

Wheat Economics and the Impacts of Rising Input Prices

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Outline of presentation...

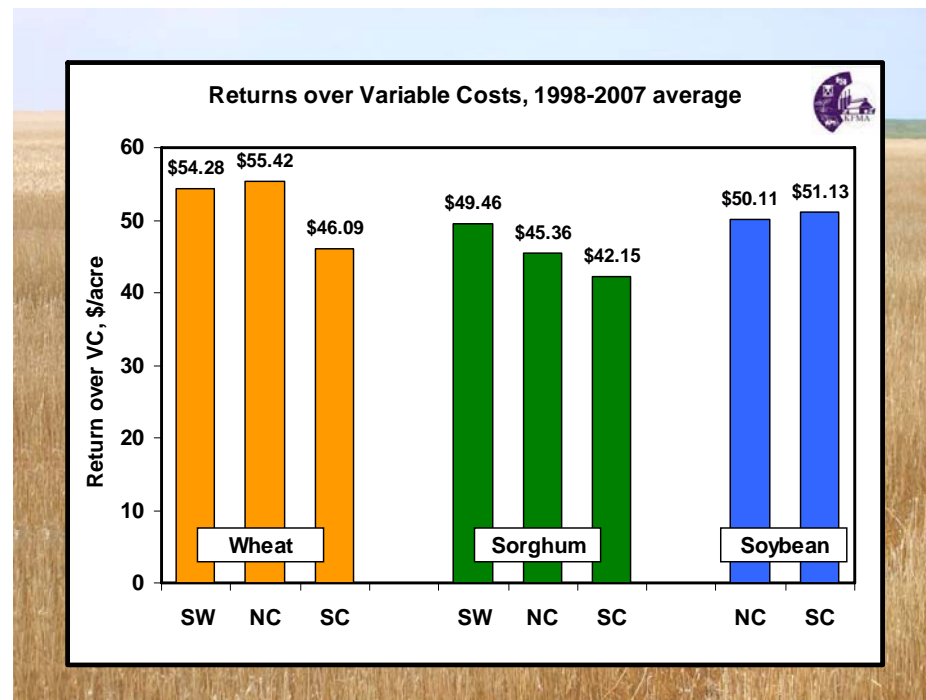
- Brief overview of wheat historical returns
- Fuel prices
- Fertilizer prices
- Projected budgets examining profit potential for 2009

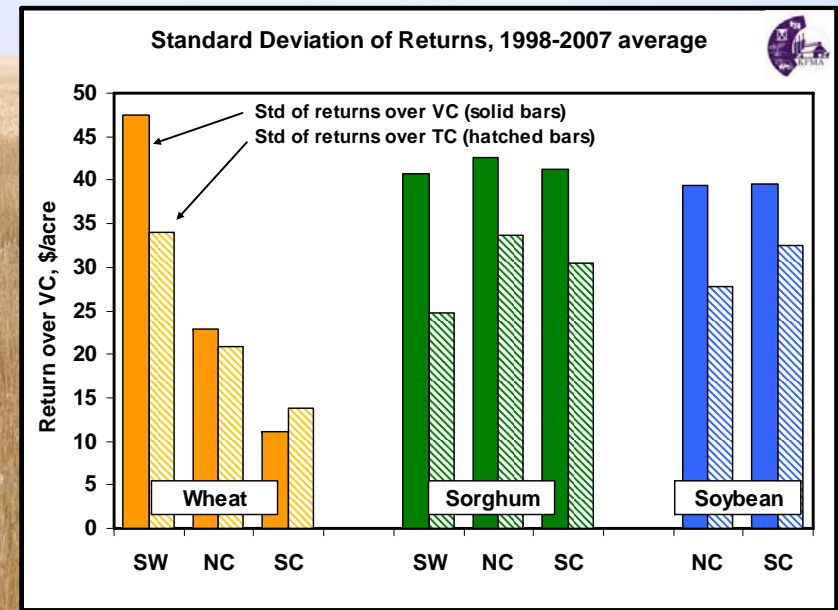
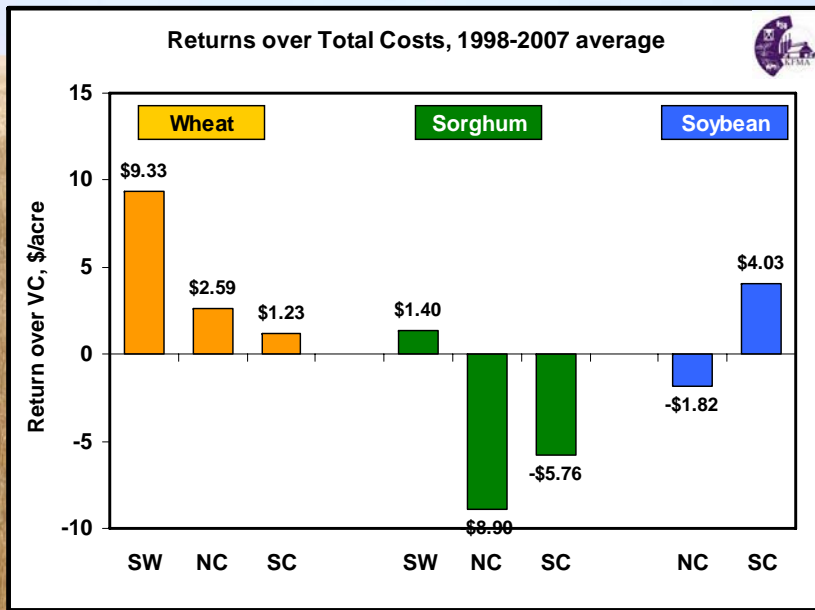


Alternative crop considerations...

Historical profitability

- Short run – return over variable costs
- Long run – return over total costs
- Variability of returns





Alternative crop considerations...

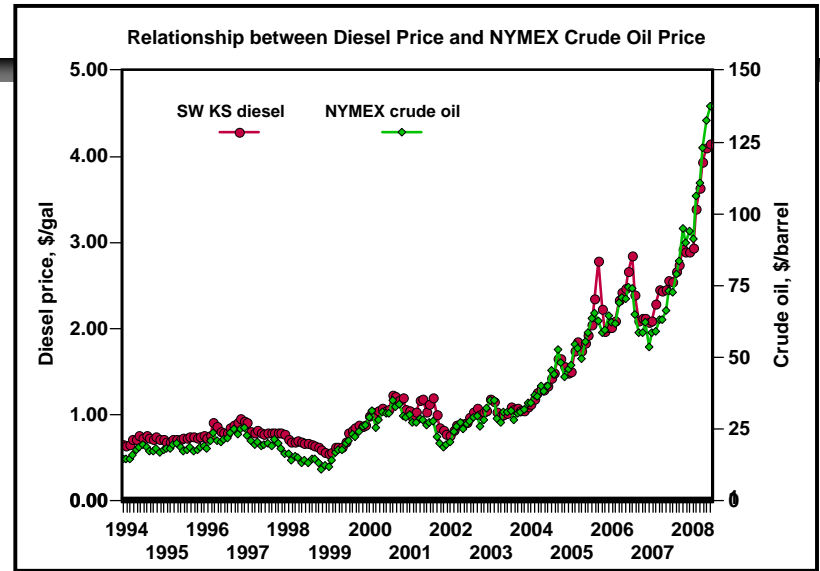
- Wheat compares quite favorably with other crops when looking at historical returns...
- But, how accurate or useful is this “crop-by-crop” comparison if it does not account for rotational effects?
- Comparisons can still be useful, but it is important to keep in mind that *difficult-to-quantify* factors related to crop rotation can impact relative returns

Alternative crop considerations...

- How does crop profitability of various crops look going forward?
- Projected budgets based on KSU Farm Management Guides for South Central Kansas modified to reflect current conditions
- But, first some information on fuel and fertilizer...

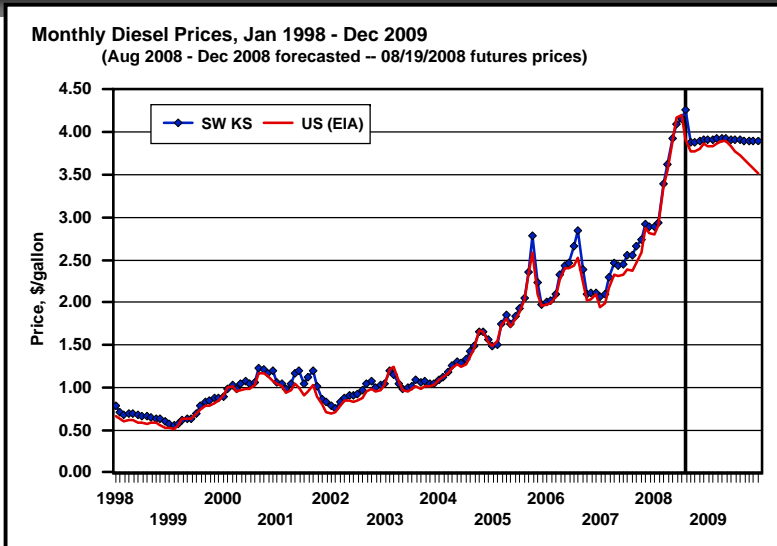


Historical and forecasted oil and diesel fuel prices



Relationship suggests that NYMEX crude oil futures market can be used to forecast diesel prices.

Historical and forecasted crude oil and farm diesel fuel average Mar-Oct prices...



Historical and forecasted crude oil and farm diesel fuel average Mar-Oct prices...

Off-road Diesel Fuel Prices

Year	Mar-Oct Diesel Price			Year-to-year percent change		
	SW KS	US (EIA)	Average	SW KS	US (EIA)	Average
2003	\$1.05	\$1.03	\$1.04	----	----	----
2004	\$1.37	\$1.34	\$1.35	30.0%	29.6%	29.8%
2005	\$2.04	\$1.99	\$2.01	48.5%	48.7%	48.6%
2006	\$2.41	\$2.29	\$2.35	18.6%	15.3%	17.0%
2007	\$2.52	\$2.37	\$2.44	4.4%	3.3%	3.9%
2008 (F)	\$3.90	\$3.83	\$3.87	54.9%	61.8%	58.3%
2009 (F)	\$3.91	\$3.79	\$3.85	0.3%	-1.2%	-0.4%
2008 - 2007	\$1.38	\$1.46	\$1.42	54.9%	61.8%	58.3%
08 - Avg(03-07)	\$2.02	\$2.03	\$2.03	107.8%	112.4%	110.1%

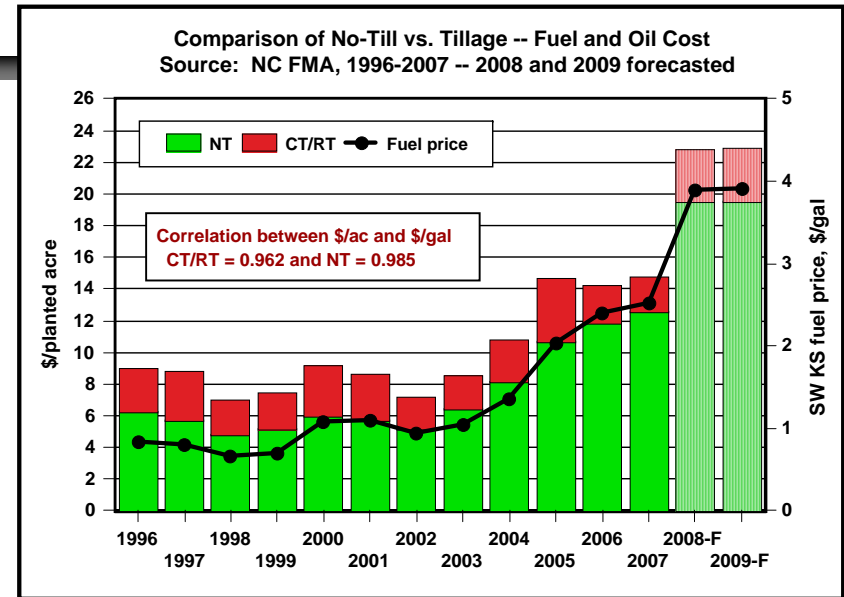
F = forecast

What can producers do in response to higher machinery costs associated with fuel prices?

Without any change, costs of machinery operations in 2008 are up about 16% from 2007 strictly due to fuel prices (2009 will be about the same).

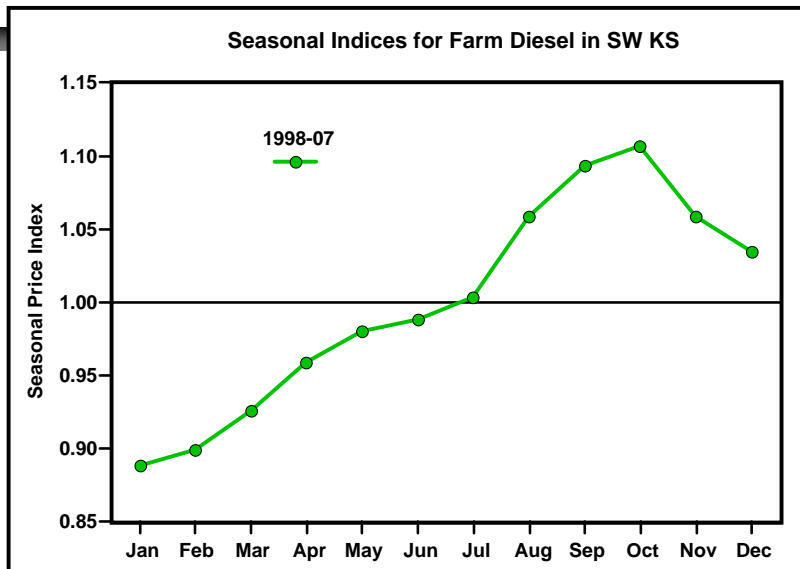
Things to consider...

- Reduce operations (NT results in \$3-\$4/ac in fuel savings)?
- Hire custom operators?
- Machinery management (maintenance, efficient use, etc.)?
- Pass increased costs on to landowners?
- Do better job of purchasing fuel?
- Nothing?



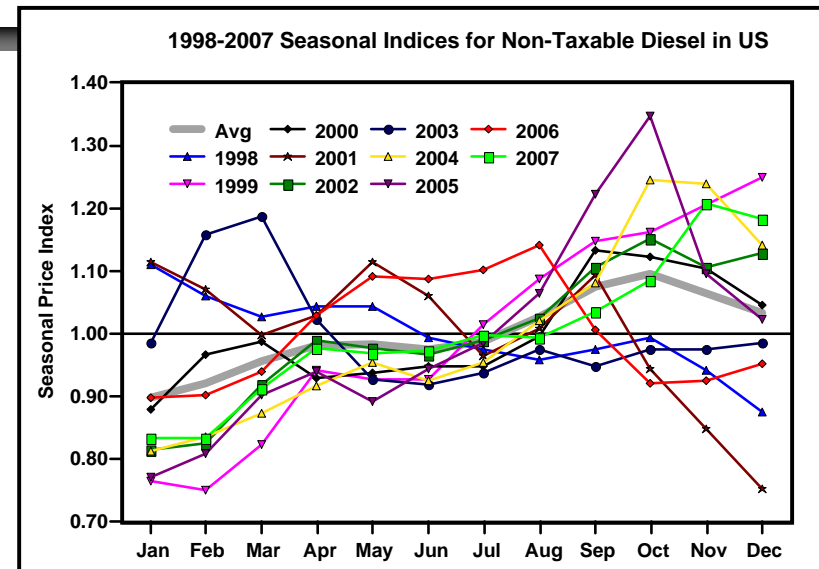
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Purchasing fuel based on seasonal patterns?



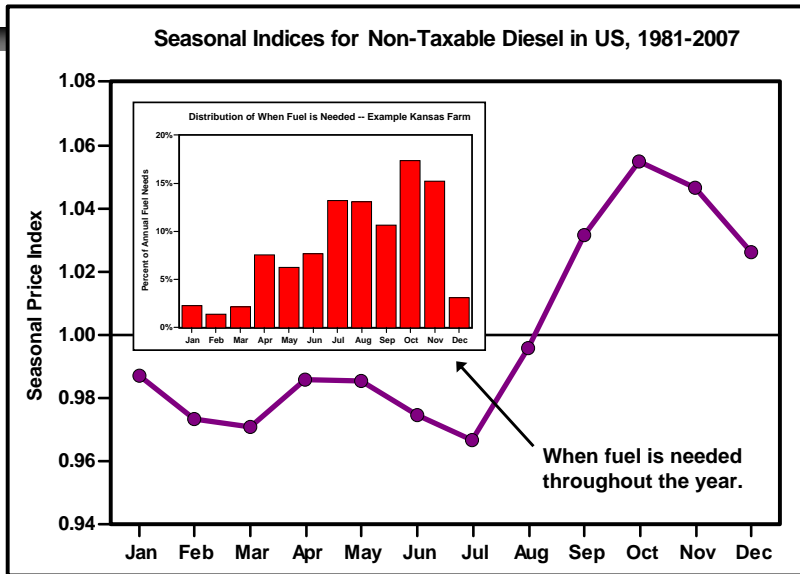
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Seasonal pattern is not particularly predictable...



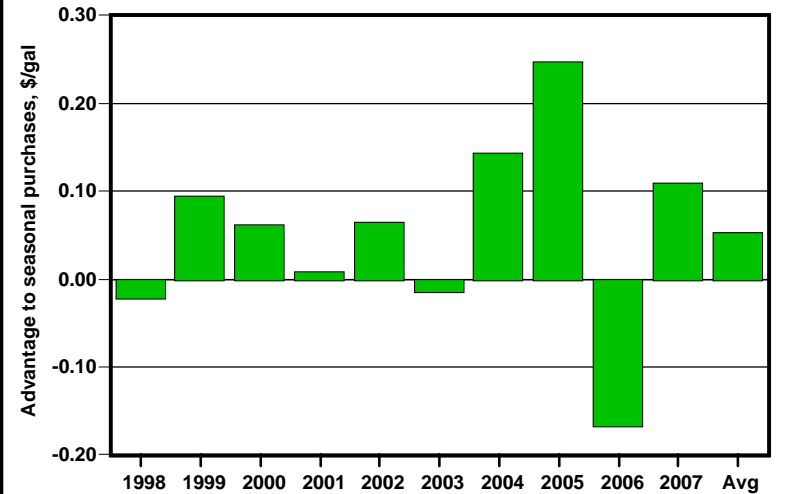
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Seasonal pattern used for analysis...



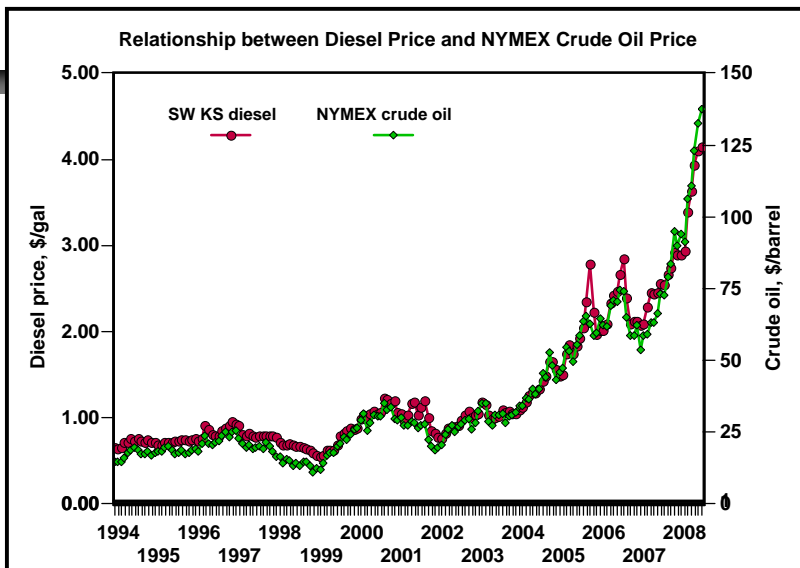
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Purchasing Diesel Fuel Seasonally versus Every Month, SW KS



IF the only storage costs that existed were interest, then a strategy of buying in the months of Jan, Feb, Mar, Jun and Jul (based on 27-year seasonal pattern) would have resulted in a \$0.05/gallon advantage compared to buying as needed (i.e., every month). Purchasing tanks eliminates gain.

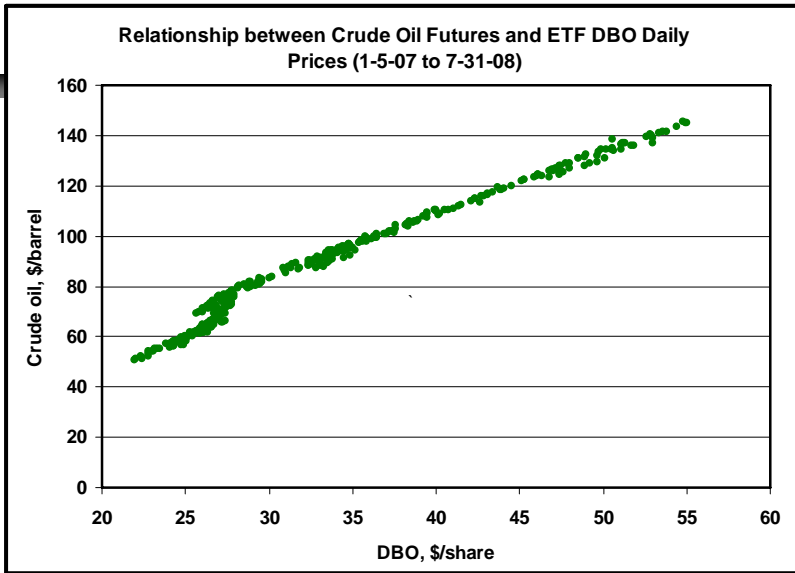
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Relationship suggest you could reasonably hedge diesel fuel price using the NYMEX crude oil futures market. One contract (1000 barrels) would effectively hedge 30,500 gallons of diesel.

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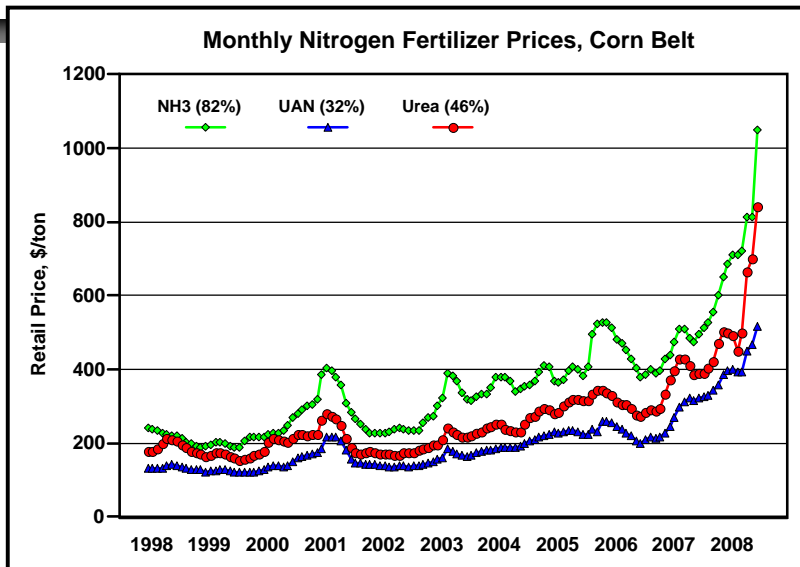
Relationship suggests you could reasonably hedge crude oil price (hence diesel fuel price) via buying DBO stock. One share of DBO stock would hedge approximately 11-12 gallons of diesel.

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Fertilizer prices (Is it time to cut back on fertilizer?)

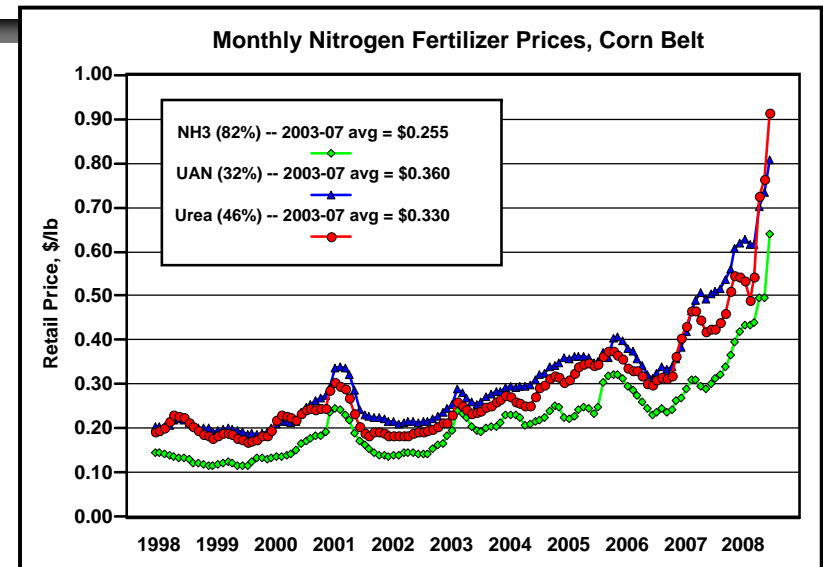


Prices of nitrogen fertilizer is at all time highs...



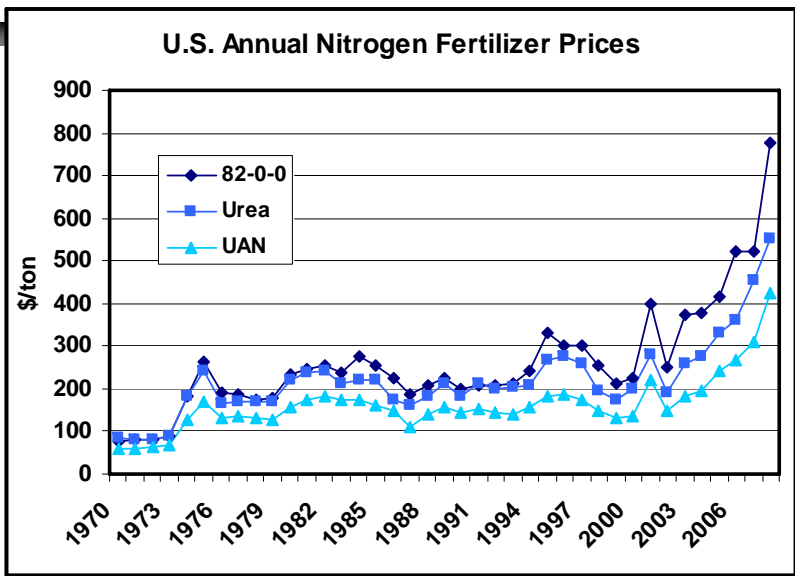
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Prices of nitrogen fertilizer is at all time highs...



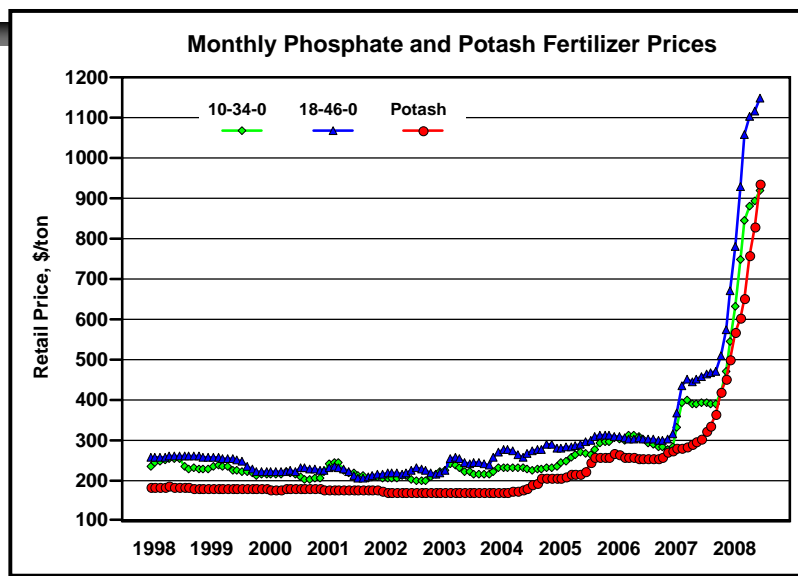
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Prices of nitrogen fertilizer is at all time highs...

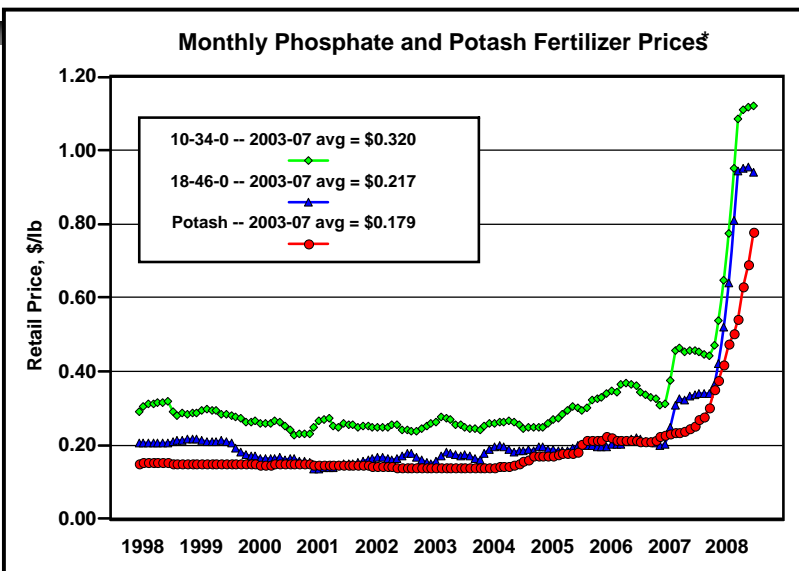


Source: USDA NASS and KSU

Prices of other nutrients also are at all time highs...

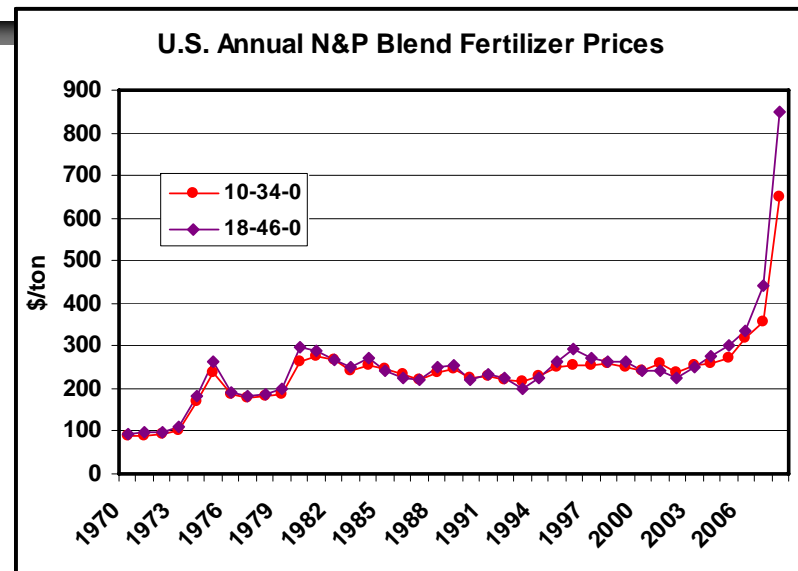


Prices of other nutrients also are at all time highs...



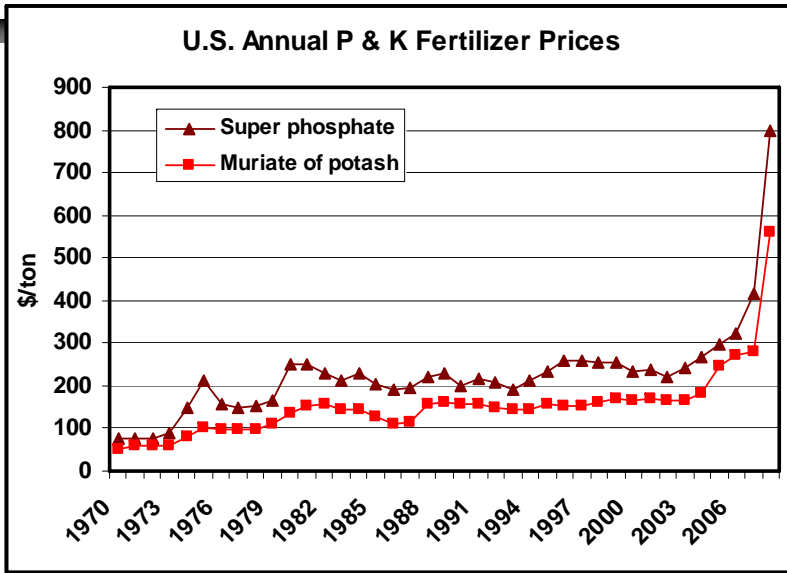
* Value of P calculated after deducting value of N at average price of NH₃, Urea, UAN

Prices of N and P blends are at all time highs...

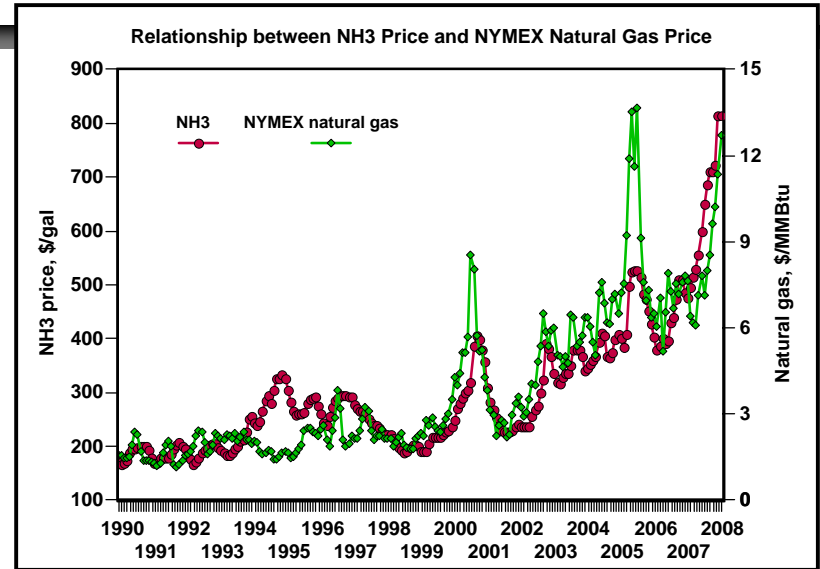


Source: USDA NASS and KSU

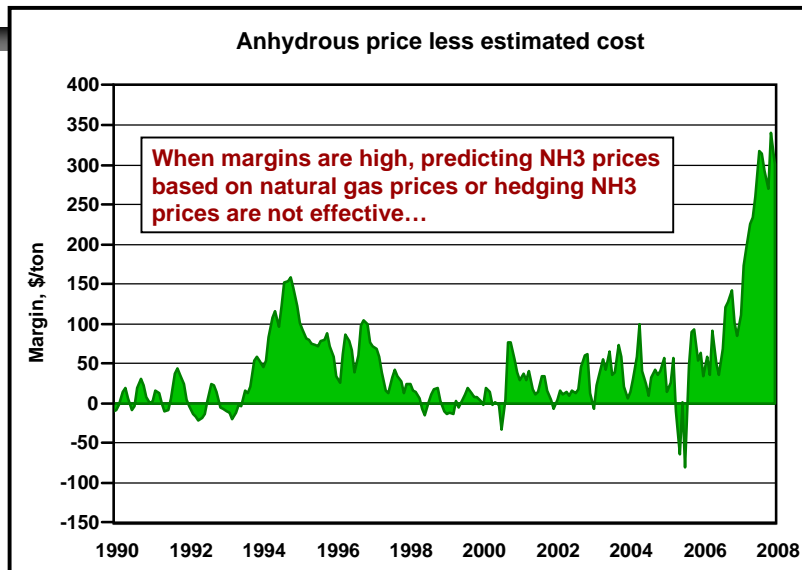
Prices of P and K are at all time highs...



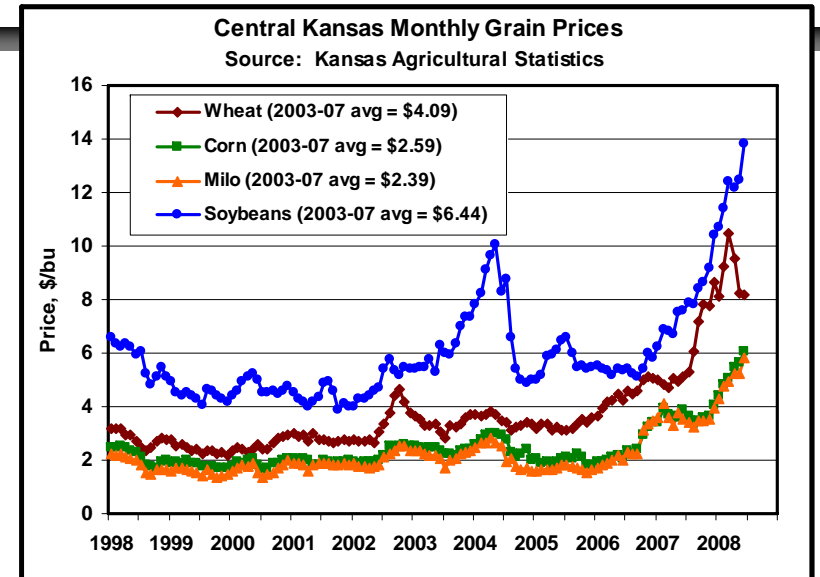
Source: USDA NASS and KSU



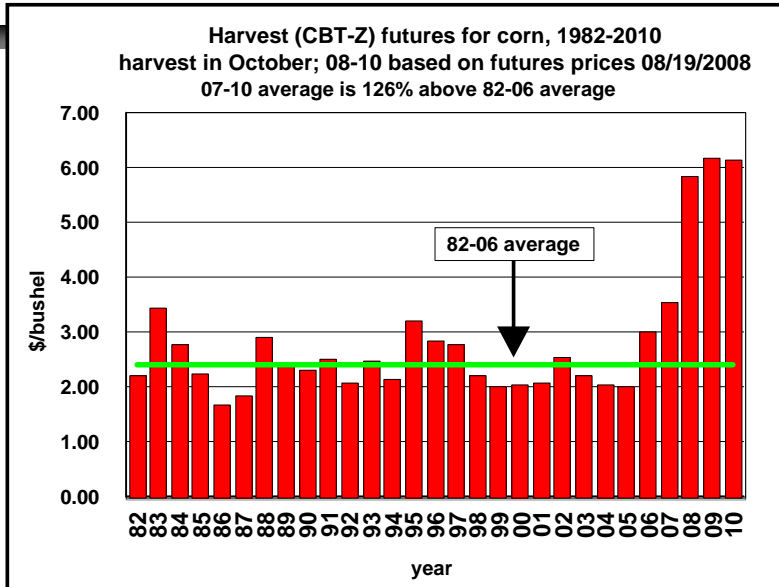
Relationship is relatively strong during "normal" time periods...



But, grain prices also are at all time highs!

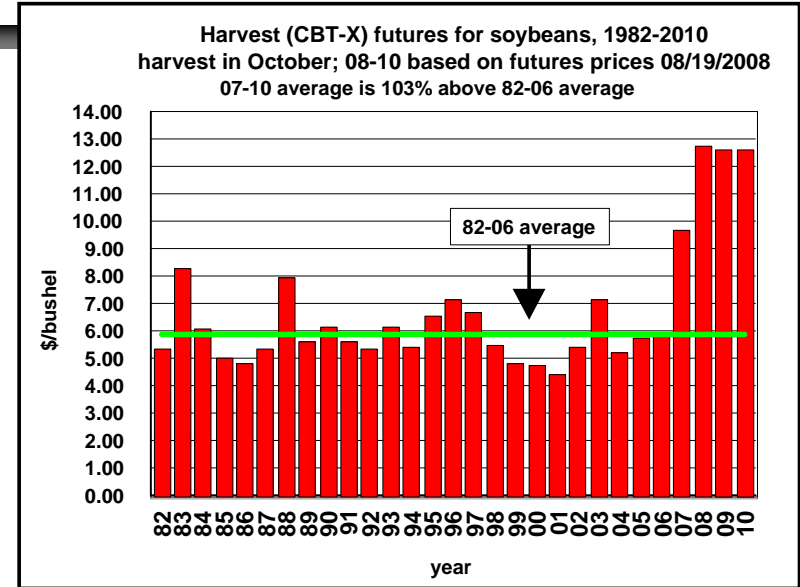


How long will strong crop prices stick around?



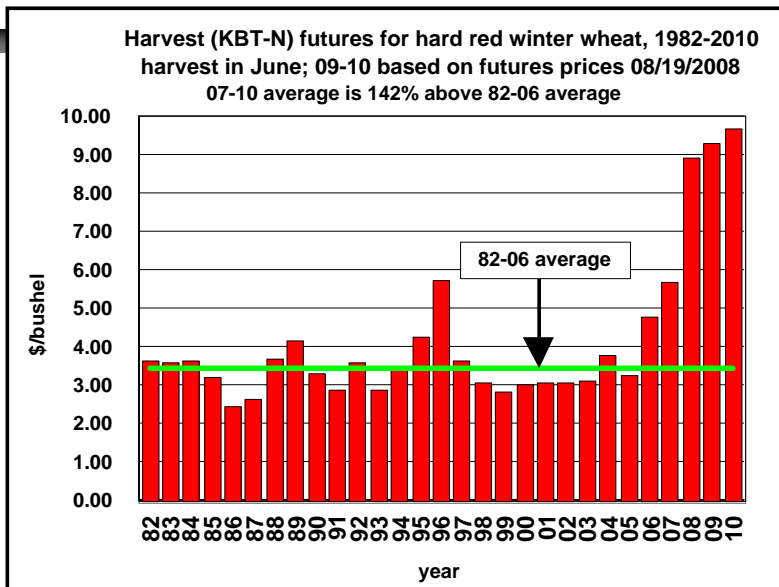
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It's not just corn prices...



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It's not just corn prices...



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What do these high fertilizer and crop prices imply for optimal fertilizer rates?

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Soil Test Interpretations and Fertilizer Recommendations

Department of Agronomy MF-2586

Nutrient Management

KSU nitrogen recommendations...

Corn and grain sorghum

$N \text{ rec} = (\text{Yield Goal} \times 1.6) - (\% \text{SOM} \times 20) - \text{Profile N} - \text{Manure N} - \text{Other N Adjustments} + \text{Previous Crop Adjustments}$

Wheat

$N \text{ rec} = (\text{Yield Goal} \times 2.4) - (\% \text{SOM} \times 10) - \text{Profile N} - \text{Manure N} - \text{Other N Adjustments} + \text{Previous Crop Adjustments} + \text{Tillage Adjustments} + \text{Grazing Adjustments}$

Sunflowers

$N \text{ rec} = (\text{Yield Goal} \times 0.075) - (\% \text{SOM} \times 20) - \text{Profile N} - \text{Manure N} - \text{Other N Adjustments} + \text{Previous Crop Adjustments}$

KSU Nitrogen recommendations

Corn Nitrogen Recommendations

Fertilizer N Required At Various Yield and Soil Organic Matter Levels Assuming Profile N Test Is Not Used (includes 30 lb N/A residual default)¹

Yield Goal (Bu/A)	Soil Organic Matter Content (%)						
	1.0	1.5	2.0	2.5	3.0	3.5	4.0
	----- lb N/A -----						
60	46	36	26	16	6	0	0
100	110	100	90	80	70	60	50
140	174	164	154	144	134	124	114
180	238	228	218	208	198	188	178
220	300	292	282	272	262	252	242

$N \text{ Rec}^{2,3} = (\text{Yield Goal} \times 1.6) - (\% \text{SOM} \times 20) - \text{Profile N} - \text{Manure N} - \text{Other N Adjustments} + \text{Previous Crop Adjustments}$

¹ Total N requirements presented include only Yield Goal and Soil Organic Matter Adjustments assuming profile N test not used. N rate should also be adjusted for Previous Crop, Manure and Other Appropriate N Rate Adjustments (see N rate adjustments for warm-season crops).
² Maximum fertilizer N recommendations are 230 lb N/A for Dryland Corn production and 300 lb N/A for Irrigated Corn production.
³ A minimum fertilizer N application of 30 lb N/A may be appropriate for early crop growth and development.

Grain Sorghum Nitrogen Recommendations

Fertilizer N Required At Various Yield and Soil Organic Matter Levels Assuming Profile N Test Is Not Used (includes 30 lb N/A residual default)¹

Yield Goal (Bu/A)	Soil Organic Matter Content (%)						
	1.0	1.5	2.0	2.5	3.0	3.5	4.0
	----- lb N/A -----						
40	14	4	0	0	0	0	0
80	78	68	58	48	38	28	18
120	142	132	122	112	102	92	82
160	206	196	186	176	166	156	146
200	270	260	250	240	230	220	210

$N \text{ Rec}^2 = (\text{Yield Goal} \times 1.6) - (\% \text{SOM} \times 20) - \text{Profile N} - \text{Manure N} - \text{Other N Adjustments} + \text{Previous Crop Adjustments}$

¹ Total N requirements presented include only Yield Goal and Soil Organic Matter Adjustments assuming profile N test not used. N rate should also be adjusted for Previous Crop, Manure and Other Appropriate N Rate Adjustments (see N rate adjustments for warm-season crops).
² A minimum fertilizer N application of 30 lb N/A may be appropriate for early crop growth and development.

KSU Nitrogen recommendations

Wheat Nitrogen Recommendations

Fertilizer N Required At Various Yield and Soil Organic Matter Levels Assuming Profile N Test Is Not Used (includes 30 lb N/A residual default)¹

Yield Goal (Bu/A)	Soil Organic Matter Content (%)						
	1.0	1.5	2.0	2.5	3.0	3.5	4.0
	----- lb N/A -----						
30	32	27	22	17	12	7	2
40	56	51	46	41	36	31	26
50	80	75	70	65	60	55	50
60	104	99	94	89	84	79	74
70	128	123	118	113	108	103	98

$N \text{ Rec}^2 = (\text{Yield Goal} \times 2.4) - (\% \text{SOM} \times 10) - \text{Profile N} - \text{Other N Adjustments} + \text{Previous Crop Adjustments} + \text{Tillage Adjustments} + \text{Grazing Adjustments}$

¹ Total N requirements presented include only Yield Goal and Soil Organic Matter Adjustments assuming profile N test not used. N rate should also be adjusted for Previous Crop, Tillage, Grazing and Other Appropriate N Rate Adjustments (see N rate adjustments for cool-season crops).
² A minimum fertilizer N application of 30 lb N/A may be appropriate for early crop growth and development.

Sunflower Nitrogen Recommendations

Fertilizer N Required At Various Yield and Soil Organic Matter Levels Assuming Profile N Test Is Not Used (includes 30 lb N/A residual default)¹

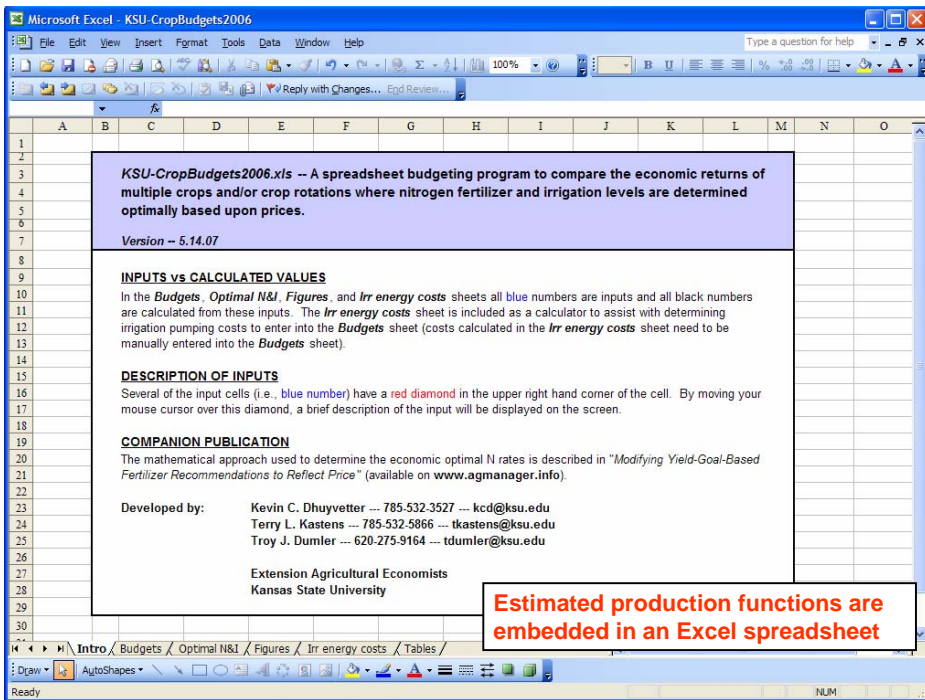
Yield Goal (lb/A)	Soil Organic Matter Content (%)						
	1.0	1.5	2.0	2.5	3.0	3.5	4.0
	----- lb N/A -----						
1,000	25	15	5	0	0	0	0
1,500	63	53	43	33	23	13	3
2,000	100	90	80	70	60	50	40
2,500	138	128	118	108	98	88	78
3,000	175	165	155	145	135	125	115

$N \text{ Rec}^2 = (\text{Yield Goal} \times 0.075) - (\% \text{SOM} \times 20) - \text{Profile N} - \text{Manure N} - \text{Other N Adjustments} + \text{Previous Crop Adjustments}$

¹ Total N requirements presented include only Yield Goal and Soil Organic Matter Adjustments assuming profile N test not used. N rate should also be adjusted for Previous Crop, Manure and Other Appropriate N Rate Adjustments (see N rate adjustments for warm-season crops).
² A minimum fertilizer N application of 30 lb N/A may be appropriate for early crop growth and development.

KSU nitrogen recommendations vs. N price

- Recommendations do not explicitly include prices
- Mathematical relationship between expected yield and nitrogen (i.e., production function) is needed in order to adjust recommendations for prices
- Similar issues pertain to P & K recommendations (i.e., no way to adjust them for prices)
- Production functions were estimated that are consistent with KSU N recommendations at the following prices:
 - Wheat \$3.20/bu
 - Corn \$2.35/bu
 - fertN \$0.21/lb N



Screen capture from KSU-CropBudgets2006.xls...

Comparison of Crop Returns with Nitrogen Fertilizer and Irrigation Water at Economic Optimum Levels						
Crop/System	Wheat	Corn	Sorghum	Soybean	Sunflower	Alfalfa
Rotation (1 or 2, if none enter 0)	1	1	1	1	1	1
Percent of rotation (total = 100%)	50.0%	10.0%	20.0%	20.0%	0.0%	0.0%
Yield goal (YG), bu/ac	50.0	100.0	90.0	27.0	2000.0	3.5
Enter 0 for dryland or 1 for irrigated	0	0	0	0	0	0
Annual rainfall	28.0	28.0	28.0	28.0	28.0	28.0
Organic matter (OM), %	2.00	2.00	2.00	2.00	2.00	2.00
Soil test nitrogen (STN), lbs/ac	10.0	10.0	10.0	10.0	10.0	10.0
Other N adjustments, lbs/ac	0.0	0.0	0.0	0.0	0.0	0.0
Nitrogen fertilizer cost, \$/lb	\$0.850	\$0.850	\$0.850	\$0.850	\$0.850	\$0.850
Irrigation energy cost, \$/inch	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
KSU recommended nitrogen, lbs/ac	90.0	110.0	94.0	0.0	100.0	---
Econ Optimum fertN, lbs/ac	84.1	101.0	85.0	0.0	89.3	---
Econ Optimum Irrigation Amount, in	0.0	0.0	0.0	0.0	0.0	0.0
Yield at optimal N and I, bu/ac	49.1	98.3	88.1	24.3	1,962.4	3.2
INCOME PER ACRE						
A. Yield per acre	49.1	98.3	88.1	24.3	1,962.4	3.2
B. Price per unit	\$8.50	\$5.70	\$5.10	\$11.80	\$0.2500	\$110.00
C. Net government payments	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00
D. Indemnity payments	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
E. Miscellaneous income	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
F. Returns/acre (A x B) + C + D + E	\$432.67	\$575.47	\$464.16	\$301.74	\$505.59	\$361.50

N rates based upon user inputs (blue numbers)

Adjustments to KSU Nrecs at various WHEAT and N prices

Nitrogen Recommendations for Wheat											
Yield goal, bu/ac	45					60					
KSU N rec, lbs/ac*	78					114					
N price \$/lb	Wheat price, \$/bu					Wheat price, \$/bu					
	\$2.50	\$3.00	\$3.50	\$4.00	\$4.50	\$2.50	\$3.00	\$3.50	\$4.00	\$4.50	
Price adjusted N rec, lbs/ac						Price adjusted N rec, lbs/ac					
\$0.50	57	62	66	69	71	86	93	98	102	105	
\$0.60	51	57	62	65	67	78	86	92	97	100	
\$0.70	45	52	57	61	64	70	79	86	91	95	
\$0.80	39	47	53	57	61	61	72	80	86	91	
\$0.90	32	42	48	53	57	53	66	74	81	86	
N price	Price adjusted N rec reduction					Price adjusted N rec reduction					
\$0.50	26.7%	20.1%	15.4%	11.8%	9.1%	24.4%	18.3%	14.0%	10.8%	8.3%	
\$0.60	34.7%	26.7%	21.1%	16.8%	13.5%	31.7%	24.4%	19.2%	15.3%	12.3%	
\$0.70	42.7%	33.4%	26.7%	21.8%	17.9%	38.9%	30.4%	24.4%	19.9%	16.3%	
\$0.80	50.6%	40.0%	32.4%	26.7%	22.3%	46.2%	36.5%	29.6%	24.4%	20.4%	
\$0.90	58.6%	46.6%	38.1%	31.7%	26.7%	53.4%	42.5%	34.8%	28.9%	24.4%	

Soil organic matter (SOM)=2.0; Soil test nitrogen (STN)=10; Other N adjustment=0
* Based on formulas reported in *Soil Test Interpretations and Fertilizer Recommendations* (MF-2586)

At long-run wheat prices, we would obviously want to cut back N rates...

Adjustments to KSU Nrecs at various WHEAT and N prices

Nitrogen Recommendations for Wheat											
Yield goal, bu/ac	45					60					
KSU N rec, lbs/ac*	78					114					
N price \$/lb	Wheat price, \$/bu					Wheat price, \$/bu					
	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50	
Price adjusted N rec, lbs/ac						Price adjusted N rec, lbs/ac					
\$0.50	78	78	79	80	80	114	115	115	116	117	
\$0.60	76	77	77	78	78	111	112	113	114	115	
\$0.70	74	75	75	76	77	108	109	111	111	112	
\$0.80	72	73	74	74	75	106	107	108	109	110	
\$0.90	70	71	72	73	73	103	104	106	107	108	
N price	Price adjusted N rec reduction					Price adjusted N rec reduction					
\$0.50	0.2%	-0.6%	-1.4%	-2.0%	-2.6%	0.2%	-0.6%	-1.2%	-1.8%	-2.4%	
\$0.60	2.9%	1.9%	1.0%	0.2%	-0.5%	2.6%	1.7%	0.9%	0.2%	-0.4%	
\$0.70	5.5%	4.4%	3.3%	2.4%	1.6%	5.0%	4.0%	3.0%	2.2%	1.5%	
\$0.80	8.2%	6.8%	5.7%	4.6%	3.7%	7.4%	6.2%	5.2%	4.2%	3.4%	
\$0.90	10.8%	9.3%	8.0%	6.8%	5.8%	9.9%	8.5%	7.3%	6.2%	5.3%	

Soil organic matter (SOM)=2.0; Soil test nitrogen (STN)=10; Other N adjustment=0
* Based on formulas reported in *Soil Test Interpretations and Fertilizer Recommendations* (MF-2586)

Depending on your N price, you may want to reduce N rates slightly...

Adjustments to KSU Nrecs at various CORN and N prices

Nitrogen Recommendations for Corn

Yield goal, bu/ac		80				120				
KSU N rec, lbs/ac*		78				142				
N price \$/lb	Corn price, \$/bu				Corn price, \$/bu					
	\$4.50	\$5.00	\$5.50	\$6.00	\$6.50	\$4.50	\$5.00	\$5.50	\$6.00	\$6.50
Price adjusted N rec, lbs/ac					Price adjusted N rec, lbs/ac					
\$0.50	75	77	78	79	79	138	140	142	143	144
\$0.60	73	74	76	77	78	134	136	138	140	141
\$0.70	70	72	73	75	76	130	133	135	137	139
\$0.80	67	70	71	73	74	126	129	132	134	136
\$0.90	65	67	69	71	72	122	126	129	131	133

N price		Price adjusted N rec reduction				Price adjusted N rec reduction				
\$0.50	3.4%	1.6%	0.2%	-0.9%	-1.9%	2.8%	1.4%	0.2%	-0.8%	-1.6%
\$0.60	6.8%	4.7%	3.0%	1.6%	0.5%	5.6%	3.9%	2.5%	1.4%	0.4%
\$0.70	10.2%	7.8%	5.8%	4.2%	2.8%	8.4%	6.4%	4.8%	3.5%	2.3%
\$0.80	13.6%	10.9%	8.7%	6.8%	5.2%	11.2%	9.0%	7.1%	5.6%	4.3%
\$0.90	17.1%	14.0%	11.5%	9.4%	7.6%	14.1%	11.5%	9.4%	7.7%	6.2%

Soil organic matter (SOM)=2.0; Soil test nitrogen (STN)=10; Other N adjustment=0
 * Based on formulas reported in *Soil Test Interpretations and Fertilizer Recommendations* (MF-2586)

Depending on your N price, you may want to reduce N rates slightly...

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Adjustments to KSU Nrecs at various SORGHUM and N prices

Nitrogen Recommendations for Grain Sorghum

Yield goal, bu/ac		75				90				
KSU N rec, lbs/ac*		70				94				
N price \$/lb	Grain sorghum price, \$/bu				Grain sorghum price, \$/bu					
	\$4.00	\$4.50	\$5.00	\$5.50	\$6.00	\$4.00	\$4.50	\$5.00	\$5.50	\$6.00
Price adjusted N rec, lbs/ac					Price adjusted N rec, lbs/ac					
\$0.50	67	69	70	71	72	91	93	94	95	97
\$0.60	64	66	68	69	70	87	90	91	93	94
\$0.70	61	64	66	67	68	84	87	89	90	92
\$0.80	59	61	63	65	66	80	83	86	88	90
\$0.90	56	59	61	63	64	77	80	83	85	87

N price		Price adjusted N rec reduction				Price adjusted N rec reduction				
\$0.50	3.9%	1.6%	-0.3%	-1.8%	-3.0%	3.5%	1.4%	-0.2%	-1.6%	-2.7%
\$0.60	8.0%	5.3%	3.1%	1.2%	-0.3%	7.2%	4.7%	2.7%	1.1%	-0.2%
\$0.70	12.1%	8.9%	6.4%	4.3%	2.5%	10.9%	8.0%	5.7%	3.8%	2.2%
\$0.80	16.3%	12.6%	9.7%	7.3%	5.3%	14.5%	11.3%	8.6%	6.5%	4.7%
\$0.90	20.4%	16.3%	13.0%	10.3%	8.0%	18.2%	14.5%	11.6%	9.2%	7.2%

Soil organic matter (SOM)=2.0; Soil test nitrogen (STN)=10; Other N adjustment=0
 * Based on formulas reported in *Soil Test Interpretations and Fertilizer Recommendations* (MF-2586)

Depending on your N price, you may want to reduce N rates slightly...

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2009 projected budgets for South Central KS

TABLE 1. Production Inputs Used for Budgets

ITEM	Corn	Milo	Soybeans	Wheat	Alfalfa	DC SB	\$/unit
Seeding rate (lbs, seeds, etc)	21	3	135	100	3	160	
Seed price, \$/unit	\$2.21	\$3.48	\$0.25	\$0.15	\$3.83	\$0.25	
Fertilizer:							
82-0-0	86	77	0	60	0	0	\$0.6000 /lb
N (dry/liquid)	20	15	0	40	0	0	\$0.8500 /lb
P	39	36	24	30	40	20	\$1.2000 /lb
K	0	0	0	0	0	0	\$0.9000 /lb
Lime	500	500	500	500	333	0	\$0.020 /lb
Herbicide							
Bicep Lite II Magnum (PRE)	2						\$14.84 /qt
Atrazine 4L + crop oil	1	1					\$3.14 /qt
Bicep II Magnum (PRE)		1.6					\$10.94 /qt
Roundup Ultra Max II			44				\$0.36 /oz
+ 2% Ammonium Sulfate			3				\$0.28 /oz
Ally				0.1			\$25.44 /oz
+ Banvel				4			\$0.66 /oz
Pursuit					0.3		\$10.59 /oz
Roundup Weather Max						44	\$0.45 /oz
+ 2, 4-D LV Ester						0.5	\$5.65 /qt
Insecticide / Fungicide							
Seed treatment	1						\$1.25 /ac
Seedbox treatment				1			\$1.25 /ac
Tilt					3		\$3.39 /oz
xxx							
Irrigation water, inches/acre	0	0	0	0	0	0	\$4.50 /in
Irrigation repairs, \$/acre-inch							\$0.33 /in
Drying cost, \$/unit (bu, cwt, etc)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	

Fertilizer prices were based on current quotes, chemical prices were increased from 25-50% from previous year, seed prices increased 15%.

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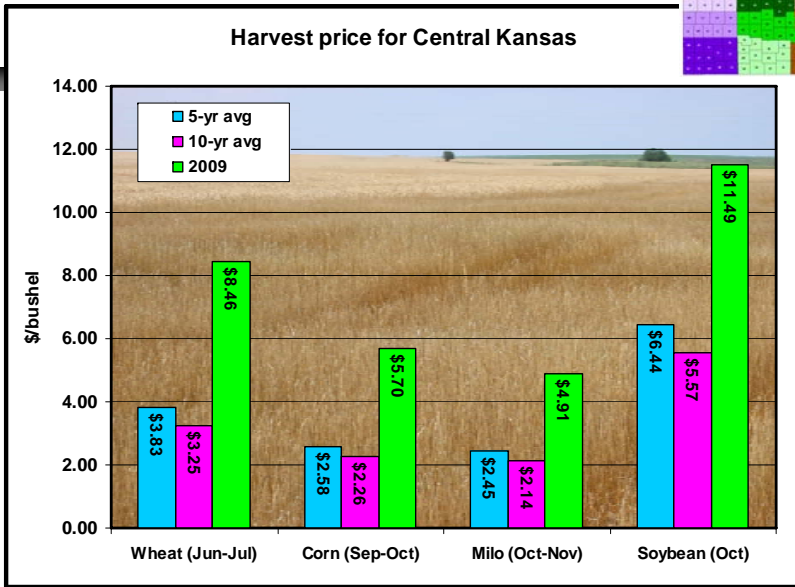
2009 projected budgets for South Central KS

TABLE 2. Machinery and Land Resources Used for Budgets+B31

ITEM	Corn	Milo	Soybeans	Wheat	Alfalfa	DC SB	\$/unit
Drill/Plant, \$/acre	\$11.71	\$9.77	\$12.14	\$8.62	\$2.18	\$12.14	
Tillage and Chemical Applications:							
Chisel	0	0	0	1	0.25	0	\$9.21 /ac
Disk	1	1	0	1	0.2	0	\$7.88 /ac
Field cultivate	1	1	0	2	0.2	0	\$7.46 /ac
Cultivate with sidedress	1	0	0	0	0	0	\$7.69 /ac
Anhydrous application	1	1	0	1	0	0	\$6.83 /ac
Fertilizer application	1	0	0	1	1	0	\$4.20 /ac
Herbicide application	1	2	2	1	0.2	2	\$4.45 /ac
Insecticide application	0	0	0	0	1	0	\$4.56 /ac
Harvest							
Base charge, \$/acre	\$22.01	\$16.84	\$22.14	\$15.97	\$39.60	\$22.14	
Charge for high yields, \$/unit	\$0.152	\$0.150	\$0.174	\$0.151	\$16.667	\$0.174	
High yield	74	36	27	21	0	27	
Hauling, \$/unit	\$0.140	\$0.145	\$0.140	\$0.147	\$0.000	\$0.140	
Non-machinery labor, hr/acre	0.99	0.86	0.53	0.93	1.30	0.52	\$10.00 /hr
Irrigation labor, hr/acre	0.00	0.00	0.00	0.00	0.00	0.00	\$10.00 /hr
Average land value, \$/acre /A	\$50	\$50	\$50	\$50	\$50	\$50	
Annual return to land, %/A							100.0%
Interest on capital, %							8.5%
Irrigation Equipment							
Well, pump and gearhead value	\$0	n/a		25			0%
Power unit and meter	\$0	n/a		7			0%
Irrigation system	\$0	n/a		20			0%

Machinery costs were increased 20% from 2007 custom rates and land costs were increased 20% from values used last year.

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Prices were based on a combination of forward contract bids and futures prices (08/19/08) adjusted for basis.

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2009 projected budgets for South Central KS

CROP BUDGETS SHOWING TOTAL COSTS AND RETURNS										
Crop/System	Corn	Milo	Soybeans	Wheat	Alfalfa	DC SB	Total	Per	Per	
Planted acres of each crop	5.0	19.0	9.0	60.0	7	20	120.0	Acres	Acres	
Tillable acres per planted acre	1.00	1.00	1.00	1.00	1.00	0.00	100.0	Planted	Tillable	
INCOME PER ACRE										
A. Yield per acre	90.0	80.0	27.0	45.0	3.5	20.0	---	---	---	
B. Price per unit	\$5.70	\$4.91	\$11.49	\$8.46	\$110.00	\$11.49	---	---	---	
C. Net government payments	\$15.35	\$15.35	\$15.35	\$15.35	\$15.35	\$0.00	\$1,535	\$12.79	\$15.35	
D. Indemnity payments	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0	\$0.00	\$0.00	
E. Miscellaneous income	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0	\$0.00	\$0.00	
F. Returns/acre ((A x B) + C + D + E)	\$528.13	\$408.22	\$325.58	\$396.05	\$400.35	\$229.80	\$44,489	\$370.74	\$444.89	
COSTS PER ACRE										
1. Seed	\$46.37	\$10.45	\$34.16	\$14.95	\$11.49	\$40.48	\$2,525	\$21.04	\$25.25	
2. Herbicide	32.81	20.64	16.67	5.19	3.18	22.63	1,493	12.44	14.93	
3. Insecticide / Fungicide	1.25	0.00	0.00	1.25	10.17	0.00	152	1.27	1.52	
4. Fertilizer and Lime	125.40	112.15	38.80	116.00	54.66	24.00	10,930	91.08	109.30	
5. Crop Consulting	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	
6. Crop Insurance	10.00	10.00	10.00	10.00	0.00	0.00	930	7.75	9.30	
7. Drying	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	
8. Miscellaneous	5.75	5.75	5.75	5.75	5.75	5.75	690	5.75	6.90	
9. Machinery Expense	104.71	91.06	56.35	98.78	138.11	55.18	10,758	89.65	107.58	
10. Non-machinery Labor	9.90	8.60	5.30	9.30	13.00	5.20	1,014	8.45	10.14	
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	
12. Land Charge / Rent	50.40	50.40	50.40	50.40	50.40	0.00	5,040	42.00	50.40	
G. SUB TOTAL	\$386.60	\$309.05	\$217.42	\$311.63	\$286.76	\$153.23	\$33,531	\$279.43	\$335.31	
13. Interest on 1/2 Nonland Costs	12.94	9.82	6.37	8.27	8.27	5.60	1,073	8.94	10.73	
H. TOTAL COSTS	\$399.54	\$318.87	\$223.80	\$321.46	\$295.03	\$159.04	\$34,604	\$288.37	\$346.04	
I. RETURNS OVER COSTS (F - H)	\$128.58	\$89.35	\$101.78	\$74.59	\$105.32	\$70.76	\$9,884	\$82.37	\$98.84	
J. RETURN TO COSTS/UNIT (H/A)	\$4.44	\$3.99	\$8.29	\$7.14	\$84.29	\$7.95	---	---	---	
K. RETURN TO TOTAL COST ((I+13)/G)	36.6%	32.1%	49.7%	27.1%	39.6%	50.0%	28.6%	28.6%	28.6%	

Costs are +45% from projections a year ago, but profit potential still looks good for all crops!

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Summary...

- Costs are up significantly (~45% above projected budgets a year ago) → access to capital is critical
- Fertilizer rates should possibly be reduced slightly due to extremely high prices
- High commodity prices offset increased input costs such that profit potential looks very positive
- Profit potential for wheat lags behind row crops (however, examining returns separately is not appropriate if rotational benefits exist)
- High costs & prices mean risk remains very high

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Questions?