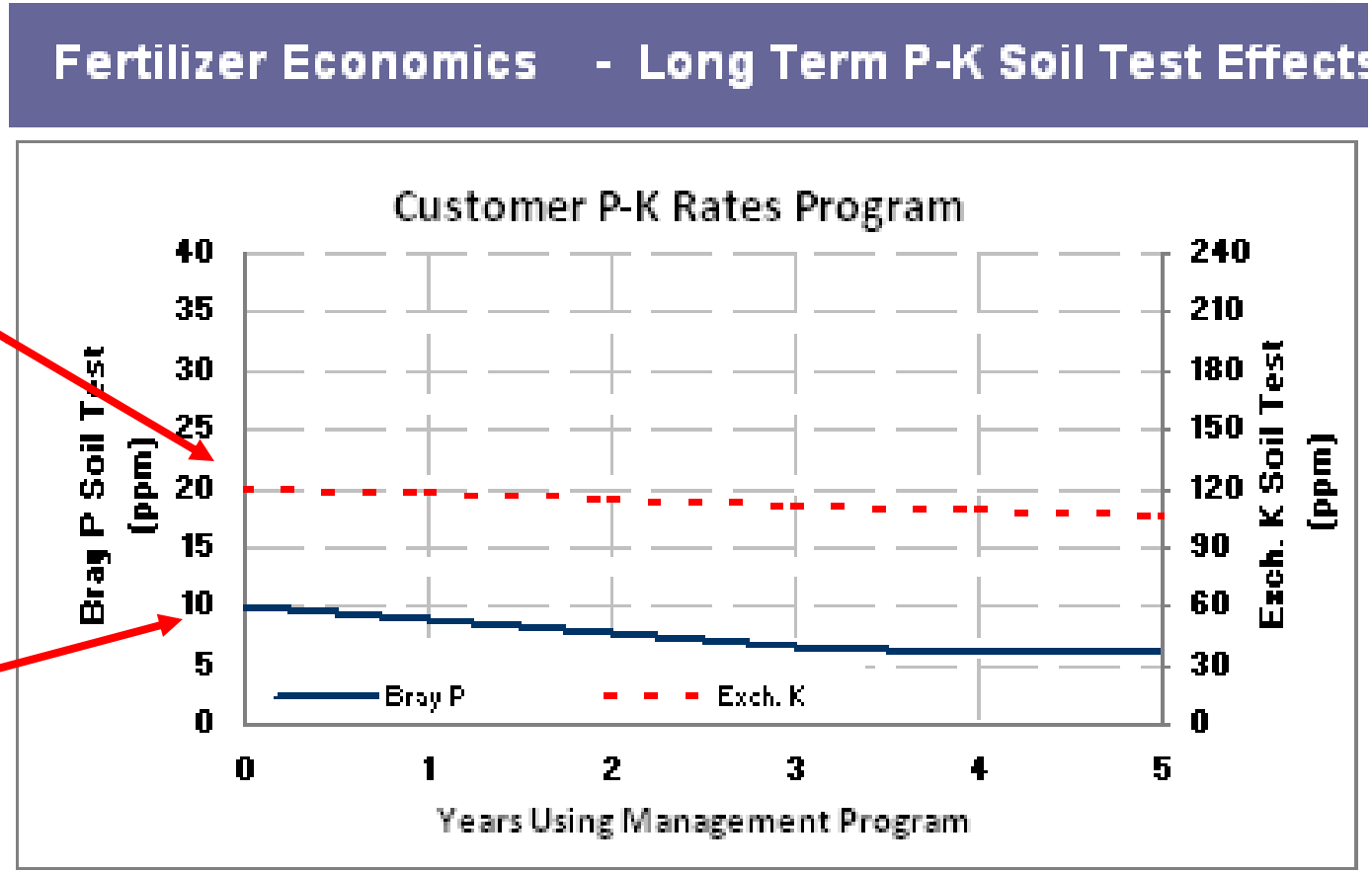
Expected Yield	177	Bu/A
Adjusted N Application	138	Lb N/Acre
Adjusted P_2O_5 Application	66	Lb P_2O_5/Acre
Adjusted K_2O Application	0	Lb K_2O/Acre
Adjusted Fertilizer Cost	$105.39	
Estimated Marginal Return	$203.81	

+ $12.93/acre

Long term effects of P & K cut 30%

Soil K levels drop 10 ppm after 4 years

Soil P levels drop 4 ppm after 4 years



Value of grain changes

Field Details

Acres	1		
Yield Potential	180	Bu/A	
Estimated Yield Without N	100	Bu/A	(55.6%)
Bray P1	10	ppm	(75.8%)
Exch. K Soil Test	120	ppm	(86.0%)
Corn Price	$3.50	per Bu	
Fertilizer N Cost	$0.50	per Lb N	
Fertilizer P Cost	$0.55	per Lb P_2O_5	
Fertilizer K Cost	$0.75	per Lb K_2O	
Total Budget Available	$133.00		
Previous Crop	2	(1=Corn, 2=Sbean)	
P and K Build Years	6		

Economic Optimum Rates

Expected Yield	178	Bu/A
N Recommendation	139	Lb N/Acre
P_2O_5 Recommendation	76	Lb P_2O_5/Acre
K_2O Recommendation	49	Lb K_2O/Acre
Total Fertilizer Cost	$148.07	
Estimated Marginal Return	$125.65	

Field Details

Acres	1		
Yield Potential	180	Bu/A	
Estimated Yield Without N	100	Bu/A	(55.6%)
Bray P1	10	ppm	(75.8%)
Exch. K Soil Test	120	ppm	(86.0%)
Corn Price	$4.50	per Bu	
Fertilizer N Cost	$0.50	per Lb N	
Fertilizer P Cost	$0.55	per Lb P_2O_5	
Fertilizer K Cost	$0.75	per Lb K_2O	
Total Budget Available	$133.00		
Previous Crop	2	(1=Corn, 2=Sbean)	
P and K Build Years	6		

Economic Optimum Rates

Expected Yield	180	Bu/A
N Recommendation	142	Lb N/Acre
P_2O_5 Recommendation	82	Lb P_2O_5/Acre
K_2O Recommendation	52	Lb K_2O/Acre
Total Fertilizer Cost	$154.83	
Estimated Marginal Return	$205.17	

Value of phosphate changes

Field Details

Acres	1		
Yield Potential	180	Bu/A	
Estimated Yield Without N	100	Bu/A	(55.6%)
Bray P1	10	ppm	(75.8%)
Exch. K Soil Test	120	ppm	(86.0%)
Corn Price	$3.50	per Bu	
Fertilizer N Cost	$0.50	per Lb N	
Fertilizer P Cost	$0.55	per Lb P_2O_5	
Fertilizer K Cost	$0.75	per Lb K_2O	
Total Budget Available	$133.00		
Previous Crop	2	(1=Corn, 2=Sbean)	
P and K Build Years	6		

Economic Optimum Rates

Expected Yield	178	Bu/A
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Bray P1	10	ppm	(75.8%)
Exch. K Soil Test	120	ppm	(86.0%)
Corn Price	$3.50	per Bu	
Fertilizer N Cost	$0.50	per Lb N	
Fertilizer P Cost	$0.75	per Lb P_2O_5	
Fertilizer K Cost	$0.75	per Lb K_2O	
Total Budget Available	$133.00		
Previous Crop	2	(1=Corn, 2=Sbean)	
P and K Build Years	6		

Economic Optimum Rates

Expected Yield	175	Bu/A
N Recommendation	134	Lb N/Acre
P_2O_5 Recommendation	66	Lb P_2O_5/Acre
K_2O Recommendation	44	Lb K_2O/Acre
Total Fertilizer Cost	$149.53	
Estimated Marginal Return	$111.71	

Back-to-basics.net

The "Energizer" in Crop Nutrition

Phosphorus is present in every living cell, both plant and animal. There are no substitutes for this element. Phosphorus is often referred to as "The Energizer" for its role in converting the sun's energy into food, fuel, and fiber. Phosphorus plays a key role in photosynthesis, the metabolism of sugars, energy storage and transfer, cell division, cell enlargement, and transfer of genetic information.

Why is phosphorus important?

Some of the benefits that phosphorus provides in growing plants are:

- Improved root growth
- Earlier maturity of grain
- Higher crop quality
- Better water use efficiency
- Increased yields

What nutrients do crops need?

Nutrient uptake varies greatly among major agricultural crops. Corn and wheat are considered a high phosphorus use crops while soybeans, rice and cotton are viewed more as heavy potassium users. The goal is to soil sample to understand what the soil should provide to the crop and apply the difference between crop uptake needs and the amount the soil will provide.

Nutrient uptake by major crops

Crop	# N	# P_2O_5	# K_2O	# S
Corn (180 bu.)	240	100	240	28
Soybeans (60 bu)	325	65	140	25
Wheat (55 bu)	120	45	85	13
Rice (7500 lbs)	120	60	170	12
Cotton (1500 lbs)	180	65	155	40

Source: IPNI

When does the corn plant need phosphorus?

A 180-bushel corn crop requires 100 pounds of P_2O_5. Approximately 30% of the total phosphorus is taken up by the plants in the first 50 days. Unlike potassium, phosphorus is required in larger quantities though maturity. Shortly before pollination, corn plants remove over 3 pounds of P_2O_5 per acre per day.

P_2O_5 usage by 180-bushel corn crop

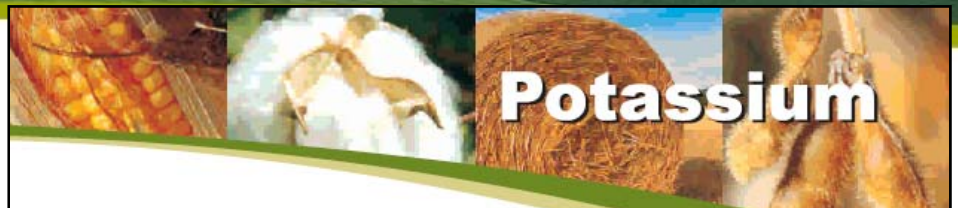
Days	% of total use	Total %
0-25	4	4
26-50	27	31
51-75	36	67
76-100	25	92
101-125	8	100

Phosphorus deficiency in corn

Deficiency symptoms:

- Twisted ears or irregular kernel rows
- Purple or reddish color on lower leaves and stems
- Overall stunted plants
- Delayed silking

Mosaic



The "Regulator" in Crop Nutrition

Plants require more potassium than any nutrient other than nitrogen. Potassium interacts with almost all the essential plant food nutrients. Unlike other nutrients, potassium does not form compounds in plants, but remains free to "regulate" many essential processes, including enzyme activation, photosynthesis, water use efficiency, starch formation and protein synthesis.

Why is potassium important?

Some of the benefits that potassium provides in growing plants are:

- Formation of a larger, deeper root system
- Reduction of water loss and wilting
- Regulation of nitrogen uptake
- Increased protein content
- Reduction of lodging from weak stalks

What nutrients do crops need?

Nutrient uptake varies greatly among major agricultural crops. Corn and wheat are considered a high phosphorus use crops while soybeans, rice and cotton are viewed more as heavy potassium users. The goal is to soil sample to understand what the soil should provide to the crop and apply the difference between crop uptake needs and the amount the soil will provide.

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Crop	# N	# P_2O_5	# K_2O	# S
Corn (180 bu.)	240	100	240	28
Soybeans (60 bu)	325	65	140	25
Wheat (55 bu)	120	45	85	13
Rice (7500 lbs)	120	60	170	12
Cotton (1500 lbs)	180	65	155	40

Source: IPNI

When does the corn plant need potassium?

A 180-bushel corn crop requires 240 pounds of K_2O. Over 50% of the total potassium is taken up by the plants in the first 50 days. Unlike phosphorus, potassium is required in larger quantities early in the season. Shortly before pollination, corn plants remove over 15 pounds of K_2O per acre per day.

K_2O usage by 180-bushel corn crop

Days	% of total use	Total %
0-25	9	9
26-50	44	53
51-75	31	84
76-100	14	98
101-125	2	100

Potassium deficiency in corn

Deficiency symptoms:

- Slow growth rate and/or poor response to N
- Leaf edges turn brown but midrib stays green
- Stalk lodging due to weak stalks
- Thin stands and poor vigor

Mosaic

Thank You

Dan Froehlich
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Director of Agronomy

NAICC
Memphis, TN
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