



KANSAS FARM MANAGEMENT ASSOCIATION

Your Farm - Your Information - Your Decision

N E W S L E T T E R

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2009 PROFIT POTENTIAL FOR WHEAT, GRAIN SORGHUM, AND SOYBEANS

Introduction

For the 2009 spring summary meetings the North Central KFMA economists presented the results of the 2008 enterprise reports for wheat, grain sorghum, and soybeans and then projected ahead the “breakeven” prices and yields for the 2009 crop year. The purpose of the presentation was two-fold: provide our members with a glance ahead at the profit potential and to define what a “good” price might be for 2009 crop production. We hope to provide the same message in this newsletter and hopefully provide you with a means to do the same for your farm.

2008 Results

The North Central Kansas Farm Management cooperators enjoyed phenomenal profits from the crop enterprises in 2008. Profit on a per acre basis ranged from \$78 for grain sorghum to \$150 for soybeans. Wheat generated a profit per acre of \$120. Profit for this purpose is defined as the net return to management, operator labor, and investment. For instance, the \$78 of profit from the grain sorghum is calculated after all costs except operator labor and investment of net worth.

The wheat report is shown in table 1. Wheat generated an average of \$295 of income per

acre. This was achieved by a yield of 48 bushels per acre, an average price of \$6.96, and an operator share of 82 percent. This calculates out to \$276 of crop value. Additionally, NC farms received an average of \$19 of other income including government payments, crop insurance, and other miscellaneous income. The majority of the other income is government payments. Total costs for wheat averaged \$175 per acre. The table breaks down the costs into crop insurance, fertilizer, fuel, seed, and all other costs. All other costs include labor, repairs, interest, chemicals, machine hire, fees, storage, property taxes, rent, farm insurance, and depreciation. As the table indicates, net income was \$120 per acre. Please note, the operator share is an average which is determined by a combination of owned land, cash rented land, and share rented land.

The grain sorghum report is shown in table 2. Grain sorghum generated an average of \$293 of income per acre. This was achieved by a yield of 105 bushels per acre, an average price of \$3.33, and an operator share of 82 percent. This calculates out to \$284 of crop value. Additionally, NC farms received an average of \$9 of other income. Total costs for grain sorghum averaged \$215 per acre. The net income was \$78.

The soybean report is shown in table 3. Soybeans generated an average of \$336 of income per acre. This was achieved by a yield of 43 bushels per acre, an average price of \$9.06, and an operator share of 84 percent. This calculates out to \$325 of crop value.

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Additionally, NC farms received an average of \$9 of other income. Total costs for soybeans averaged \$186 per acre. The net income was \$150.

Looking Ahead to 2009

Using the 2008 enterprise results as a guide to develop budgets for 2009 we can gauge the potential of the 09 crops and determine breakeven prices and yields. Some of the expense categories have obviously changed since 2008 and others have not. The budgets were produced by leaving the “other” expense category the same and contacting suppliers to determine the level of change in the crop insurance, fertilizer, fuel, and seed.

Wheat

There will be great variation in the cost of producing wheat in 2009. If producers purchased their fertilizer at or before planting time, their costs will be substantially more than those who purchased nitrogen during the winter for top dressing. The projected cost of producing wheat in this estimate is a “worse case” scenario. The estimated fertilizer is based on purchasing all the fertilizer before planting time. All of the projected costs are discussed below.

Crop insurance is the first expense listed. Premiums for crop insurance have increased due to the popularity of revenue coverage products chosen by producers and the increased revenue levels insured due to higher wheat prices. To estimate the cost for 2009, a coverage level of 70 percent CRC was chosen. The premium for this level in central Kansas is about \$16 per acre. The cost for your farm will vary from this amount based on your area and the type of coverage you have chosen.

As mentioned above the cost of fertilizer will vary greatly from farm to farm. To estimate this cost, KSU recommendations of 80 pounds of nitrogen and 25 pounds of phosphorus was used.

The total cost of \$83 per acre was calculated by taking the rates times a price of \$0.98 per pound for nitrogen and \$0.91 per pound for phosphorus times the average producer share of 82 percent. There are many producers whose cost will be less than the \$83 per acre shown because they purchased the nitrogen during the winter for top dressing at much lower rates. To determine your cost, adjust this amount based on the prices you paid for your fertilizer.

It appears fuel costs will be somewhat less in 2009 than in 2008. Government statistics indicate that diesel prices have dropped 40 percent since last summer’s peak. Additionally, many producers have contracted much of their needs this year at substantially reduced prices. In North Central Kansas, the average fuel cost per acre in 2008 was \$20. Reducing that average by 40 percent does not seem realistic because the ground was prepared and the crop was planted using high priced fuel in 2008. Therefore, as an estimate, one-half of the price reduction is used to estimate a cost of \$16 per acre for the 2009 wheat.

Seed expense is the next category listed. As the 2008 actual column indicates, the average seed cost was \$12 per acre. This is a combination of purchased seed and the value of raised seed used. The cost of seed did not change drastically for the 2009 crop so this amount was left constant.

The other cost category includes expenses such as repairs, interest, rent, chemicals, and other miscellaneous costs. For purposes of this budget those costs are held constant. As with the other categories, these costs vary from farm to farm and some may have changed from the 2008 levels. For your farm, adjust these as needed.

The estimated expenses total \$217 per acre. The farm’s share of the wheat crop plus any other income from the wheat ground must add up to \$217 to cover the cost of the crop. In 2008 NC area farms averaged \$19 of other

income per acre in the wheat enterprise report. If the farms average this amount in 2009, the wheat crop itself must cover the remaining \$198 of cost. The average wheat yield in the last five years in the north central Kansas summary has been 45 bushels. Using this average and the average producer's share of 82 percent, it will take a price of \$5.37 to cover all costs. Therefore, we are projecting a \$5.37 breakeven price.

On May 8, 2009 there were local elevator bids for new crop wheat of \$5.85 per bushel. Using the same cost figures and the producer share of 82 percent it will take a yield of 42 bushels an acre to produce a breakeven result.

Grain Sorghum

The grain sorghum budget was put together in much the same method as the wheat. "Other" expenses were held constant while crop insurance, fertilizer, fuel, and seed were based on current year prices for these inputs. Additionally, other income of \$9 per acre is held constant for this estimate.

Crop insurance rates for central Kansas using 70 percent CRC coverage are \$16 per acre. As with wheat, insurance plans vary greatly from farm to farm. The revenue coverage policies seem to be the most popular so that is the type of plan used in this budget.

The fertilizer cost is based on recommended rates of 90 pounds of nitrogen and 45 pounds of phosphorus. The price used for nitrogen is \$0.35 per pound and the price for phosphorus is \$0.57 per pound. The price used for phosphorus is an average of local liquid and dry phosphorus prices. You are likely using one or the other, therefore, your cost will vary depending on which system you used. The total is then adjusted by the average producer share of 82 percent.

Fuel cost was determined by reducing the average for 2008 by the 40 percent reductions

reported in fuel prices. The assumption is that producers will use the same quantity of fuel and will benefit by the full 40 percent price reduction.

Seed cost appears to be even with 2008. The price per bag of seed is the same in 2009 as it was in 2008, therefore the estimated cost is the same.

Over the last five years, the average grain sorghum yield in NC has been 84 bushels. The estimated total cost per acre is \$204 dollars. The producer's share of the crop will need to generate \$195 of revenue to breakeven after realizing \$9 of other income. Therefore, the break even price is \$2.83 per bushel after adjusting for the 82 percent producer share.

The new crop price bid for grain sorghum on May 8 was \$3.41 locally. If a producer receives that price for the crop, it would take a yield of 70 bushels to meet the breakeven costs.

Soybeans

The budget for soybeans uses the same template as wheat and grain sorghum. Total costs amount to \$190 dollars per acre. Other income averaged \$9 and is assumed to be the same in 2009 as 2008. The other expense amount is held constant with the previous year average.

The premium for 70 percent CRC insurance is \$16 dollars in 2009. Fertilizer is based on the recommended rate of 30 pounds of phosphorus at the \$0.57 per pound price adjusted by the 84 percent producer share. Fuel cost is reduced by 40 percent as discussed earlier. The price of seed has increased for 2009. The projected cost per acre is \$45 dollars.

Using the average soybean yield of 31 bushels, the projected breakeven price is \$6.95. The breakeven yield is 25 bushels based on the new crop soybean bid of \$8.69 on May 8, 2009.

What is a Good Price?

Obviously, generating a profit is the objective of producing crops. Calculating breakeven budgets for prices and yields provides useful information but they do not set the goal. The past two years have provided extremely high profits per acre and it appears the potential is not as great for 2009 based on current new crop bids. Therefore, what is a reasonable goal for profits and what kind of price and yield combination will it take to achieve the goals?

Individually, producers should set their own goals based on their individual needs for family living, debt reduction and other financial needs or objectives. Historically, we know in NC Kansas that farms can survive on \$30 per acre profits and make substantial financial progress when profits reach \$50 or more. Your objectives may be consistent with these amounts but it is important that you determine these goals before you define a “good” price.

Using the budgets provided, new crop bids will have to improve before any of the crops will produce a \$50 profit. However, grain sorghum and soybeans are fairly close. Grain sorghum prices are with \$0.15 and soybean prices are within \$0.18. Wheat prices, however, will need to improve by \$0.87 per bushel to generate a

\$50 profit.

Yields will have to better the 5 year averages to generate \$50 profits. Wheat will have to yield 52 bushels at current prices. A yield of 52 bushels would represent a 16 percent improvement over the five year average. Grain sorghum and soybeans will need 5 percent and 3 percent increases, respectfully.

Markets don't always provide profitable price opportunities. When they do, producers will benefit from knowing the price yield combinations it will take to make marketing decisions based on profit objectives. As harvest time nears, your yield outlook can be used to adjust price objectives. If you feel your crop is progressing above expectations, you can lower the price objective.

Other factors such as your crop insurance plan can influence your price objectives. Whatever your situation may be, having a clear set of objectives can be extremely beneficial when making marketing decisions. Good luck this summer, we hope you enjoy bountiful harvests.

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Table 1
Wheat Enterprise and Breakeven Budget
Kansas Farm Management Assoc., N.C.

	2008	2009	2009
	Actual	B/E Price	B/E Yield
Yield/Acre	48	45	42
Price	\$6.96	\$5.37	\$5.85
Operator %	82%	82%	82%
Crop Income/Acre	\$276	\$198	\$198
Other Income/Acre	\$19	\$19	\$19
Total Income/Acre	\$295	\$217	\$217
Expense/Acre			
Crop Ins	\$10	\$16	\$16
Fertilizer	\$43	\$83	\$83
Fuel	\$20	\$16	\$16
Seed	\$12	\$12	\$12
Other Costs	\$90	\$90	\$90
Total Cost/Acre	\$175	\$217	\$217
Net Profit/Acre	\$120	\$0	\$0

Table 2
Grain Sorghum Enterprise and Breakeven Budget
Kansas Farm Management Assoc., N.C.

	2008	2009	2009
	Actual	B/E Price	B/E Yield
Yield/Acre	105	84	70
Price	\$3.33	\$2.83	\$3.41
Operator %	82%	82%	82%
Crop Income/Acre	\$284	\$195	\$195
Other Income/Acre	\$9	\$9	\$9
Total Income/Acre	\$293	\$204	\$204
Expense/Acre			
Crop Ins	\$14	\$16	\$16
Fertilizer	\$59	\$54	\$54
Fuel	\$19	\$11	\$11
Seed	\$12	\$12	\$12
Other Costs	\$111	\$111	\$111
Total Cost/Acre	\$215	204	\$204
Net Profit/Acre	\$78	\$0	\$0

Table 3
Soybean Enterprise and Breakeven Budgets
Kansas Farm Management Assoc., N.C.

	2008	2009	2009
	Actual	B/E Price	B/E Yield
Yield/Acre	43	31	25
Price	\$9.03	\$6.95	\$8.69
Operator %	84%	84%	84%
Crop Income/Acre	\$325	\$181	\$181
Other Income/Acre	\$9	\$9	\$9
Total Income/Acre	\$336	\$190	\$190
Expense/Acre			
Crop Ins	\$17	\$16	\$16
Fertilizer	\$10	\$12	\$12
Fuel	\$18	\$11	\$11
Seed	\$35	\$45	\$45
Other Costs	\$106	\$106	\$106
Total Cost/Acre	\$186	190	\$190
Net Profit/Acre	\$150	\$0	\$0

FINANCIAL PERFORMANCE AND FARM SIZE

Financial performance often varies by farm type or farm size. This article documents differences in financial performance among farm sizes in the Kansas Farm Management Association.

The following financial performance measures were used in the analysis: total expense ratio, adjusted total expense ratio, economic total expense ratio, profit margin, and asset turnover ratio. The total expense ratio was computed by dividing accrual expenses (cash costs, accrual cost adjustments, and depreciation) by value of farm production. The adjusted total expense ratio was computed by adding unpaid operator and family labor to the expenses included in the total expense ratio and dividing by value of farm production. A ratio below one would indicate that a farm or group of farms is covering accrual expenses and unpaid operator and family labor. The economic total expense ratio was computed by adding the opportunity charge on net worth to the expenses included in the adjusted total expense ratio and dividing by value of farm production. A ratio below one would indicate that a farm is covering accrual expenses, unpaid operator and family labor, and the opportunity charge on net worth. The profit margin ratio was computed by adding interest and subtracting unpaid operator and family labor from net farm income, and dividing the result by value of farm production. The asset turnover ratio was computed by dividing total assets by value of farm production. In addition to reporting financial measures, this article also reports the incidence of financial stress, the percent of farms covering accrual expenses and opportunity costs, and the percent of farms in each profit margin quartile. Farms that were financially stressed were not covering accrual expenses and unpaid operator and family labor, and had a debt to asset ratio above 70 percent.

Farms in the Kansas Farm Management Association with continuous data from 2004 to 2008 were included in the analysis. Table 1

reports the averages for these 1,062 farms. The average total expense ratio, adjusted total expense ratio, and economic total expense ratio was 0.760, 0.893, and 1.065, respectively. Note that the average adjusted total expense ratio was below 1.000. This indicates that, on average, the farms were covering accrual expenses and unpaid operator and family labor.

Approximately 65 percent of the farms were able to cover these expenses. In contrast, only 28 percent of the farms were able to cover all costs, including the opportunity charge on net worth. The average profit margin ratio was 0.1604 and the average asset turnover ratio was 0.3305.

Table 2 reports the financial measures for four farm size categories. The farms were sorted into size categories using value of farm production. The total expense ratio was substantially higher for the small farm size category, but similar for farms with a value of farm production greater than \$100,000. In contrast, the adjusted total expense ratio and the economic total expense ratio continued to decline as farm size increased. Because they include opportunity costs, comparisons among farms using the adjusted total expense ratio and the economic total expense ratio are more appropriate than comparisons among farms using the total expense ratio. It is particularly problematic to compare the total expense ratio between a group of farms with no hired labor and a group of farms with hired labor. It is important to keep in mind that hired labor is included in the total expenses that make up the total expense ratio, but unpaid operator and family labor is not. The percent of farms with an adjusted total and an economic total expense ratio less than one increases with farm size. Approximately 64 percent of the farms with a value of farm production greater than \$500,000 were covering all accrual expenses and opportunity costs.

The profit margin ratio for farms with a value of farm production above \$500,000 was above the average profit margin ratio. The asset turnover ratio for farms with a value of farm production between \$250,000 and \$500,000 and for farms with a value of farm production greater than \$500,000 was above the average for all farms. The negative profit margin for farms with a value of farm production below \$100,000 reflects the problem these farms have in covering unpaid operator and family labor. Only 3.50 percent of the small farms were in the top profit margin quartile (i.e., in the fourth category). In contrast, over one-half of the farms with a value of farm production greater than \$500,000 were in the top profit margin quartile.

Financial stress was below average for the farms with a value of farm production greater than \$500,000. These farms tend to be able to cover opportunity costs on operator and family labor, making these farms relatively less financially stressed.

This article presented information on financial performance by farm size category. More information on financial performance and the Kansas Farm Management Association can be found on the following web site:
www.agmanager.info/kfma.

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Table 1. Summary Statistics for 1,062 KFMA Farms with Continuous Data from 2004-2008.

Item	Average
Value of Farm Production (VFP)	\$355,001
Net Farm Income	\$85,239
Interest	\$19,074
Unpaid Family and Operator Labor	\$47,370
Total Assets	\$1,074,187
Total Debt	\$312,954
Total Expense Ratio (TER)	0.760
Adjusted Total Expense Ratio (ATER)	0.893
Economic Total Expense Ratio (ETER)	1.065
Operating Profit Margin Ratio	0.1604
Asset Turnover Ratio	0.3305
Debt to Asset Ratio	0.2913
Percent of Farms with Positive Net Cash Flow	93.79%
Percent of Farms Financially Stressed	5.56%
Percent of Farms with TER less than 1.000	92.28%
Percent of Farms with ATER less than 1.000	65.07%
Percent of Farms with ETER less than 1.000	28.34%
Percent of Farms with VFP less than \$100,000	13.47%
Percent of Farms with VFP between \$100,000 and \$250,000	34.18%
Percent of Farms with VFP between \$250,000 and \$500,000	32.11%
Percent of Farms with VFP greater than \$500,000	20.24%

Source: Kansas Farm Management Association 2008 Databank.

Table 2. Summary Statistics by Farm Size Category.^a

Item	Value of Farm Production (thousands of dollars)			
	< \$100	\$100 to \$250	\$250 to \$500	> \$500
Number of Farms	143	363	341	215
Value of Farm Production (VFP)	\$63,941	\$174,754	\$355,295	\$852,449
Net Farm Income	\$7,730	\$39,555	\$85,184	\$214,010
Interest	\$4,470	\$10,444	\$19,348	\$42,922
Unpaid Family and Operator Labor	\$26,845	\$38,607	\$48,668	\$73,758
Total Assets	\$491,069	\$721,876	\$1,029,193	\$2,128,223
Total Debt	\$70,370	\$168,149	\$312,196	\$719,991
Total Expense Ratio (TER)	0.879	0.774	0.760	0.749
Adjusted Total Expense Ratio (ATER)	1.299	0.995	0.897	0.835
Economic Total Expense Ratio (ETER)	1.825	1.248	1.059	0.968
Operating Profit Margin Ratio	-0.2290	0.0652	0.1572	0.2149
Asset Turnover Ratio	0.1302	0.2421	0.3452	0.4005
Debt to Asset Ratio	0.1433	0.2329	0.3033	0.3383
Percent of Farms with Positive Net Cash Flow	81.12%	93.66%	95.60%	99.53%
Percent of Farms Financially Stressed	6.29%	6.89%	6.16%	1.86%
Percent of Farms with TER less than 1.000	73.43%	92.01%	96.19%	99.07%
Percent of Farms with ATER less than 1.000	13.99%	50.96%	81.52%	96.74%
Percent of Farms with ETER less than 1.000	0.70%	9.92%	36.95%	64.19%
Percent of Farms in First Profit Margin Quartile	82.52%	32.51%	8.50%	0.00%
Percent of Farms in the Second Profit Margin Quartile	11.19%	35.54%	25.81%	15.35%
Percent of Farms in the Third Profit Margin Quartile	2.80%	19.56%	36.07%	31.63%
Percent of Farms in the Fourth Profit Margin Quartile	3.50%	12.40%	29.62%	53.02%

^a Farms in the first profit margin quartile have the lowest operating profit margin ratio. Farms in the fourth profit margin quartile have the highest operating profit margin ratio.

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 80), written by Don Simmons, briefly discusses why it is important to hire individuals that are passionate about their job. As the author notes, most people overlook passion when hiring an employee and instead focus on skills, employment history, education, and compensation. One experienced employer that the author works with noted that there was a strong correlation between passion for the job and employee success. The author suggests the following steps when recruiting an employee:

- ✓ Discuss the daily functions involved in the job. See if the employee becomes more or less interested in the job.
- ✓ Ask what they like most about the work they have been doing. See if their answers match the key functions.
- ✓ Look for key accomplishments surrounding the purpose of the job.
- ✓ See if the routine of the job fits into their personal life and personality traits.
- ✓ Ask why they really want the job. If the functions interest them, then they have passion. If it's the money, the need for work, the hours, or the prestige of the position or company, you may have a problem.

Issues of the *Animal Science Monitor* can be accessed via the following web site:
www.animalsciencemonitor.com.

A recent paper written by Douglas Diamond and Raghuram Rajan entitled "The Credit Crisis: Conjectures about Causes and Remedies" discusses the causes of the financial crisis, the factors that have kept asset prices depressed, and possible remedies. The authors state that possible causes of the financial crisis include the misallocation of resources to real estate financed through new financial instruments, the fact that a significant portion of these new instruments found their way onto commercial and investment bank balance sheets, and the fact that these investments were financed with short-term debt. Illiquidity and uncertainty is contributing to depressed asset prices. Many bank and non-banks hold significant proportions of illiquid assets. These firms are leery to sell these illiquid assets in the current market environment. Remedies mentioned by the authors include having the government buy illiquid assets and housing them in a federal entity, having the government ensure the stability of significant parts of the financial system that holds illiquid assets through the recapitalization of entities that have a realistic possibility of survival and the merger or closure of those that do not, and some mix of the first two approaches. This article is posted on my contributor site under "Recommendations for Further Reading".

I typically do not review books in this section. However, a recent book written by Thomas Woods, Jr. entitled "Meltdown" is worth taking a look at. The author discusses why the stock market and economy collapsed last year. Of particular interest is the chapter discussing the possible role of the government in the creation of the housing bubble. The author discusses "six culprits" related to the federal government. The first culprit is Fannie Mae and Freddie Mac. The author indicates that investors and lenders took for granted that these government sponsored enterprises would be bailed out if

they ran into trouble. The second culprit was the Commodity Reinvestment Act. According to the author, this act encouraged lenders to lower lending standards. The third culprit was the government's artificial stimulus to speculation. The author notes that the lowering of lending standards prompted a surge in the demand for housing by speculators. This surge drove up prices. The fourth culprit was the pro-ownership tax code. The fifth culprit was the Federal Reserve and artificially cheap credit. As the author notes, when the Federal Reserve pushes down interest rates, it encourages a boom in the production of relatively longer-term projects. The sixth culprit is the "too big to fail" mentality of some actors in the financial markets. A chapter of this book containing a

discussion of boom/bust cycles will be reviewed in a future newsletter.

Many think tanks of web sites, are fully accessible to the public. The Witherspoon Institute is an independent research center that works to enhance public understanding of the moral foundations of free and democratic societies. Their web site contains publications, such as the *Public Discourse*, that cover topics related to free societies, ethics, natural law, and the common good. The web site for the Witherspoon Institute is as follows:
www.winst.org.

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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.



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