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Community Center
501 W. Ave.
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Crop Economics

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What we're going to talk about ...

- Historical returns from KFMA enterprise reports
- Variability between producers
- Projected crop budgets
- Revise 2011 projected budgets to fit this area

Yields of NT crops are comparable ...

(at least over the past three years)

Economic comparison of crops for Northeast Kansas

Source: NE Farm Management Association - Enterprise Analysis

Yield	2007	2008	2009	Avg.
Corn	127.0	141.0	155.0	141.0*
Milo	83.0	104.0	111.0	99.3
Soybeans	45.0	41.0	52.7	46.2*
Wheat	30.0	31.0	48.0	36.3*
Alfalfa	3.00	4.45	4.55	4.00
Corn silage	17.84	17.01	18.30	17.72
Brome	2.05	2.35	2.31	2.24
Soybeans-DC	22.0	23.4	28.2	24.5
Corn-NT	121.0	135.0	169.0	141.7
Soybeans-NT	42.0	36.3	57.1	45.1
Wheat-NT	31.0	33.0	52.0	38.7

* 2005-2009 average equals 132.2 for corn, 45.3 for soybeans, and 40.8 for wheat.

Alfalfa and silage have highest return over VC ...

(corn and soybeans follow pretty close)

Economic comparison of crops for Northeast Kansas

Source: NE Farm Management Association - Enterprise Analysis

Return over Variable Costs, \$/acre	2007	2008	2009	Avg.
Corn	\$177.82	\$194.28	\$174.27	\$182.12
Milo	\$121.01	\$148.43	\$99.72	\$123.05
Soybeans	\$199.69	\$161.86	\$234.64	\$198.73
Wheat	\$2.63	\$31.89	\$42.48	\$25.67
Alfalfa	\$150.90	\$337.99	\$264.88	\$251.26
Corn silage	\$181.59	\$159.88	\$310.65	\$217.37
Brome	\$32.53	\$39.01	\$9.03	\$26.86
Soybeans-DC	\$66.84	\$56.90	\$52.40	\$58.71
Corn-NT	\$166.02	\$194.26	\$189.38	\$183.22
Soybeans-NT	\$175.39	\$137.01	\$240.08	\$184.16
Wheat-NT	\$7.25	\$66.14	\$52.67	\$42.02

It takes money to make money ...

(crops with highest return over VC have highest cost)

Economic comparison of crops for Northeast Kansas

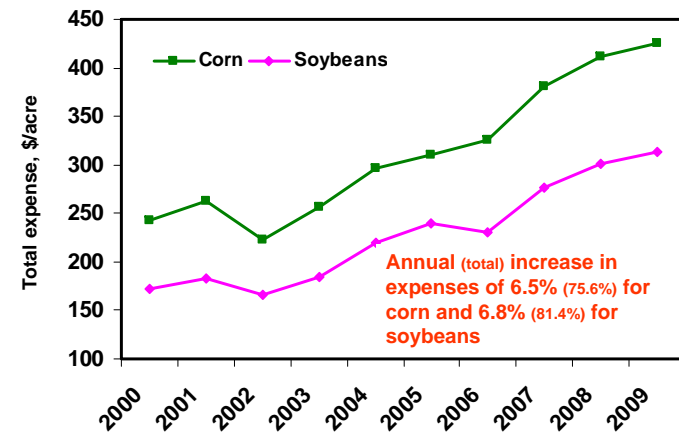
Source: NE Farm Management Association - Enterprise Analysis

Total Expense, \$/acre

	2007	2008	2009	Avg.
Corn	\$380.94	\$412.19	\$425.39	\$406.17
Milo	\$373.44	\$362.18	\$334.81	\$356.81
Soybeans	\$277.14	\$301.15	\$313.45	\$297.25
Wheat	\$261.08	\$311.60	\$293.62	\$288.77
Alfalfa	\$270.44	\$387.84	\$356.00	\$338.09
Corn silage	\$610.48	\$625.79	\$553.84	\$596.70
Brome	\$163.64	\$178.91	\$168.42	\$170.32
Soybeans-DC	\$181.87	\$200.90	\$260.66	\$214.48
Corn-NT	\$388.35	\$433.37	\$455.52	\$425.75
Soybeans-NT	\$283.50	\$290.03	\$332.76	\$302.10
Wheat-NT	\$237.06	\$254.07	\$293.40	\$261.51

... and it is taking more all the time!

NE KFMA Enterprise Analysis



Even with FC included, things have been quite good ...

(at least over the past three years with the right crops)

Economic comparison of crops for Northeast Kansas

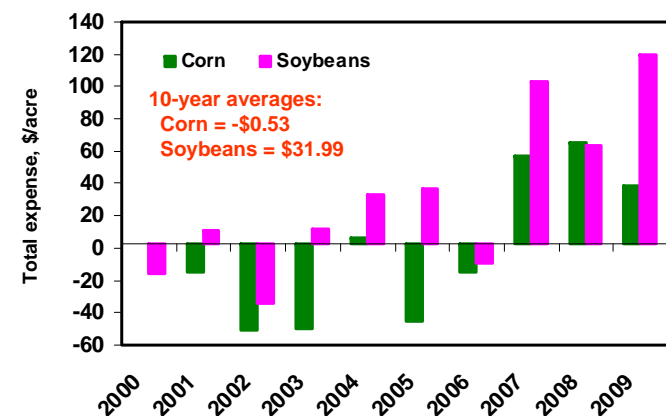
Source: NE Farm Management Association - Enterprise Analysis

Net Return to Management (return over total costs), \$/acre

	2007	2008	2009	Avg.
Corn	\$57.50	\$65.11	\$39.02	\$53.88
Milo	\$29.91	\$43.57	-\$1.03	\$24.15
Soybeans	\$103.31	\$63.31	\$119.70	\$95.44
Wheat	-\$78.74	-\$61.89	-\$59.67	-\$66.77
Alfalfa	\$38.52	\$150.08	\$104.61	\$97.74
Corn silage	-\$42.04	-\$34.98	\$116.11	\$13.03
Brome	-\$24.45	-\$23.57	-\$50.91	-\$32.98
Soybeans-DC	-\$1.12	-\$9.17	-\$18.53	-\$9.61
Corn-NT	\$36.40	\$78.41	\$70.05	\$61.62
Soybeans-NT	\$65.27	\$48.89	\$137.32	\$83.83
Wheat-NT	-\$67.73	-\$4.76	-\$23.00	-\$31.83

... historically, things haven't been quite as good.

NE KFMA Enterprise Analysis



Returns look pretty impressive for the last several year...

... does this mean that all crop farmers are making lots of money?

www.agmanager.info **AG** manager

Differences Between High-, Medium-, and Low-Profit Producers: An Analysis of 2007-2009 Kansas Farm Management Association Crop Enterprises

August 2010

Kevin Dhuyvetter, K-State Ag. Economics (785-532-3527, kcd@ksu.edu)
| Craig Smith, K-State Ag. Economics

Study examining profitability differences between crop producers for different enterprises. Costs are quite important in explaining differences and machinery costs represent a relatively large portion of costs.*

Paper is available on www.agmanager.info

* In this study, income plays a larger part in explaining profit differences than earlier analyses have found, which is attributed to the years analyzed (i.e., 2007-09).

Average returns over TC quite good for most crops ...

Average Income, Total Costs, and Return to Management Kansas Farm Management Association Enterprise Analysis, State Averages 2007-09						
	Corn	Irr Corn	Sorghum	Wheat	Soybean	Alfalfa
Number of farms	115	50	128	221	139	46
INCOME (\$/acre)						
Yield per acre, bu	113.3	187.1	92.4	39.3	41.2	3.6
Price per unit	\$3.78	\$3.91	\$3.43	\$5.83	\$9.36	\$95.01
Crop income ¹	\$370.20	\$640.02	\$263.45	\$193.22	\$332.27	\$328.99
Government payment	\$13.95	\$24.93	\$14.42	\$15.75	\$12.58	\$8.72
Gross income	\$397.03	\$694.53	\$287.94	\$233.50	\$353.63	\$340.66
COSTS (\$/acre)²						
Seed	\$42.44	\$61.97	\$13.45	\$12.65	\$35.53	\$12.01
Fertilizer	61.63	93.02	44.99	44.96	9.02	12.39
Herbicide-insecticide	30.94	47.44	33.92	11.11	24.01	11.36
Crop insurance	16.66	24.65	11.50	11.28	13.01	0.15
Machinery	97.49	126.23	83.73	86.92	92.22	120.18
Other	25.39	42.88	22.20	22.99	24.70	29.47
Land	60.65	95.40	38.10	34.41	55.69	61.27
Interest	24.80	39.99	17.44	17.26	18.99	20.81
Total Cost	\$360.00	\$595.26	\$265.36	\$241.59	\$273.16	\$267.64
Net Return to Management	\$37.03	\$99.27	\$22.58	-\$8.09	\$80.47	\$73.02

¹ Does not equal yield x price because landowner's share of production is excluded from crop income.

² Based on the operator's share of production, and thus includes only production expenses paid by the operator.

DIFFERENCE between the High 1/3 and Low 1/3 farms ranked on return to management Kansas Farm Management Association Enterprise Analysis, State Averages 2007-09						
	Corn	Irr Corn	Sorghum	Wheat	Soybean	Alfalfa
Number of farms	115	50	128	221	139	46
INCOME (\$/acre)						
Yield per acre, bu	17.8	16.6	23.2	7.6	7.8	1.2
Price per unit	\$0.25	\$0.28	\$0.12	\$0.29	\$0.40	\$13.12
Crop income	\$97.17	\$51.95	\$72.78	\$45.16	\$91.51	\$167.91
Government payment	-0.04	-5.09	-1.64	1.10	-0.20	-1.61
Gross income	\$97.64	\$45.16	\$68.63	\$50.69	\$94.12	\$166.63
COSTS (\$/acre)¹						
Seed	-\$3.83	-\$27.93	-\$2.53	-\$2.14	-\$2.30	\$1.42
Fertilizer	-7.42	-26.14	-3.81	-15.32	-0.92	2.67
Herbicide-insecticide	-6.10	-17.85	-7.77	-3.42	-2.67	-3.10
Crop insurance	0.72	-15.37	0.24	0.04	0.64	-0.40
Machinery	-19.70	-22.91	-27.75	-30.52	-32.71	-17.79
Other	-5.41	-49.21	-8.76	-11.06	-10.23	-5.83
Land	3.11	-36.25	-3.49	-7.41	6.15	11.26
Interest	-4.46	-16.16	-4.11	-4.75	-5.02	-4.36
Total Cost	-\$43.08	-\$211.82	-\$57.97	-\$74.59	-\$47.06	-\$16.12
Net Return to Management	\$140.72	\$256.98	\$126.60	\$125.28	\$141.18	\$182.75
Enterprise acres	184	-99	201	606	150	-28
Operator percentage	4.2%	-7.3%	-0.6%	-1.6%	3.0%	6.5%
Yield effect	37.9%	19.9%	48.1%	34.3%	45.7%	49.3%
Price effect	18.5%	16.2%	7.5%	9.9%	11.8%	29.0%
Operator % effect	13.0%	-18.5%	-1.4%	-3.8%	9.1%	12.9%
Cost effect	30.6%	82.4%	45.8%	59.5%	33.3%	8.8%

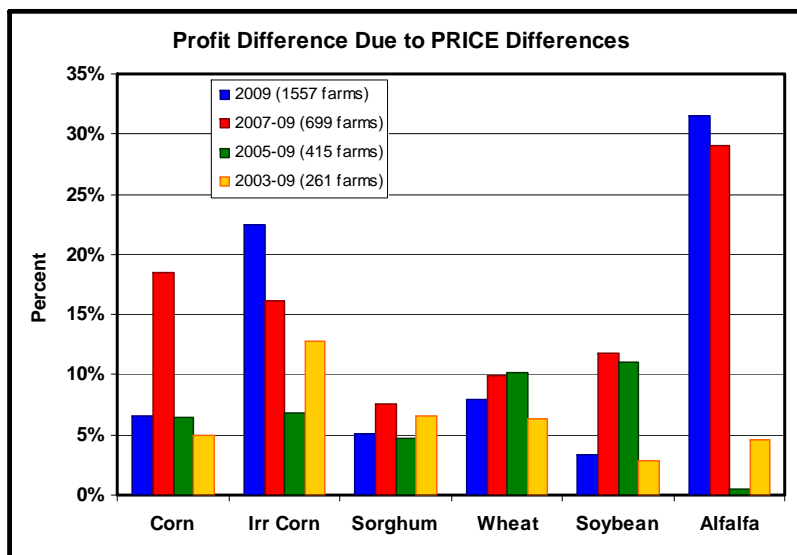
¹ Based on the operator's share of production, and thus includes only production expenses paid by the operator.

Price effect decreases with additional years...

Persistence --

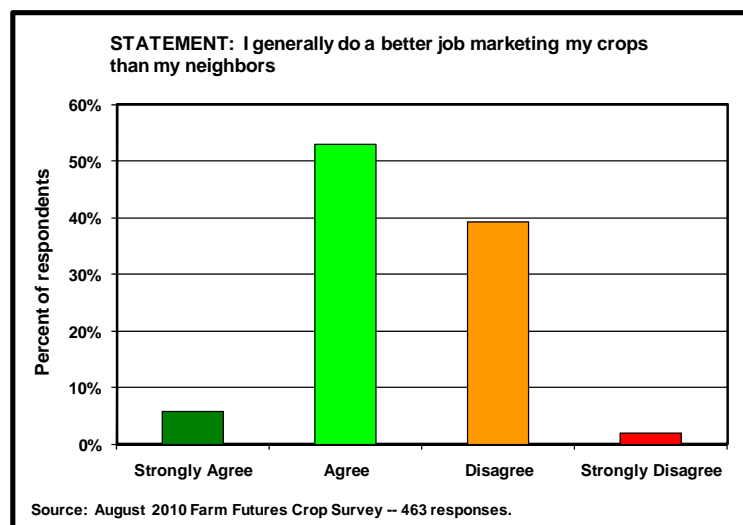
Something is said to be persistent if it is consistently different (better or worse) than average. Thus, the less persistent something is, the more random it is.

What does this mean in terms of where we should spend our management efforts?

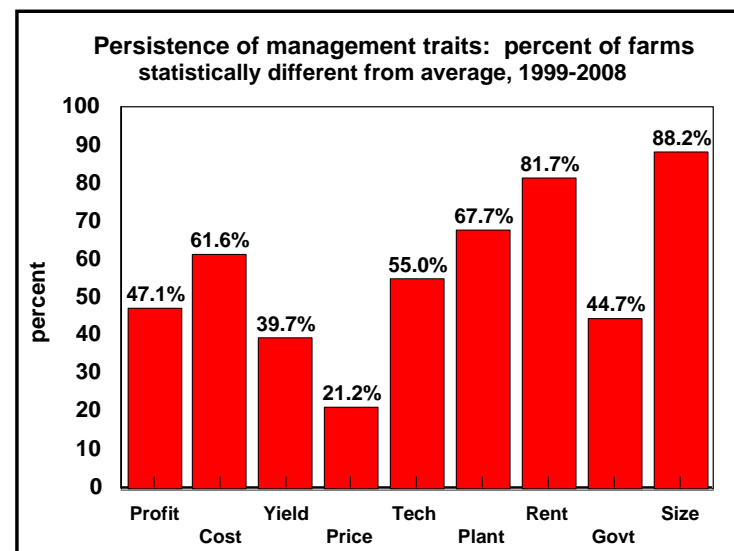


~60% of producers believe they are “good marketers”

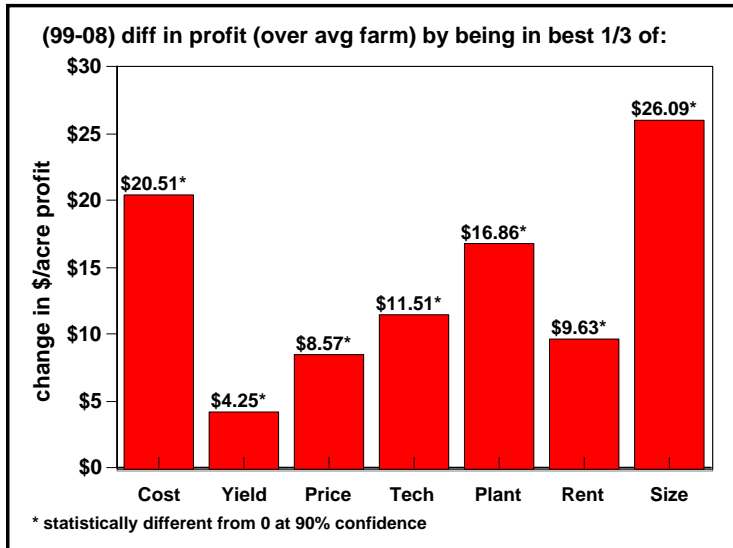
Persistence of management traits...



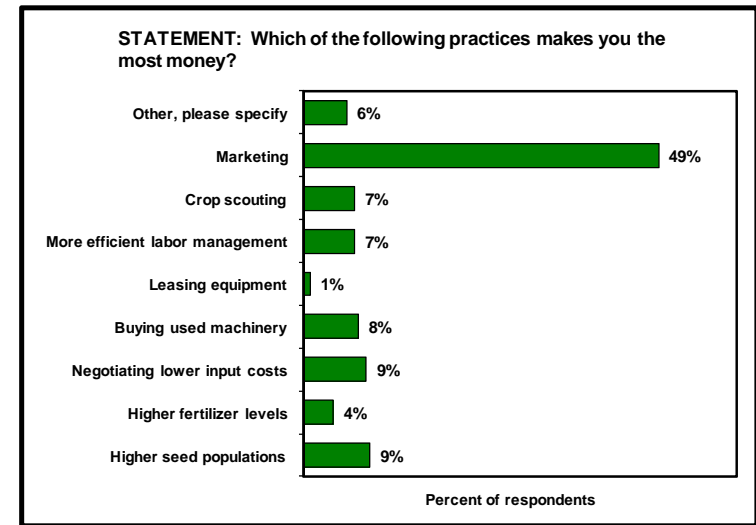
But, can they consistently do a better job?



Factors impacting profitability differences...

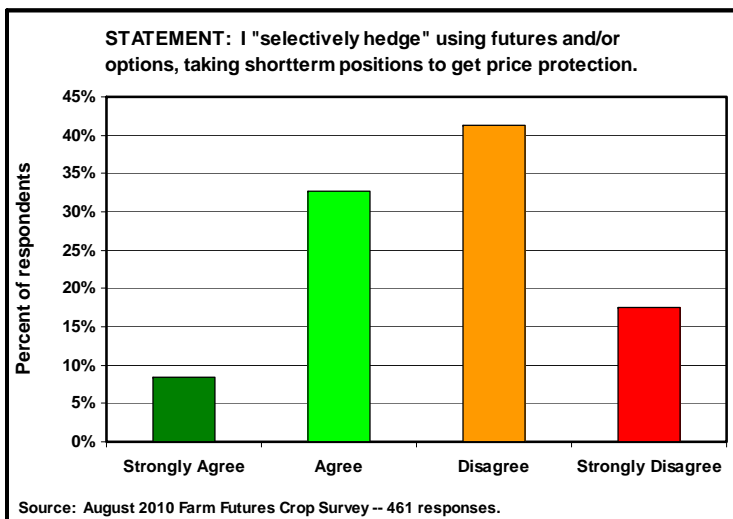


Producers rank marketing as most important practice...



Source: August 2010 Farm Futures Crop Survey (435 respondents)

~60+% of producers do not appear to be "price pickers"



What aspect of their marketing do they beat their neighbors at?

Grain marketing – it is way more than picking prices...

- Price Picking/Forecasting
- Picking a Price Picker/Forecaster
- Seasonal prices
- Basis; Elevator Storage Returns
- Farm Storage/Transportation Costs/Returns
- Selecting Market to be in: Futures or Cash
- Grain Quality
- Local Cash Prices
- Income Tax and Cash Flow Selling
- Marketing Channels (Identity Preserved)

Inefficient Efficient

Key drivers of profitability differences among producers...

- Costs
- Technology adoption
- Farm size

Machinery investment and costs are directly related to these three factors...

High profit farms have lower machinery costs...

**Kansas Farm Management Association Crop Enterprises Analysis
State Averages, 2007-2009**

	Corn	Irr Corn	Sorghum	Wheat	Soybean	Alfalfa
Number of Farms	115	50	128	221	139	46
Average Acres	409	568	364	725	297	73
Differences in Machinery Costs, \$/acre (high profit vs. low profit)						
Repairs	-\$4.84	-\$9.57	-\$4.02	-\$7.43	-\$7.02	-\$7.48
Machine Hire	-3.93	2.11	-5.03	-3.41	-5.35	3.29
Fuel and Oil	-2.44	4.18	-2.96	-2.94	-2.97	-4.41
Depreciation	-3.55	-6.34	-1.87	-2.02	-6.74	-2.58
Labor	-4.94	-13.28	-13.87	-14.71	-10.64	-6.61
Total	-\$19.70	-\$22.91	-\$27.75	-\$30.52	-\$32.71	-\$17.79

Key drivers of profitability differences among producers...

- Costs
- Technology adoption
- Farm size

Adopting new machinery technologies is an important way that farm managers lower their machinery costs to distinguish themselves from others for the purpose of increasing profit (but this should only be done if it is profitable)

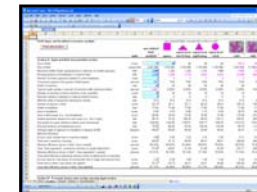
See "Machinery Costs – The impact of field size, shape, and distance" (presentation at 2010 KSU Risk & Profit Conference available at www.agmanager.info/Faculty/dhuyvetter/presentations/)

Machinery decision-tools available...

www.agmanager.info



OwnCombine.xls



KSU-GPSguidance.xls



OwnBaler.xls



OwnSprayer.xls



KSU-MachCost.xls



OwnTractor.xls

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So, what does crop profit potential look like for next year?

AgManager.info: Farm Management Guides: Nonirrigated Crops - Windows Internet Explorer

http://www.agmanager.info/extension/fmg/nonirrigated/index.asp

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	CHAMP Annual Reports	Business Planning	Other FM Guides		

Farm Management: Farm Management Guides

Non-irrigated Crops

Crop	Western	South Central	North Central	Northeast	Southeast	Southwest
Wheat	MF-803	MF-674	MF-2158	MF-672	MF-992	
Grain Sorghum	MF-804	MF-675	MF-2159	MF-673	MF-995	
Forage Sorghum Silage		MF-648				
Soybeans	MF-2366	MF-2156	MF-2160	MF-670	MF-994	
Double Crop Soybeans		MF-2637	MF-2637	MF-2637	MF-2637	
Corn	MF-2150	MF-2167	MF-2161	MF-671	MF-993	
Corn Silage				MF-2364		
Sunflower	MF-807		MF-2144	MF-2144		
Double Crop Sunflower		MF-2145	MF-2145	MF-2145	MF-2145	
Canola		MF-2421				
Cane Hay	MF-997					

KSU projected crop budgets for NE KS ...

Farm Management Guide MF-571

Corn Cost-Return Budget in Northeast Kansas

Department of Agricultural Economics — www.agmanager.info

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

Daniel M. O'Brien
Agricultural Economist

Stewart R. Duncan
Crops and Soils, NE

Farm Management Guide MF-570

Soybean Cost-Return Budget in Northeast Kansas

Department of Agricultural Economics — www.agmanager.info

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

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Crops and Soils, NE

TABLE 1. CROP BUDGETS SHOWING TOTAL COSTS AND RETURNS

[Link to KSU Farm Management Guides \(crop budgets\)](#)

[Print budgets](#)

Crop/System	Wht-R	Wht-C	Milo	Corn	SB-FS	SB-DC	Total	Per Acre	Per Acre
Planted acres of each crop	10.0	0.0	0.0	70.0	70.0	0.0	150.0	Planted	Tillable
Tillable acres per planted acre	1.00	1.00	1.00	1.00	1.00	0.00	150.0		
INCOME PER ACRE									
A. Yield per acre	60.0	49.0	90.0	133.0	40.0	25.0	---	---	---
B. Price per unit	\$6.92	\$6.92	\$4.45	\$4.74	\$10.81	\$10.81	\$78,549	---	\$523.66
C. Net government payments	\$14.69	\$14.69	\$14.69	\$14.69	\$14.69	\$0.00	\$2,204	\$14.69	\$14.69
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)	\$429.89	\$353.77	\$415.19	\$645.11	\$447.09	\$270.25	\$80,753	\$538.35	\$538.35
COSTS PER ACRE									
1. Seed	\$15.00	\$13.50	\$15.69	\$86.94	\$46.20	\$49.50	\$9,470	\$63.13	\$63.13
2. Herbicide	11.69	11.69	30.07	29.90	10.04	9.08	2,913	19.42	19.42
3. Insecticide / Fungicide	27.90	27.90	0.00	27.90	0.00	0.00	2,232	14.88	14.88
4. Fertilizer and Lime	58.79	48.01	51.78	78.50	22.68	23.13	7,670	51.13	51.13
5. Crop Consulting	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
6. Crop Insurance	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
7. Drying	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
8. Miscellaneous	8.25	8.25	8.25	8.25	8.25	8.25	1,238	8.25	8.25
9. Machinery Expense	71.82	105.43	89.14	98.38	61.35	56.01	11,899	79.33	79.33
10. Non-machinery Labor	8.12	11.94	10.07	11.12	6.93	6.24	1,345	8.96	8.96
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
12. Land Charge / Rent	91.20	91.20	91.20	91.20	91.20	0.00	13,680	91.20	91.20
G. SUB TOTAL	\$292.76	\$317.92	\$296.20	\$432.19	\$246.64	\$152.20	\$50,446	\$336.31	\$336.31
13. Interest on 1/2 Nonland Costs	6.21	6.70	6.13	10.78	4.72	4.67	1,147	7.65	7.65
H. TOTAL COSTS	\$298.97	\$324.61	\$302.33	\$442.97	\$251.36	\$156.87	\$51,593	\$343.95	\$343.95
I. RETURNS OVER COSTS (F - H)	\$130.92	\$29.16	\$112.86	\$202.14	\$195.73	\$113.38	\$29,160	\$194.40	\$194.40
J. TOTAL COSTS/UNIT (H/A)	\$4.98	\$6.62	\$3.36	\$3.33	\$3.33	\$3.33			
K. RETURN TO TOTAL COST ((I+13)/G)	46.84%	11.28%	40.17%	49.27%					56.52%

Is this value believable?

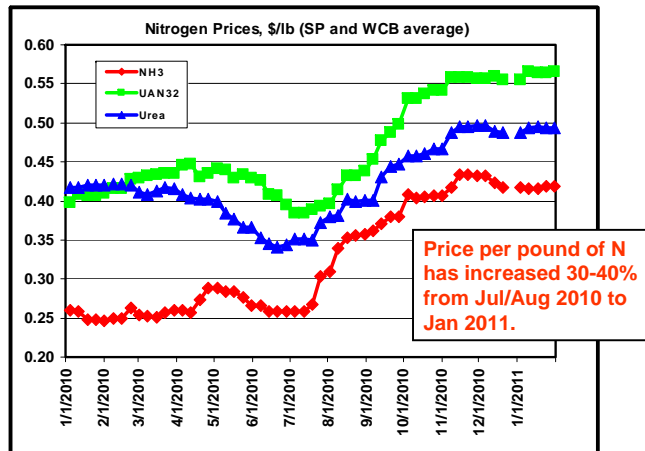
Problems with our projected budgets?
(as they relate to your operation/farm)

- Prices of input costs from survey in August
- Prices of crops are forecasts from October
- Average is for broad geographical region
Impacts yields, land costs, government payments, and to a lesser extent input levels
- Individuals are not “average”

Thus, they likely do not “fit” individual operations or farms particularly well (however, this does not mean they have no value)

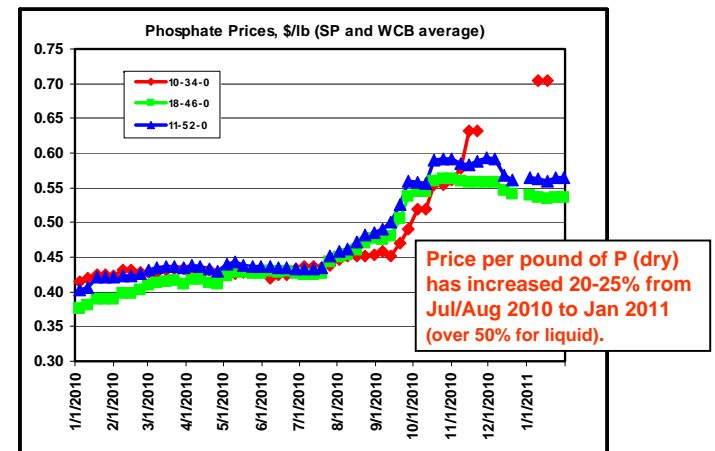
Problems with our projected budgets?

- Prices of input costs from survey in August...



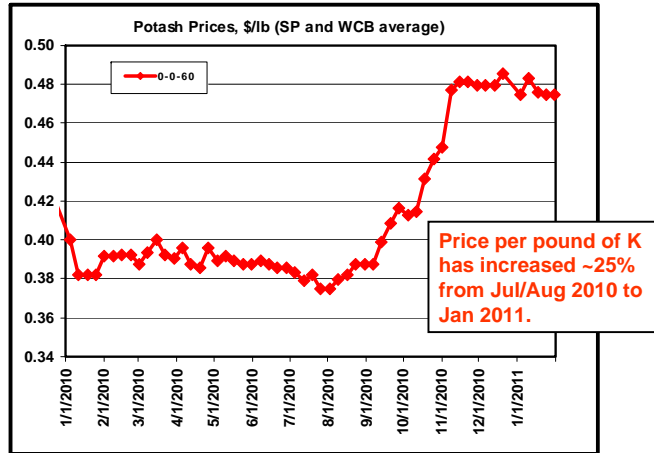
Problems with our projected budgets?

- Prices of input costs from survey in August...



Problems with our projected budgets?

- Prices of input costs from survey in August...



Problems with our projected budgets?

- Prices of crops are forecasts from October...

Farm Management Guide MF-1013

Prices for Crop and Livestock Cost-Return Budgets

Department of Agricultural Economics — www.agmanager.info

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

Kevin C. Dhuyvetter, Agricultural Economist, Farm Management | Daniel M. O'Brien, Agricultural Economist, Crop Marketing | Troy J. Dumler, Agricultural Economist, Farm Management | Glynn Tonsor, Agricultural Economist, Livestock Marketing

Table 3. Location-Specific Crop Prices for Short-Run and Long-Run Planning by Kansas Farm Management Association Region

	2011 Harvest Price Projections, \$/bu (short-run)				2011-2015 Avg. Harvest Price Projections, \$/bu (long-run)			
	Wheat	Corn	Milo	Soybeans	Wheat	Corn	Milo	Soybeans
Northeast								
Topeka	6.92	4.74	4.45	10.81	6.16	3.89	3.66	9.55

Problems with our projected budgets?

- Prices of crops are forecasts from October...



Problems with our projected budgets?

- Prices of crops are forecasts from October...



Problems with our projected budgets?

- Average is for a broad geographical region...

Five-year (2005-2009) Average Yields

County	Corn	Soybean
Doniphan	163.8	51.4
Brown	138.4	47.7
Nemaha	122.2	44.3
NE District	119.0	47.0

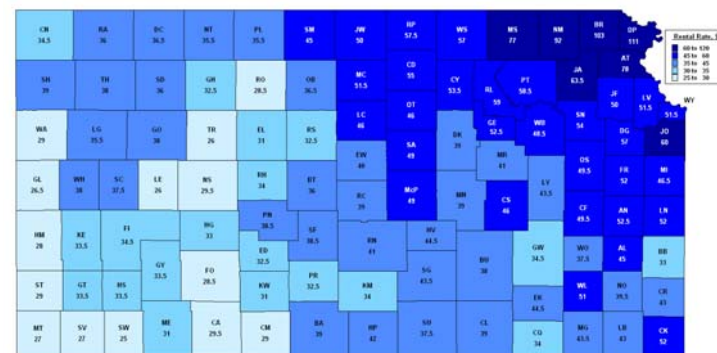
Source: USDA NASS (all practices)

NE FM Guides (non-irrigated)

Low	88.0	26.0
Average	110.0	33.0
High	133.0	40.0

Problems with our projected budgets?

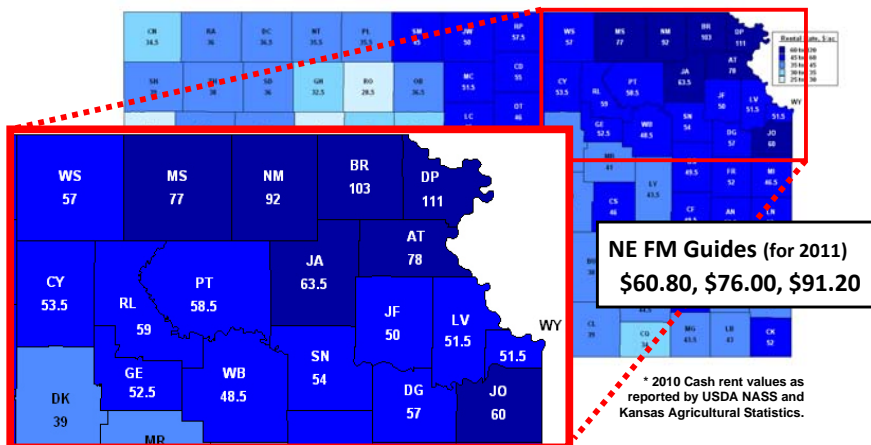
- Average is for a broad geographical region...



* 2010 Cash rent values as reported by USDA NASS and Kansas Agricultural Statistics (KAS).

Problems with our projected budgets?

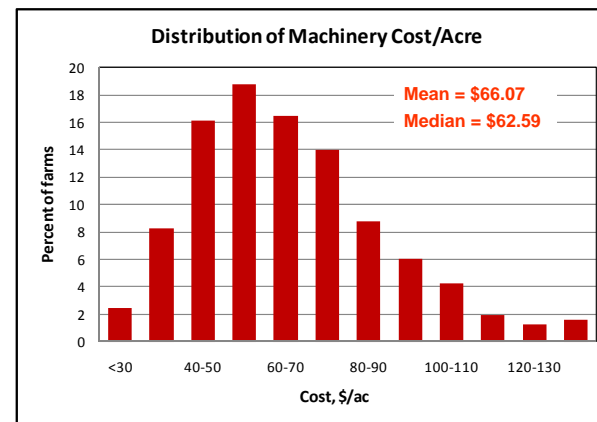
- Average is for a broad geographical region...



* 2010 Cash rent values as reported by USDA NASS and Kansas Agricultural Statistics.

Problems with our projected budgets?

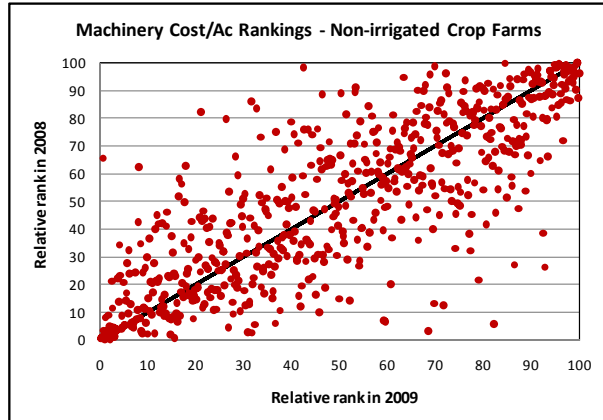
- Individuals are not "average"...



Source: KFMA non-irrigated crop farms having continuous data from 2005-2009 (minimum of 160 acres and machinery cost/acre > \$10/ac; costs do not include labor – total of 614 farms)

Problems with our projected budgets?

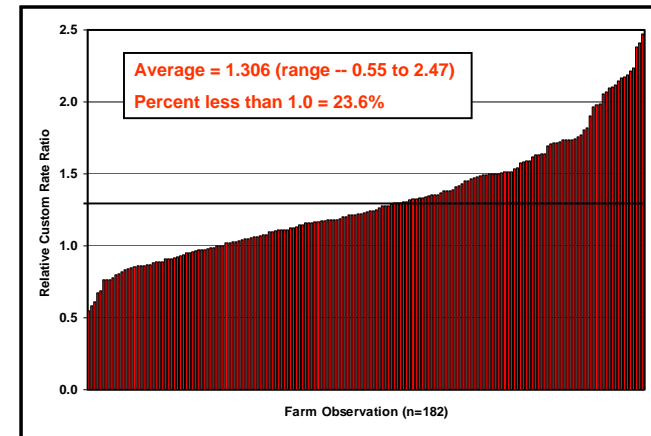
- Individuals are not "average"...



Source: KFMA non-irrigated crop farms having continuous data from 2005-2009 (minimum of 160 acres and machinery cost/acre > \$10/ac; costs do not include labor - total of 614 farms)

Problems with our projected budgets?

- Individuals are not "average"...



Source: Beaton MS thesis, 2003

2011 projected budgets for BR/DP Co area based on cost and price projections made in January

TABLE 1. CROP BUDGETS SHOWING TOTAL COSTS AND RETURNS

Crop/System	Wht-R	Wht-C	Milo	Corn	SB-FS	SB-DC	Total	Per Acre Planted	Per Acre Tillable
Planted acres of each crop	10.0	0.0	0.0	70.0	70.0	0.0	150.0		
Tillable acres per planted acre	1.00	1.00	1.00	1.00	1.00	0.00	150.0		
INCOME PER ACRE									
A. Yield per acre	55.0	55.0	100.0	140.0	45.0	25.0	---	---	---
B. Price per unit	\$7.66	\$7.66	\$4.70	\$4.90	\$11.92	\$11.92	\$89,811	---	\$98.74
C. Net government payments	\$14.69	\$14.69	\$14.69	\$14.69	\$14.69	\$0.00	\$2,204	\$14.69	\$14.69
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)	\$436.13	\$436.13	\$484.57	\$701.22	\$550.98	\$297.94	\$92,015	\$613.43	\$613.43
COSTS PER ACRE									
1. Seed	\$15.00	\$13.50	\$15.69	\$86.94	\$46.20	\$49.50	\$9,470	\$63.13	\$63.13
2. Herbicide	11.69	11.69	30.07	29.90	10.04	9.08	2,913	19.42	19.42
3. Insecticide / Fungicide	27.90	27.90	0.00	27.90	0.00	0.00	2,232	14.88	14.88
4. Fertilizer and Lime	60.00	63.23	67.58	98.21	29.61	27.63	9,547	63.65	63.65
5. Crop Consulting	6.00	6.00	6.50	7.00	6.50	5.00	1,005	6.70	6.70
6. Crop Insurance	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
7. Drying	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
8. Miscellaneous	8.25	8.25	8.25	8.25	8.25	8.25	1,238	8.25	8.25
9. Machinery Expense	87.13	134.96	116.74	126.34	79.17	70.01	15,257	101.72	101.72
10. Non-machinery Labor	8.12	11.94	10.07	11.12	6.93	6.24	1,345	8.96	8.96
11. Irrigation	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
12. Land Charge / Rent	200.00	200.00	200.00	200.00	200.00	0.00	30,000	200.00	200.00
G. SUB TOTAL	\$424.09	\$477.46	\$454.90	\$595.66	\$386.70	\$175.70	\$73,006	\$486.71	\$486.71
H. TOTAL COSTS	\$430.91	\$485.59	\$462.45	\$608.03	\$392.31	\$181.03	\$74,333	\$495.55	\$495.55
I. RETURNS OVER COSTS (F - H)	\$5.22	(\$49.46)	\$22.11	\$93.19	\$158.67	\$116.91	\$17,682	\$117.88	\$117.88
J. TOTAL COSTS/UNIT (H/A)	\$7.83	\$8.83	\$4.62	\$4.34	\$8.72	\$7.24	---	---	---
K. RETURN TO TOTAL COST ((I+J)/G)	2.84%	-8.66%	6.52%	17.72%	42.48%	69.57%	23.79%	23.79%	23.79%



For more information and decision tools related to crop and machinery economics go to www.AgManager.info

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