KANSAS FARM MANAGEMENT ASSOCIATION

Your Farm - Your Information - Your Decision

N E W S L E T T E R

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WILL WHEAT BE PROFITABLE IN 2010?

The time has come to plant the 2010 Kansas winter wheat crop. Over the next few months Kansas wheat farmers will plant roughly 9 million acres of hard red winter wheat. Kansas wheat farmers have seen extreme volatility with regard to both input and output prices over the past year. Wheat prices along with other commodity prices have fallen substantially in the past year. With the large swings in prices and input costs, producers are potentially left wondering if any profit potential exists with the 2010 wheat crop. One way to help answer this question is to analyze a projected crop budget using current input prices and expected (or future) crop prices.

The purpose of this newsletter is to provide producers with a projected wheat budget for the 2010 winter wheat crop. To accurately project a 2010 wheat budget, an attempt was made to recreate the north central Kansas wheat budget developed by the Agricultural Economics Department at Kansas State University (O'Brien, Duncan and Olson). To recreate the budget, real current crop input prices were used in conjunction with crop input application rates as recommended by Kansas State University. These crop inputs include seed, fertilizers, herbicides, and fungicide. Custom machinery rates were calculated using the 2008 Kansas Custom Rates guide (Kansas Agricultural Statistics Service).

Also in this newsletter:

For purposes of this particular budget projection, final 2008 custom application rates were used in the calculation of machinery costs. It is important to note that custom machinery rates include labor, repairs, fuel and oil, and depreciation. Other costs included in the budget are crop insurance premiums, miscellaneous expense, non-machinery labor, a land charge or cash rent, and interest on ½ of all non-land costs.

The projected 2010 north central Kansas wheat budget is shown in Table 1. As can be seen, total cost of $249.27 per acre is projected. Seed cost was calculated using a seeding rate of 100 pounds of seed per acre at a cost of $0.147/lb. Total fertilizer cost in the budget represents 80 lbs of nitrogen fertilizer applied at a cost of $0.395/lb and 25 pounds of phosphorus at $0.37/lb. Finesse costing $16/oz applied at a rate of 0.4 oz per acre was used to calculate herbicide cost. Fungicide costing $1.43/oz applied at a rate of 10 oz per acre was used to determine fungicide cost. As mentioned earlier, machinery costs were calculated by using 2008 Kansas Ag Statistic's custom machinery rates. In this particular budget, machinery costs include two trips each with a disk and field cultivator. Machinery costs also include drilling, fertilizer application, fungicide application, and harvesting.

In addition to projected costs per acre, Table 1 also shows projected income per acre as well as return per acre and a break-even production price at a yield of 45 bushels per acre. As one can see, wheat yielding 45 bushels per acre and sold at a price of $4.71/bu would result in a

negative $24.47 per acre return over total costs. It is important to note that opportunity cost on unpaid operator labor, input costs, and land is included in the projected budget. If all opportunity cost is removed from the budget and only cash costs and depreciation remain, total cost per acre would be approximately $200. This would result in roughly $25 per acre return over cash costs and depreciation.

Figure 1 presents break-even prices per bushel at various levels of production. It appears that with the current projected wheat price and current cost structure, average wheat yields will result in producers possibly covering cash costs and depreciation, but not covering all opportunity cost with the 2010 wheat crop. Producers should look closely at their cost structure and make sure that they are operating efficiently. Good management always seems to be rewarded. When dealing with small margins and in times of great uncertainty good management is even more important when it comes to profitability on Kansas wheat farms.

Aaron Gasper
Extension Agricultural Economist
Kansas Farm Management Association, NC

References

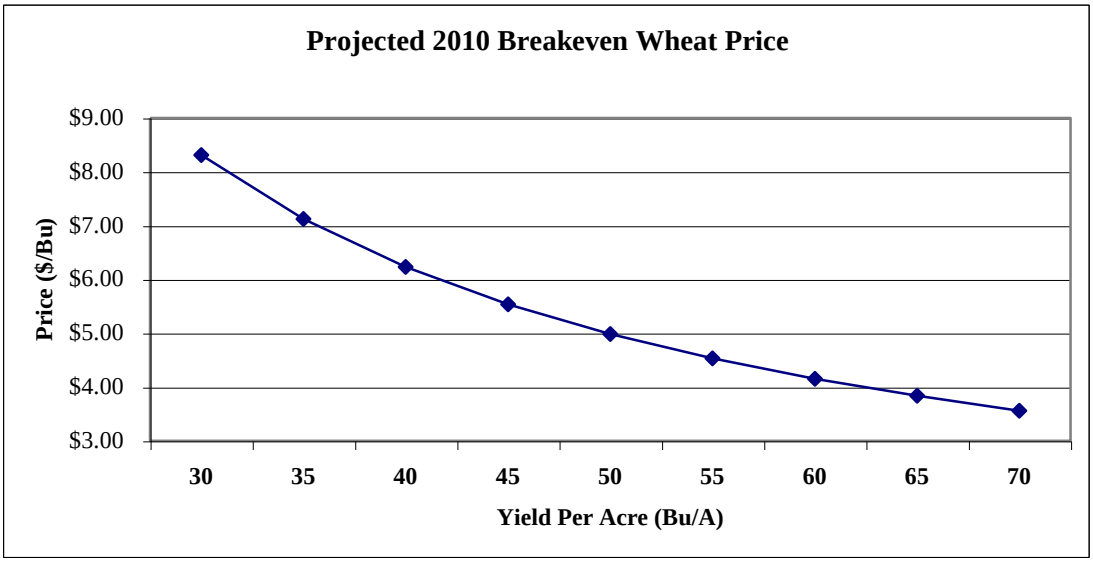
Kansas Agricultural Statistics Service. Kansas Custom Rates. 632 SW Van Buren Street, Topeka, KS 66603. http://www.nass.usda.gov/ks/custom/crsel.htm

O'Brien, D., S. Duncan and B. Olson. Wheat Cost-Return Budget in North Central Kansas. Farm Management Guide MF-2244. Agricultural Experiment Station and Cooperative Extension Service, Kansas State University, Manhattan, Kansas. October 2008. http://www.ksre.ksu.edu/library/agec2/mf2158.pdf

TABLE 1.
2010 PROJECTED NC KANSAS WHEAT BUDGET

INCOME PER ACRE		
	Yield Per Acre	**45.0**
	Price Per Bushel	**$4.71**
	Government Payment	**$12.85**
GROSS INCOME PER ACRE		**$224.80**
COSTS PER ACRE		
	Seed	**$14.70**
	Herbicide	**6.40**
	Fungicide	**14.30**
	Fertilizer	**40.85**
	Crop Insurance	**10.34**
	Miscellaneous	**8.58**
	Machinery Expense	**92.40**
	Non-Machinery Labor	**4.04**
	Land Charge/Cash Rent	**50.00**
SUB TOTAL		**$241.61**
	Interest on 1/2 Non-land Costs	**7.66**
TOTAL EXPENSE PER ACRE		**$249.27**
NET PROFIT PER ACRE		**($24.47)**
BREAK EVEN PRICE PER BUSHEL		**$5.54**

Figure 1



RELATIVE EFFICIENCY AND PROFITABILITY OF WHEAT ENTERPRISES

Using KFMA enterprise data for 185 farms, this article examines the efficiency and profitability of farms with continuous wheat enterprise data from 2004 to 2008. This article also describes the large differences in breakeven prices for wheat and thus illustrates the importance of keeping and analyzing enterprise data.

In addition to examining gross income, cost, and net return to management; technical and cost efficiency indices were computed for each farm. Farms and ranches that are technically efficient produce on the production frontier. These farms are producing the highest level of output for a given level of inputs. Farms that are technically inefficient could expand output with the same level of inputs by improving their technical efficiency. Farms and ranches that are cost efficient (often referred to as economic or overall efficiency) produce on the cost frontier. These farms are producing at the lowest cost for a given level of outputs. Farms that are cost inefficient could lower cost for a given level of outputs by improving cost efficiency.

To illustrate the differences in efficiency and profitability among the 185 wheat enterprises, the farms were sorted into thirds using net return to management per acre. Cost categories included seed, fertilizer, herbicide and insecticide, crop insurance, machinery, labor, land, interest, and other. The machinery cost category includes repairs; machinery hire; fuel, gas, and oil; and depreciation. The labor cost category includes hired labor as well as family and operator labor.

Table 1 presents, yield, price, technical efficiency, cost efficiency, gross income, cost, and net return for the three net return to management categories. Figure 1 provides a graphical depiction of gross income per acre, total cost per acre, and price per bushel differences among the net return to management categories. In addition to being more technical and cost efficient, the high net return group had more wheat acres, more crop acres, a higher yield, a higher price per bushel, and significantly lower total costs. Gross income per acre for the high net return group was 14 percent higher than that for the low net return group. More importantly, total cost per acre was 28 percent lower for the high net return group. Fertilizer, machinery, and labor were the three largest cost per acre items. The fertilizer, machinery, and labor cost categories were from 23 to 33 percent lower for the high net return group. Net return to management for the top one-third group was $34.37 per acre. In contrast, the low net return group lost $47.68 per acre, on average, over the five-year period. These net returns translate into a difference in net return per management between the two groups of $82.05 per acre.

Cost per bushel for each farm with continuous wheat enterprise data from 2004 to 2008 is presented in Figure 2. The average cost per bushel over the five-year period was $4.81. The bottom one-third group had a cost of production ($5.95 per bushel) that was more than $2.00 per bushel higher than the cost of production for the top one-third group ($3.88). The trend line illustrates the importance of economies of scale with respect to wheat production.

The analysis above was presented to motivate wheat producers to examine their production costs. Moreover, for many farms wheat remains a very important crop. This increases the need to know a farm's cost of production.

Future newsletter articles will compare the cost of production for no-till wheat enterprises to those with reduced or conventional tillage systems, and examine the efficiency and profitability for other enterprises (e.g., beef cow enterprise). For those interested in additional

enterprise summary information, check out the KFMA web site: www.agmanager.info/kfma.

Michael Langemeier, Professor
Department of Agricultural Economics

Table 1. Kansas Farm Management Association: State Average
2004-2008 Nonirrigated Wheat Enterprise Sorted by Net Return to Management per Acre

	Profit Category			Difference between High 1/3 and Low 1/3	
	High 1/3 Per Acre	Mid 1/3 Per Acre	Low 1/3 Per Acre	Acres / $	%
Number of Farms	61	62	62		
Enterprise Acres	939	636	422	517	123%
Crop Acres	1,997	1,507	1,059	938	89%
Bushels Produced	28,772	19,185	11,624	17,148	148%
Yield per Acre	39.2	38.4	35.3	3.9	11%
Price per Bushel	$4.92	$4.70	$4.63	$0.29	6%
Technical Efficiency	0.915	0.797	0.699	0.216	31%
Cost Efficiency	0.683	0.573	0.452	0.231	51%
INCOME:					
Crop Income	$149.60	$142.18	$127.01	$22.58	18%
Government Payments	$17.86	$17.89	$18.07	($0.21)	-1%
Other Income	$20.66	$21.87	$19.35	$1.31	7%
Gross Income	**$188.12**	**$181.93**	**$164.43**	**$23.69**	**14%**
COSTS:					
Seed	$7.43	$9.45	$8.88	($1.45)	-16%
Fertilizer	$27.06	$33.07	$35.35	($8.29)	-23%
Herbicide-Insecticide	$6.68	$8.04	$7.90	($1.22)	-15%
Crop Insurance	$5.48	$6.31	$6.26	($0.78)	-12%
Machinery	$42.79	$47.72	$59.53	($16.74)	-28%
Labor	$24.57	$27.65	$36.86	($12.29)	-33%
Other	$6.94	$9.02	$11.99	($5.05)	-42%
Land	$20.92	$25.19	$27.54	($6.62)	-24%
Interest	$11.88	$14.10	$17.80	($5.92)	-33%
Total Cost	**$153.75**	**$180.55**	**$212.11**	**($58.36)**	**-28%**
Net Return to Management	**$34.37**	**$1.38**	**($47.68)**	**$82.05**	

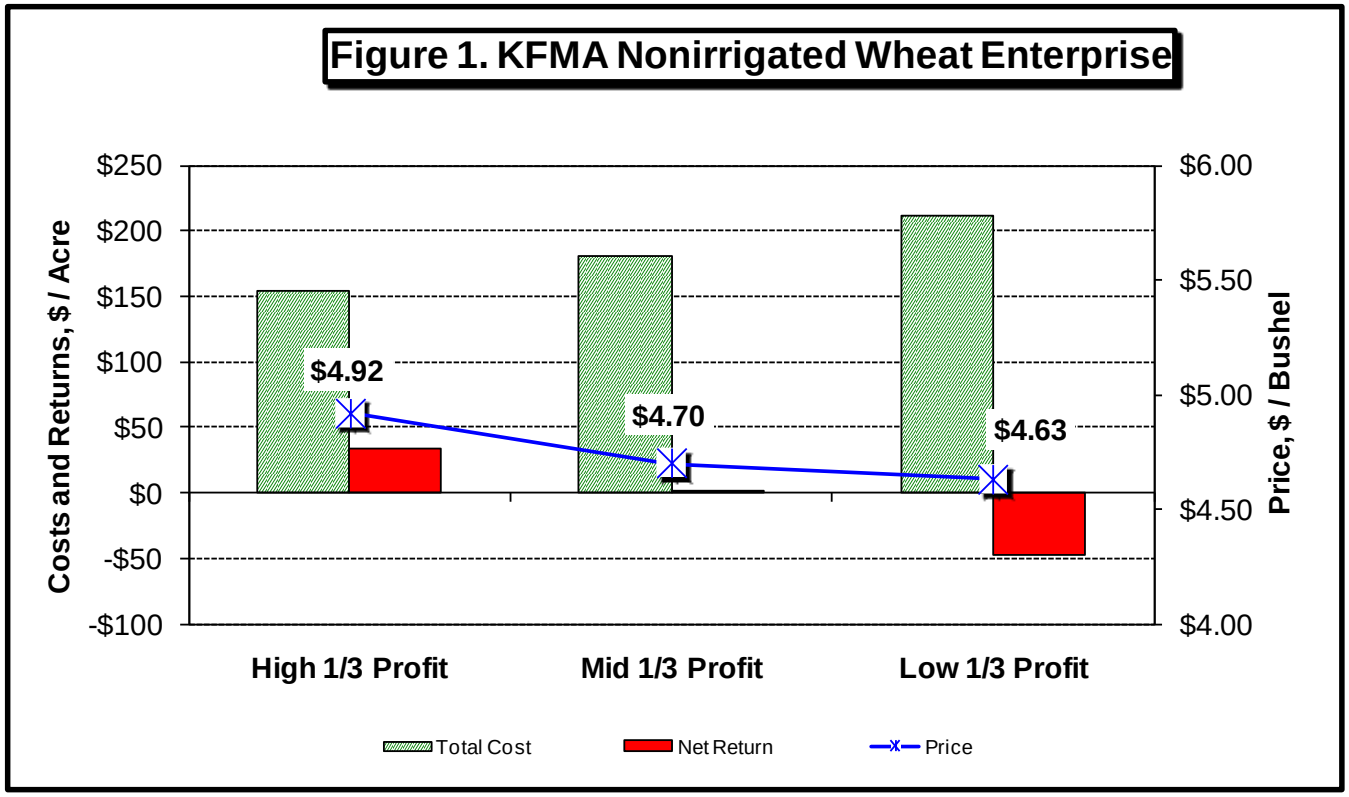
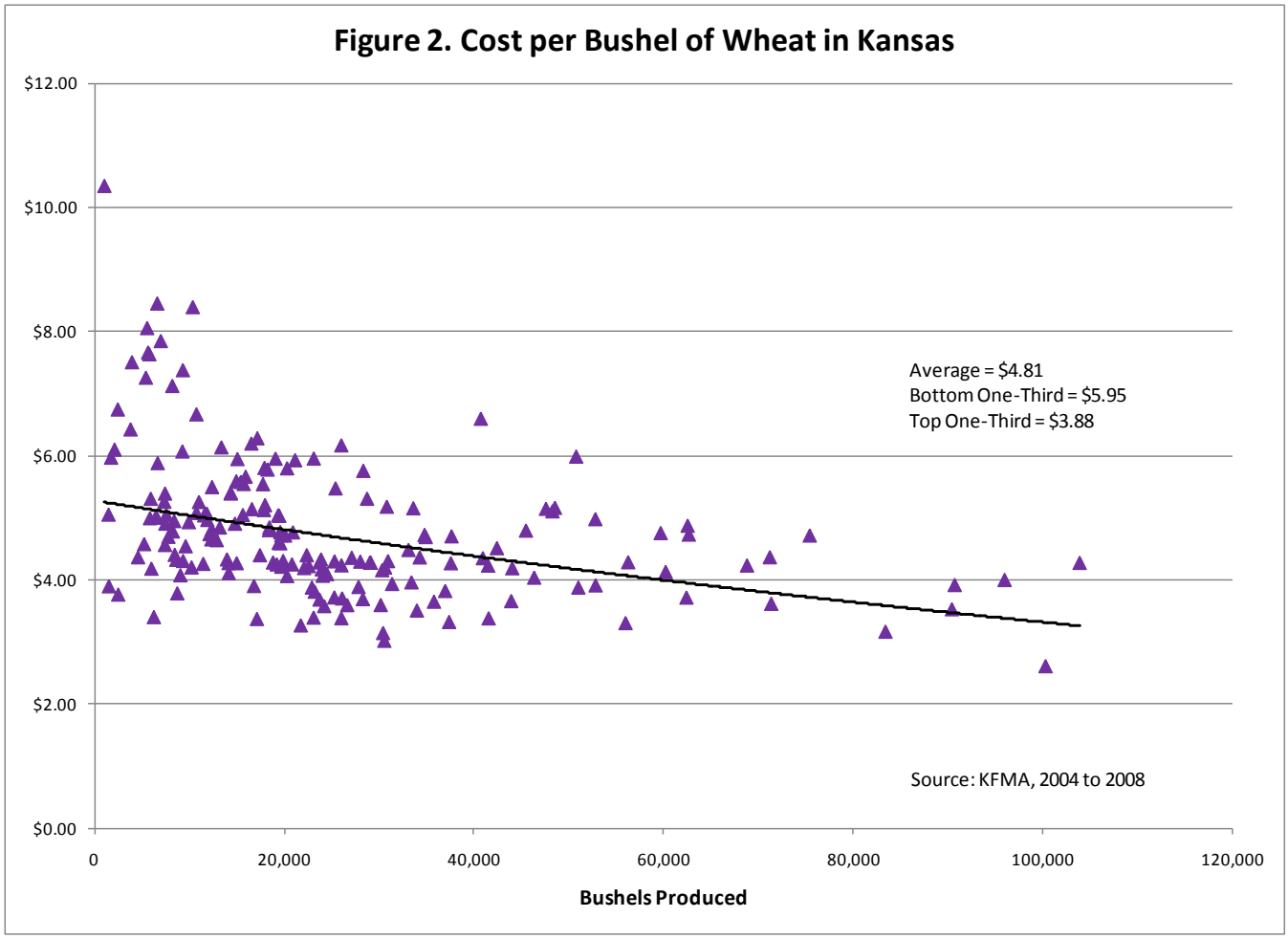


Figure 1. KFMA Nonirrigated Wheat Enterprise
$250
$200
$150
$100
$50
$0
-$50
-$100
Costs and Returns, $ / Acre
$6.00
$5.50
$5.00
$4.50
$4.00
Price, $ / Bushel
$4.92
$4.70
$4.63
High 1/3 Profit
Mid 1/3 Profit
Low 1/3 Profit
Total Cost
Net Return
Price



TILLAGE AND CONSERVATION PRACTICES ON KFMA FARMS

This article summarizes the results of a survey of KFMA farms pertaining to tillage and conservation practices. Producers were asked questions related to their tillage practices on dryland and irrigated land as well as questions pertaining to their current conservation practices. A word of thanks goes out to all of the cooperating KFMA members and economists.

Tables 1-4 report tillage practices by crop for NE, SE, SC, and SW Kansas. The percentages in these tables represent the percentage of producers using a particular tillage system. It is important to note that several producers utilized more than one tillage system. Crops, dryland or irrigated, that did not have at least 10 responses are not reported in Tables 1-4. The "other" category includes disking, chiseling, and plowing. It is also important to note that only 21 percent and 43 percent of the farms in NE and SE Kansas, respectively, planted dryland grain sorghum. The percent of farms in SC Kansas that reported planting irrigated crops ranged from 19 percent for grain sorghum to 43 percent for corn. All of the other crops were produced by a vast majority of the farms in each region.

In NE Kansas, from 42.1 to 55.0 percent of the crops were produced using a no-till production system (Table 1). Strip tillage was not

commonly used by the producers in NE Kansas. The "other" tillage category was more commonly used to produce dryland wheat, dryland corn, or dryland grain sorghum.

The no-till results for SE Kansas were quite different than those for NE Kansas (Table 2). The use of no-till systems in SE Kansas ranged from 21.1 percent for dryland corn to 47.7 percent for dryland wheat. Strip tillage was used to a greater extent in SE Kansas than it was in NE Kansas. The "other" tillage category was more commonly used to produce dryland corn or dryland grain sorghum.

Data were available for both dryland and irrigated crops in SC Kansas (Table 3). Use of the no-till system ranged from 33.6 to 57.0 percent for dryland crops, and from 27.8 to 52.9 percent for irrigated crops. Strip tillage was commonly used for corn and grain sorghum. It is interesting to note that approximately 45 percent of the dryland wheat producers in SC Kansas checked the other tillage category on their surveys which includes disking, chiseling, and plowing. This percentage of producers is substantially higher than the percentage of producers that checked the "other" tillage category for wheat in other parts of the state. This result may be due to the common use of a continuous wheat rotation in SC Kansas.

Table 4 reports the tillage results for SW Kansas. Approximately 22 percent and 39 percent of the SW producers utilized a no-till production system for wheat and grain sorghum, respectively. Strip tillage was not commonly used by the SW Kansas producers. It was also not as common for the SW Kansas producers to disk or chisel their dryland grain sorghum ground.

The percentage of producers that utilized various conservation practices is reported in Table 5. A relatively higher proportion of the SW producers utilized cover crops. Producing legumes in rotation was a relatively more common practice in SE and SC Kansas. The use of filter/buffer strips and terraces was more prevalent in eastern Kansas. Over 25 percent of the producers used some form of precision agriculture.

Another question, not reported in Tables 1-5, asked producers to indicate the year that they initiated conservation practices. The average year reported was 1995 in NE, 1998 in SE, 1996 in SC, and 1988 in SW.

The above analysis provides useful information, but also identifies areas that need further study. For example, it would be useful to know what crops producers are using for winter and summer cover crops, and the type of precision technology being utilized. Also, it would be interesting to relate tillage practices to cost efficiency and financial performance. Along these lines, a future newsletter article will compare the cost of production for no-till wheat enterprises to those with reduced or conventional tillage systems.

Michael Langemeier, Professor
Department of Agricultural Economics

Table 1. Tillage Practices by Crop for 135 NE KFMA Farms.

Crop	No-Till	Strip Till	Reduced Tillage	Other
Dryland Wheat	52.1%	0.0%	21.8%	26.0%
Dryland Corn	45.1%	4.3%	21.6%	29.0%
Dryland Soybeans	55.0%	1.2%	28.4%	15.4%
Dryland Grain Sorghum	42.1%	2.6%	18.4%	36.8%

Table 2. Tillage Practices by Crop for 72 SE KFMA Farms.

Crop	No-Till	Strip Till	Reduced Tillage	Other
Dryland Wheat	47.7%	1.2%	34.9%	16.3%
Dryland Corn	21.1%	10.5%	32.9%	35.5%
Dryland Soybeans	47.3%	4.3%	34.4%	14.0%
Dryland Grain Sorghum	30.8%	5.1%	35.9%	28.2%

Table 3. Tillage Practices by Crop for 150 SC KFMA Farms.

Crop	No-Till	Strip Till	Reduced Tillage	Other
Dryland Wheat	33.6%	0.0%	21.7%	44.7%
Dryland Corn	42.5%	22.5%	18.3%	16.6%
Dryland Soybeans	57.0%	4.2%	23.9%	14.8%
Dryland Sorghum	43.2%	13.1%	20.5%	23.3%
Irrigated Wheat	39.2%	2.0%	29.4%	29.5%
Irrigated Corn	27.8%	24.1%	19.0%	29.1%
Irrigated Soybeans	36.4%	11.7%	28.6%	23.4%
Irrigated Grain Sorghum	52.9%	11.8%	23.5%	11.8%

Table 4. Tillage Practices by Crop for 27 SW KFMA Farms.

Crop	No-Till	Strip Till	Reduced Tillage	Other
Dryland Wheat	22.0%	0.0%	53.7%	24.4%
Dryland Grain Sorghum	39.3%	7.1%	42.9%	10.7%

Table 5. Conservation Practices for 384 KFMA Farms.

Practice	NE	SE	SC	SW
Winter Cover Crops	6.2%	11.1%	11.1%	16.0%
Summer Cover Crops	1.6%	3.2%	10.7%	8.0%
Legumes in Rotation	20.9%	34.9%	38.0%	24.0%
Filter/Buffer Strips	30.2%	39.7%	26.7%	4.0%
Terraces	97.7%	100.0%	68.7%	80.0%
Precision Agriculture	26.4%	25.4%	41.3%	36.0%
No Answer	4.4%	12.5%	10.0%	7.4%

RECOMMENDATIONS FOR FURTHER READING

The purpose of this section of the newsletter is to briefly discuss articles and web sites that may be of interest to readers. In general, the articles discussed will not report on original research. Rather, the articles will contain citations to web sites and articles that discuss topics of general interest.

A recent issue of the *Animal Science Monitor* (Issue 89), written by Dan Simmons, briefly discusses the importance of writing a great job posting. He stresses the importance of showing candidates why they would want to accept your position and join your team. He uses two examples to illustrate how and how not to write a job posting. Those of you working on job descriptions and postings should check out this article. Issues of the *Animal Science Monitor* can be accessed via the following web site: www.animalsciencemonitor.com.

A recent news release written by Kevin Stafford, a *Farm Journal* columnist, discussed using a self-assessment questionnaire to evaluate whether a family is ready to discuss transition planning. This self-assessment uses a rating scale from 1 to 5 (1 - disagree; 2 - mostly disagree; 3 - neither agree/disagree; 4 - mostly agree; and 5 - agree). These ratings are applied to statements such as the following: maintaining family ownership of the farm/agribusiness is important; only lineal descendents should be allowed to own the family operation; ownership is an earned privilege, not an entitlement; the current operation can support additional families; and the current operation is run like a business with standard operating procedures and a management structure. I have listed only the first 5 statements out of a total of 20 statements. Let me know if you would like me to forward the entire 20 statements to you. There is no right or wrong answer to the self-assessment statements. However, a low score may indicate that more open discussion between family members or a more formalized management structure may be needed. Similar information can be found on the AgWeb web site (www.agweb.com).

A recent USDA-ERS publication written by Greene et al. and entitled "Emerging Issues in the U.S. Organic Industry discusses U.S. market growth of organic production, cost of production estimates for organic dairy and soybean producers, price premiums for selected commodities, and possible new directions in U.S. organic policy. The authors note that organic food sales have increased from $3.6 billion in 1997 to $21.1 billion in 2008. During the same time period, U.S. organic acreage has doubled. The authors also note that the USDA-ERS ARMS survey in 2009 will gather additional information from organic wheat producers. As soon as this information is available, I will summarize it in a future newsletter. The organic publication is available on my contributor site under "Recommendations for Further Reading".

Tom Palmer of the Cato Institute published a paper in 2007 that pertains to the current policy environment. Specifically, he lists and discusses 20 myths about markets. The myths are broken down into four categories: ethical criticisms, economic criticisms, hybrid ethical-economic criticisms, and overly enthusiastic defenses. Ethical criticisms include the following: markets are immoral or amoral; and markets promote greed and selfishness. Economic criticisms include the following: reliance on markets leads to monopoly; markets depend on perfect information, requiring government regulation to make information available; markets only work when an infinite number of people with perfect information trade undifferentiated products; markets cannot possibly produce public goods; markets don't work (or are inefficient) when there are negative or positive externalities; the more complex a social order is, the less it can rely on markets,

and the more it needs government direction; markets don't work in developing countries; markets lead to disastrous economic cycles, such as the great depression; and too much reliance on markets is as silly as too much reliance on socialism, the best is a mixed economy. Hybrid ethical/economic criticisms include the following: markets lead to more inequality than non-market processes; markets can not meet human needs, such as health, housing, education, and food; markets rest on the principle of the survival of the fittest; markets debase culture and art; markets only benefit the rich and talented; when prices are liberalized and subject to market forces, they just go up; and privatization and marketization in post-communist societies were corrupt, which shows that markets are corrupting. Overly enthusiastic defenses include the following: all relations among humans can be reduced to market relations; and markets can solve all problems without government at all. For more information on the above criticisms or myths check out the paper by Tom Palmer which can be found on my contributor site under "Recommendations for Further Reading".

I have referred to the Tax Policy Center's web site in previous newsletters (www.taxpolicycenter.org). This center is a joint venture of the Urban Institute and Brookings Institution. The center is made up of experts in tax, budget, and social policy. In particular, the center focuses on modeling the short-term and long-term consequences of specific tax policies. Those interested in the impacts of specific tax policies are encouraged to check out this web site.

Michael Langemeier, Professor
Department of Agricultural Economics

The Kansas Farm Management Association (KFMA) Newsletter is distributed monthly to provide farm management information to farm decision makers. Further farm management information can be found on the KFMA program website: www.agmanager.info/kfma; and, on the Extension Agricultural Economics website: www.agmanager.info. The Newsletter is edited by Michael Langemeier, Professor, Department of Agricultural Economics, Kansas State University.