

# **Characteristics of High, Medium, and Low Profit Farms: An Analysis of Kansas Farm Management Association 2001 Enterprises**

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Farm profitability is a topic widely discussed in both the agricultural community and in Washington D.C. It is important on both the individual farm level and also on the policy making level. At the macro level, many factors uncontrollable by producers (e.g., interest rates, trade policies, government programs) impact overall farm profitability. However, producers do have more control of profitability at the farm level relative to other producers. Thus, it is important to recognize what characteristics determine farm profitability. Do profitable farms get higher yields? Do profitable farms receive more for their commodity? Do they have lower cost? If they have lower costs, in what areas are the costs lower? To consider these questions, selected enterprise budgets from the Kansas Farm Management Association (KFMA) database for the year 2001 were divided into three profitability groups, high, middle and low, based on net returns to management. One enterprise is analyzed from each of the six Kansas Farm Management Associations in addition to one state-level summary.

To allow for easier comparisons a number of the income and expense categories reported in the KFMA enterprise reports were aggregated. In the following enterprise budgets, other income is the summation of patronage income, miscellaneous income, futures contract income and crop insurance proceeds. Machinery costs are the summation of general machinery repairs, machinery hire, fuel, gas, oil, and depreciation costs. Labor costs are the summation of unpaid operator labor and hired labor. Other costs are the summation of fees, grain storage and marketing, personal property tax, general farm insurance, utility expense, conservation, and auto-expense. Land costs are the summation of cash rent, real estate taxes and an opportunity cost on owned land. The following is a brief discussion of the seven enterprises analyzed. Similar tables for other crop and livestock enterprises can be found at [http://www.agecon.ksu.edu/kfma/New Web/ReportsEnterprisebyprofit.htm](http://www.agecon.ksu.edu/kfma/New%20Web/ReportsEnterprisebyprofit.htm). The KFMA website also contains other whole-farm and enterprise summary reports, analyses, and timely farm management studies.

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## Beef Cow Enterprise: Kansas Farm Management Association State Average

For cow-calf producers selling lightweight calves, the net return to management was \$52.23/cwt more for high profit producers compared to low profit producers. The differences between the high and low profit groups were relatively minor with regard to production and income. However, herd size and most cost categories were quite divergent for the two groups. High profit farms had 82% larger herds, sold calves at only nine pounds heavier, and received \$0.52/cwt less than the low profit producers. The mid profit producers sold the heaviest calves but received a slightly lower price per cwt.

Every cost category was lower for the high profit producers. Feed costs had the largest cost difference in absolute dollars. High profit farms had \$17.36/cwt lower feed costs, a 30% advantage over low profit producers.

<b>Table 1. Kansas Farm Management Association: State Averages</b>					
<b>2001 Beef Cow, Sell Calves Enterprise Sorted by Net Return to Management per Cwt</b>					
	<b>Profit Category</b>			<b>Difference between</b>	
	<b>High 1/3</b>	<b>Mid 1/3</b>	<b>Low 1/3</b>	<b>High 1/3 and Low 1/3</b>	
	<b>Head / \$</b>	<b>Head / \$</b>	<b>Head / \$</b>	<b>Head / \$</b>	<b>%</b>
Number of Farms	54	54	53		
Number of Cows in Herd	142	114	78	64	82%
Number of Calves Sold	113	95	58	55	95%
Average Weight of Calves Sold	563	579	554	9	2%
Sales Price / Cwt	\$91.04	\$90.37	\$91.56	(\$0.52)	-1%
<b>INCOME:</b>					
Gross Income	<b>\$78.09</b>	<b>\$79.69</b>	<b>\$73.20</b>	<b>\$4.89</b>	<b>7%</b>
<b>COSTS:</b>					
Feed	\$39.62	\$50.79	\$56.98	(\$17.36)	-30%
Interest	\$12.19	\$15.12	\$19.59	(\$7.40)	-38%
Vet Medicine / Drugs	\$2.26	\$2.41	\$3.07	(\$0.81)	-26%
Livestock Marketing / Breeding	\$1.46	\$1.56	\$3.02	(\$1.56)	-52%
Depreciation	\$2.45	\$3.77	\$4.86	(\$2.41)	-50%
Machinery	\$5.12	\$7.09	\$11.64	(\$6.52)	-56%
Labor	\$8.35	\$12.64	\$16.37	(\$8.02)	-49%
Other	\$3.56	\$4.08	\$6.82	(\$3.26)	-48%
Total Cost	<b>\$75.01</b>	<b>\$97.46</b>	<b>\$122.35</b>	<b>(\$47.34)</b>	<b>-39%</b>
Net Return to Management	<b>\$3.08</b>	<b>(\$17.77)</b>	<b>(\$49.15)</b>	<b>\$52.23</b>	

Interest, machinery, and labor costs were the other large contributors to the \$47.34/cwt cost advantage of high profit farms, implying that larger cow-calf producers

were able to capture economies of size.

## Non-irrigated Corn Enterprise: Northeast Kansas Farm Management Association

The NE-KFMA non-irrigated corn enterprise data reveal that the high profit farms made \$135.95/acre more than the low profit farms in 2001. The high profit farms had 71% more corn acres and produced 43.1 more bushels per acre, leading to a \$55.46 difference in crop income per acre. Prices received and government payments were nearly

identical for the high and low profit producers, but slightly lower for the mid profit farms. High profit farms generated \$47.71/acre or 21% more gross income than low profit farms.

Every cost category was lower for the high profit farms except for land. The land charge or opportunity cost for owned land was the major driver. Despite a 43.1 yield advantage, all of the input costs were lower for the high profit farms, including a \$16.30 and \$6.40/acre lower fertilizer and seed cost, respectively. High profit producers appear to be more efficiently using these inputs and/or perhaps benefiting from price discounts via

<b>Table 2. Northeast Kansas Farm Management Association 2001 Nonirrigated Corn Enterprise Sorted by Net Return to Management per Acre</b>					
	<b>Profit Category</b>			<b>Difference between</b>	
	<b>High 1/3 Per Acre</b>	<b>Mid 1/3 Per Acre</b>	<b>Low 1/3 Per Acre</b>	<b>High 1/3 and Low 1/3 Acres / \$</b>	<b>%</b>
Number of Farms	26	26	25		
Enterprise Acres	344	375	201	143	71%
Owned Acres	143	67	67	76	113%
Rented Acres	201	308	134	67	50%
Yield per Acre	144.0	134.2	101.0	43.1	43%
Operator Percentage	77.3%	74.1%	82.1%	-4.8%	-6%
Price per bushel	\$1.90	\$1.81	\$1.88	\$0.02	1%
<b>INCOME:</b>					
Crop Income	\$211.57	\$179.64	\$156.11	\$55.46	36%
Government Payments	\$49.94	\$44.50	\$50.99	(\$1.06)	-2%
Other Income	\$15.02	\$8.37	\$21.71	(\$6.69)	-31%
Gross Income	<b>\$276.52</b>	<b>\$232.50</b>	<b>\$228.81</b>	<b>\$47.71</b>	<b>21%</b>
<b>COSTS:</b>					
Seed	\$27.83	\$26.47	\$34.23	(\$6.40)	-19%
Fertilizer	\$31.67	\$29.59	\$47.97	(\$16.30)	-34%
Herbicide-Insecticide	\$25.38	\$22.96	\$29.72	(\$4.34)	-15%
Crop Insurance	\$4.25	\$4.10	\$6.42	(\$2.17)	-34%
General Machinery Repair	\$15.21	\$20.14	\$19.66	(\$4.45)	-23%
Machine Hire	\$5.64	\$8.38	\$11.77	(\$6.13)	-52%
Gas, Fuel, and Oil	\$10.08	\$11.81	\$11.35	(\$1.27)	-11%
Depreciation	\$18.61	\$21.68	\$34.93	(\$16.32)	-47%
Machinery Sub-total	<b>\$49.54</b>	<b>\$62.01</b>	<b>\$77.71</b>	<b>(\$28.17)</b>	<b>-36%</b>
Labor	\$23.16	\$39.84	\$49.63	(\$26.47)	-53%
Other	\$13.83	\$10.02	\$15.71	(\$1.88)	-12%
Land	\$53.12	\$32.11	\$47.14	\$5.98	13%
Interest	\$15.76	\$16.98	\$24.25	(\$8.49)	-35%
Total Cost	<b>\$244.54</b>	<b>\$244.08</b>	<b>\$332.78</b>	<b>(\$88.24)</b>	<b>-27%</b>
Net Return to Management	<b>\$31.98</b>	<b>(\$11.58)</b>	<b>(\$103.97)</b>	<b>\$135.95</b>	
This crop enterprise is based on the operator's share of production, and thus includes only production expenses paid by the operator.					

volume purchases. The total machinery cost was \$28.17/acre higher for the low profit producers. Labor cost per acre was \$26.47 lower in addition to the 35% interest cost advantage held by the high profit farms relative to the low profit farms.

## Non-irrigated Soybean Enterprise: Southeast Kansas Farm Management Association

The characteristics of high profit soybean producers in the SE-KFMA included 31% more soybean acres, an 11.6 bushel /acre higher yield, and a \$0.17/bushel difference in the price received relative to the low profit farms.

<b>Table 3. Southeast Kansas Farm Management Association 2001 Nonirrigated Soybean Enterprise Sorted by Net Return to Management per Acre</b>					
	<b>Profit Category</b>			<b>Difference between</b>	
	<b>High 1/3 Per Acre</b>	<b>Mid 1/3 Per Acre</b>	<b>Low 1/3 Per Acre</b>	<b>High 1/3 and Low 1/3 Acres / \$</b>	<b>%</b>
Number of Farms	24	23	23		
Enterprise Acres	635	435	486	149	31%
Owned Acres	113	92	139	(26)	-19%
Rented Acres	523	343	347	176	51%
Yield per Acre	30.6	22.8	19.0	11.6	61%
Operator Percentage	78.2%	79.6%	81.5%	-3.3%	-4%
Price per bushel	\$4.17	\$4.15	\$4.00	\$0.17	4%
<b>INCOME:</b>					
Crop Income	\$99.73	\$75.21	\$61.98	\$37.75	61%
Government Payments	\$50.42	\$38.26	\$35.46	\$14.96	42%
Other Income	\$2.19	\$4.56	\$5.64	(\$3.46)	-61%
<b>Gross Income</b>	<b>\$152.33</b>	<b>\$118.03</b>	<b>\$103.08</b>	<b>\$49.25</b>	<b>48%</b>
<b>COSTS:</b>					
Seed	\$17.28	\$16.30	\$17.71	(\$0.43)	-2%
Fertilizer	\$2.93	\$3.56	\$4.38	(\$1.45)	-33%
Herbicide-Insecticide	\$14.13	\$16.45	\$15.79	(\$1.66)	-11%
Crop Insurance	\$2.79	\$2.97	\$3.57	(\$0.78)	-22%
General Machinery Repair	\$12.48	\$10.66	\$12.56	(\$0.08)	-1%
Machine Hire	\$4.69	\$3.65	\$2.99	\$1.70	57%
Gas, Fuel, and Oil	\$8.36	\$6.72	\$8.29	\$0.07	1%
Depreciation	\$15.18	\$14.05	\$16.79	(\$1.61)	-10%
<b>Machinery Sub-total</b>	<b>\$40.71</b>	<b>\$35.08</b>	<b>\$40.63</b>	<b>\$0.08</b>	<b>0%</b>
Labor	\$23.04	\$21.31	\$25.40	(\$2.36)	-9%
Other	\$8.56	\$6.80	\$8.62	(\$0.06)	-1%
Land	\$16.50	\$15.13	\$16.06	\$0.44	3%
Interest	\$10.22	\$9.55	\$13.53	(\$3.31)	-24%
<b>Total Cost</b>	<b>\$136.16</b>	<b>\$127.15</b>	<b>\$145.69</b>	<b>(\$9.53)</b>	<b>-7%</b>
<b>Net Return to Management</b>	<b>\$16.17</b>	<b>(\$9.12)</b>	<b>(\$42.61)</b>	<b>\$58.78</b>	

This crop enterprise is based on the operator's share of production, and thus includes only production expenses paid by the operator.

Crop income and government payments were \$37.75 and \$14.96 per acre higher for high profit farms, respectively.

High profit farms rented 82.4% of their soybean enterprise acres, the highest proportion of any profit group.

SE-KFMA high profit soybean farms had lower total costs of \$9.53/acre or 7% compared to the low profit farms. No single category was significantly lower, but interest and labor costs were the largest differences at \$3.31 and \$2.36 per acre, respectively. The primary direct inputs were again lower for the high profit farms despite higher yields. Nearly 84% of the net return advantage was from gross income, while 16.2% came from the cost side of the equation.

## Non-irrigated Grain Sorghum Enterprise: North Central Kansas Farm Management Association

The net return to management was \$78.92/acre more for high profit grain sorghum producers. The high profit producers had 84% more grain sorghum acres, a 32.1 bushel/acre higher yield, but garnered a \$0.02 lower price per bushel versus the low profit farms. Seventy-six percent of the net return advantage was from gross income, while 23.9% could be attributed to the high profit farms' lower costs.

	Profit Category			Difference between	
	High 1/3	Mid 1/3	Low 1/3	High 1/3 and Low 1/3	
	Per Acre	Per Acre	Per Acre	Acres / \$	%
Number of Farms	36	35	35		
Enterprise Acres	274	260	149	125	84%
Owned Acres	84	75	57	27	47%
Rented Acres	190	186	92	98	107%
Yield per Acre	93.5	77.1	61.4	32.1	52%
Operator Percentage	83.7%	80.6%	81.5%	2.2%	3%
Price per bushel	\$1.80	\$1.81	\$1.82	(\$0.02)	-1%
<b>INCOME:</b>					
Crop Income	\$140.92	\$112.56	\$91.29	\$49.63	54%
Government Payments	\$36.97	\$22.11	\$24.81	\$12.16	49%
Other Income	\$1.58	\$2.55	\$3.29	(\$1.72)	-52%
Gross Income	<b>\$179.47</b>	<b>\$137.23</b>	<b>\$119.39</b>	<b>\$60.08</b>	<b>50%</b>
<b>COSTS:</b>					
Seed	\$8.73	\$7.70	\$10.73	(\$2.00)	-19%
Fertilizer	\$25.31	\$22.33	\$26.68	(\$1.37)	-5%
Herbicide-Insecticide	\$16.56	\$24.92	\$22.72	(\$6.16)	-27%
Crop Insurance	\$2.73	\$2.97	\$3.11	(\$0.38)	-12%
General Machinery Repair	\$11.25	\$11.96	\$14.94	(\$3.69)	-25%
Machine Hire	\$3.66	\$3.17	\$2.60	\$1.06	41%
Gas, Fuel, and Oil	\$8.17	\$7.22	\$9.09	(\$0.92)	-10%
Depreciation	\$15.78	\$13.34	\$16.89	(\$1.11)	-7%
Machinery Sub-total	<b>\$38.86</b>	<b>\$35.69</b>	<b>\$43.52</b>	<b>(\$4.66)</b>	<b>-11%</b>
Labor	\$25.84	\$23.07	\$32.27	(\$6.43)	-20%
Other	\$8.36	\$7.58	\$9.82	(\$1.46)	-15%
Land	\$25.45	\$19.49	\$19.02	\$6.43	34%
Interest	\$11.26	\$10.71	\$14.07	(\$2.81)	-20%
Total Cost	<b>\$163.10</b>	<b>\$154.46</b>	<b>\$181.94</b>	<b>(\$18.84)</b>	<b>-10%</b>
Net Return to Management	<b>\$16.37</b>	<b>(\$17.23)</b>	<b>(\$62.55)</b>	<b>\$78.92</b>	

This crop enterprise is based on the operator's share of production, and thus includes only production expenses paid by the operator.

Every cost category but two was lower for the high profit producers. Labor, chemical, and machinery costs had the largest impact on cost differences, as they were \$6.43, \$6.16, and \$4.66 lower per acre for high profit farms, respectively. Land costs for high profit producers were \$6.43 / acre greater for high profit farms, driven primarily by the opportunity cost for owned land.

## Non-irrigated Wheat Enterprise: South Central Kansas Farm Management Association

High profit wheat producers in the SC-KFMA farmed 296, or 50%, more wheat acres, had an 11.8 bushel higher yield per acre, and received \$0.06 per bushel more than the low profit farms. The high profit producers also

	<b>Profit Category</b>			<b>Difference between</b>	
	<b>High 1/3 Per Acre</b>	<b>Mid 1/3 Per Acre</b>	<b>Low 1/3 Per Acre</b>	<b>High 1/3 and Low 1/3 Acres / \$</b>	<b>%</b>
Number of Farms	31	30	30		
Enterprise Acres	884	701	588	296	50%
Owned Acres	240	182	94	146	155%
Rented Acres	644	518	494	150	30%
Yield per Acre	47.3	42.7	35.5	11.8	33%
Operator Percentage	79.4%	74.0%	73.4%	6.0%	8%
Price per bushel	\$2.66	\$2.74	\$2.60	\$0.06	2%
<b>INCOME:</b>					
Crop Income	\$99.93	\$86.49	\$67.78	\$32.15	47%
Government Payments	\$26.50	\$26.50	\$23.95	\$2.56	11%
Other Income	\$7.38	\$7.07	\$11.72	(\$4.35)	-37%
<b>Gross Income</b>	<b>\$133.81</b>	<b>\$120.06</b>	<b>\$103.45</b>	<b>\$30.36</b>	<b>29%</b>
<b>COSTS:</b>					
Seed	\$5.28	\$7.97	\$6.77	(\$1.49)	-22%
Fertilizer	\$15.25	\$16.57	\$18.55	(\$3.30)	-18%
Herbicide-Insecticide	\$5.58	\$5.52	\$5.38	\$0.20	4%
Crop Insurance	\$1.80	\$3.08	\$3.15	(\$1.35)	-43%
General Machinery Repair	\$8.54	\$14.29	\$16.85	(\$8.31)	-49%
Machine Hire	\$2.52	\$5.53	\$8.45	(\$5.93)	-70%
Gas, Fuel, and Oil	\$6.48	\$8.27	\$9.58	(\$3.10)	-32%
Depreciation	\$12.83	\$14.34	\$13.27	(\$0.44)	-3%
<b>Machinery Sub-total</b>	<b>\$30.37</b>	<b>\$42.43</b>	<b>\$48.15</b>	<b>(\$17.78)</b>	<b>-37%</b>
Labor	\$19.77	\$23.02	\$35.51	(\$15.74)	-44%
Other	\$5.60	\$6.26	\$7.53	(\$1.93)	-26%
Land	\$16.66	\$16.87	\$14.72	\$1.94	13%
Interest	\$8.15	\$9.63	\$10.17	(\$2.02)	-20%
<b>Total Cost</b>	<b>\$108.46</b>	<b>\$131.35</b>	<b>\$149.93</b>	<b>(\$41.47)</b>	<b>-28%</b>
<b>Net Return to Management</b>	<b>\$25.35</b>	<b>(\$11.29)</b>	<b>(\$46.48)</b>	<b>\$71.83</b>	
This crop enterprise is based on the operator's share of production, and thus includes only production expenses paid by the operator.					

farmed a larger proportion of rented acres (73%) versus the low profit farms. The mid profit farms managed the highest percentage of rented acres and received the highest price at \$2.74/bushel.

The average cost difference between high and low profit farms was \$41.47 per acre. The lower costs comprised 58% of the \$71.83/acre difference in net returns to management between high and low profit farms. Total machinery costs were 37% lower for the high profit farms. General machinery repairs were the most significant item in the machinery category as low profit producers had an \$8.31 / acre disadvantage here. Despite higher yields, the high

profit farms had lower costs for seed and fertilizer, \$1.49 and \$3.30 per acre, respectively. Labor costs for the low profit wheat producers were 44% (\$15.74/acre) higher than high profit farms.

**Non-irrigated No-Till Corn Enterprise: Northwest Kansas Farm Management Association**

High profit no-till corn producers in the NW-KFMA farmed 103 more corn acres and had a 36.0 bushel per acre yield advantage over the low profit farms. These high profit farms had a 51% higher gross income per acre than the low profit farms. More interesting is that there were minimal differences between the mid and low profit farms with

<b>Table 6. Northwest Kansas Farm Management Association</b>					
<b>2001 No-Till Nonirrigated Corn Enterprise Sorted by Net Return to Management per Acre</b>					
	<b>Profit Category</b>			<b>Difference between</b>	
	<b>High 1/3</b>	<b>Mid 1/3</b>	<b>Low 1/3</b>	<b>High 1/3 and Low 1/3</b>	
	<b>Per Acre</b>	<b>Per Acre</b>	<b>Per Acre</b>	<b>Acres / \$</b>	<b>%</b>
Number of Farms	22	21	21		
Enterprise Acres	412	320	309	103	33%
Owned Acres	107	62	41	66	161%
Rented Acres	305	258	268	37	14%
Yield per Acre	80.5	47.7	44.5	36.0	81%
Operator Percentage	81.6%	78.2%	81.0%	0.6%	1%
Price per bushel	\$2.04	\$2.00	\$2.01	\$0.03	1%
<b>INCOME:</b>					
Crop Income	\$133.94	\$74.47	\$72.55	\$61.39	85%
Government Payments	\$33.65	\$26.09	\$24.14	\$9.51	39%
Other Income	\$6.00	\$18.51	\$18.48	(\$12.48)	-68%
<b>Gross Income</b>	<b>\$173.59</b>	<b>\$119.08</b>	<b>\$115.17</b>	<b>\$58.42</b>	<b>51%</b>
<b>COSTS:</b>					
Seed	\$19.70	\$18.01	\$22.27	(\$2.57)	-12%
Fertilizer	\$22.95	\$23.02	\$23.46	(\$0.51)	-2%
Herbicide-Insecticide	\$24.45	\$26.02	\$32.51	(\$8.06)	-25%
Crop Insurance	\$6.07	\$2.79	\$7.27	(\$1.20)	-17%
General Machinery Repairs	\$10.66	\$11.36	\$13.32	(\$2.66)	-20%
Machinery Hire	\$4.46	\$8.20	\$5.91	(\$1.45)	-25%
Gas, Fuel, Oil	\$4.97	\$5.68	\$5.53	(\$0.56)	-10%
Depreciation	\$12.24	\$11.58	\$14.37	(\$2.13)	-15%
<b>Machinery Sub-Total</b>	<b>\$32.33</b>	<b>\$36.82</b>	<b>\$39.13</b>	<b>(\$6.80)</b>	<b>-17%</b>
Labor	\$8.95	\$10.10	\$15.70	(\$6.75)	-43%
Other	\$6.35	\$5.75	\$5.72	\$0.63	11%
Land	\$21.06	\$10.03	\$16.27	\$4.79	29%
Interest	\$12.67	\$10.52	\$13.25	(\$0.58)	-4%
<b>Total Cost</b>	<b>\$154.53</b>	<b>\$143.06</b>	<b>\$175.58</b>	<b>(\$21.05)</b>	<b>-12%</b>
<b>Net Return to Management</b>	<b>\$19.06</b>	<b>(\$23.98)</b>	<b>(\$60.41)</b>	<b>\$79.47</b>	

This crop enterprise is based on the operator's share of production, and thus includes only production expenses paid by the operator.

respect to enterprise size, yield, and price received, and gross revenue. However, this is not true of their net returns.

Low profit farms had higher costs in every category with the exception of land and miscellaneous costs compared to high profit farms. The \$21.05 cost disparity between the high and low profit groups was most affected by

chemical, machinery, and labor costs differences of \$8.06, \$6.80, and \$6.75, respectively. The mid profit farms were the lowest cost group on average and had a \$32.52/acre cost advantage over the low profit farms. Of the \$79.47 per acre difference in returns between high and low profit farms, 73.5 percent was due to revenue and 26.5 percent due to cost differences.

### Irrigated Corn Enterprise: Southwest Kansas Farm Management Association

The average net returns per acre for SW -KFMA irrigated corn farms ranged from \$33.03 to (\$127.99), a

<b>Table 7. Southwest Kansas Farm Management Association 2001 Irrigated Corn Enterprise Sorted by Net Return to Management per Acre</b>					
	<b>Profit Category</b>			<b>Difference between</b>	
	<b>High 1/3 Per Acre</b>	<b>Mid 1/3 Per Acre</b>	<b>Low 1/3 Per Acre</b>	<b>High 1/3 and Low 1/3 Acres / \$</b>	<b>%</b>
Number of Farms	25	24	24		
Enterprise Acres	325	409	283	42	15%
Owned Acres	87	39	49	38	78%
Rented Acres	238	370	234	4	2%
Yield per Acre	201.3	176.5	164.2	37.1	23%
Operator Percentage	83.2%	71.5%	77.0%	6.3%	8%
Price per bushel	\$2.15	\$2.15	\$2.11	\$0.04	2%
<b>INCOME:</b>					
Crop Income	\$360.25	\$271.60	\$266.55	\$93.70	35%
Government Payments	\$72.83	\$63.48	\$59.41	\$13.42	23%
Other Income	\$21.49	\$21.80	\$18.55	\$2.94	16%
<b>Gross Income</b>	<b>\$454.57</b>	<b>\$356.88</b>	<b>\$344.51</b>	<b>\$110.06</b>	<b>32%</b>
<b>COSTS:</b>					
Seed	\$47.05	\$44.60	\$46.11	\$0.94	2%
Fertilizer	\$44.84	\$48.95	\$63.11	(\$18.27)	-29%
Herbicide-Insecticide	\$39.02	\$36.81	\$44.25	(\$5.23)	-12%
Crop Insurance	\$5.31	\$11.33	\$14.92	(\$9.61)	-64%
Irrigation Fuel	\$40.80	\$43.09	\$47.95	(\$7.15)	-15%
Irrigation Repairs	\$9.13	\$13.02	\$10.92	(\$1.79)	-16%
General Machinery Repairs	\$30.58	\$24.14	\$26.50	\$4.08	15%
Machinery Hire	\$20.70	\$23.95	\$32.82	(\$12.12)	-37%
Gas, Fuel, Oil	\$15.29	\$15.02	\$15.54	(\$0.25)	-2%
Depreciation	\$33.83	\$34.17	\$38.25	(\$4.42)	-12%
<b>Machinery Sub-Total</b>	<b>\$109.53</b>	<b>\$110.30</b>	<b>\$124.03</b>	<b>(\$14.50)</b>	<b>-12%</b>
Labor	\$36.19	\$41.62	\$50.98	(\$14.79)	-29%
Other	\$22.69	\$19.39	\$20.59	\$2.10	10%
Land	\$46.86	\$14.48	\$26.14	\$20.72	79%
Interest	\$29.25	\$29.73	\$34.42	(\$5.17)	-15%
<b>Total Cost</b>	<b>\$421.54</b>	<b>\$400.30</b>	<b>\$472.50</b>	<b>(\$50.96)</b>	<b>-11%</b>
<b>Net Return to Management</b>	<b>\$33.03</b>	<b>(\$43.42)</b>	<b>(\$127.99)</b>	<b>\$161.02</b>	
This crop enterprise is based on the operator's share of production, and thus includes only production expenses paid by the operator.					

\$161.02 difference between the high and low profit farms in that Association. The high profit farms produced 37.1 more bushels per acre on an average of 15% more acres than low profit producers. The mid profit farms had the most

enterprise acres and the highest percentage of rented acres. Prices received only varied by \$0.04/bushel from the high to low profit groups. The high profit farms generated 35% more crop revenue and 32% more gross income than the low profit farms. This accounted for 68% of the difference in per acre net returns.

The high profit farms had lower costs per acre for every cost category except seed, repairs, land charges, and miscellaneous costs. Fertilizer, total machinery, and labor costs were \$18.27, \$14.50, and \$14.50 lower, respectively, for the high profit farms versus the low profit farms. The high profit farms managed to produce a superior yield with lower direct input costs, e.g. fertilizer, chemicals, and irrigation fuel.

## **Summary**

This study illustrates that significant differences existed in the 2001 profit levels for various enterprises on KFMA farms. For the enterprises considered here, the smallest difference in profitability between high and low profit crop producers of \$58.78 per acre occurred for soybeans in the SE-KFMA, while the largest difference was \$161.02/acre for irrigated corn in the SW-KFMA. The profit difference for the cow-calf operation was over \$52/cwt. The average net return to management for high profit farms was \$97.66 per acre higher than for the low profit farms for the six crop enterprises analyzed. Sixty-one percent of this difference could be attributed to gross income while the other 39% was the result of cost differences.

High profit farms had the most acres for 4 of the 6 crop enterprises, while the mid profit farms were the largest in the two other instances. The mid profit farms for the cow-calf enterprise analyzed had the largest herd size. This may suggest that economies of size exist, especially given that the low profit farms never had the most acres or head. Additionally, each of the high profit crop enterprises had the highest yields, which one would expect in a single year analysis. Clearly, weather events can have a significant impact on yields, but management factors can as well. Timely field operations (e.g. planting, spraying, harvesting) can impact final yields in addition to proper selection of crop rotations and technology adoption. Producers should not assume that only weather will dictate what their yields will be.

The prices received did not vary greatly for any of the three profit categories. The low profit cow-calf producers had the highest calf sales price on average. There is no clear pattern for the crop enterprises. Each of the profit groups received the highest price at least once for the six crop enterprises studied. This suggests prices had less

impact on net return differences than enterprise size, yield/weights, or costs. In other words, farmers should focus more on maximizing production and minimizing costs relative to marketing as those are the areas with the most variability.

Either the high or mid profit farms had the lowest costs for each of the enterprises. Low profit farms had the highest total cost in all cases. Machinery and labor costs were consistently lower for the high profit farms. Machinery costs were 27.3% lower for high profit crop enterprise farms, and labor costs were 41.2% lower. Labor is generally

thought of as

a variable

cost,

however

KFMA data

accounts for

both hired

labor

(variable

cost) and

unpaid

operator

labor (fixed

cost).

Unpaid

operator

		Enterprise Head / Acres			Calf Weight / Yield		
		High 1/3	Mid 1/3	Low 1/3	High 1/3	Mid 1/3	Low 1/3
State - Beef Cows		<b>142</b>	114	78	563	<b>579</b>	554
NE KFMA - Non-irrigated Corn		344	<b>375</b>	201	<b>144.0</b>	134.2	101.0
SE KFMA - Non-irrigated Soybeans		<b>635</b>	435	486	<b>30.6</b>	22.8	19.0
NC KFMA - Non-irrigated Milo		<b>274</b>	260	149	<b>93.5</b>	77.1	61.4
SC KFMA - Non-irrigated Wheat		<b>884</b>	701	588	<b>47.3</b>	42.7	35.5
NW KFMA - No-Till Corn		<b>412</b>	320	309	<b>80.5</b>	47.7	44.5
SW KFMA - Irrigated Corn		325	<b>409</b>	283	<b>201.3</b>	176.5	164.2
		Price			Gross Income		
		High 1/3	Mid 1/3	Low 1/3	High 1/3	Mid 1/3	Low 1/3
State - Beef Cows		\$91.04	\$90.37	<b>\$91.56</b>	\$78.09	<b>\$79.69</b>	\$73.20
NE KFMA - Non-irrigated Corn		<b>\$1.90</b>	\$1.81	\$1.88	<b>\$276.52</b>	\$232.50	\$228.81
SE KFMA - Non-irrigated Soybeans		<b>\$4.17</b>	\$4.15	\$4.00	<b>\$152.33</b>	\$118.03	\$103.08
NC KFMA - Non-irrigated Milo		\$1.80	\$1.81	<b>\$1.82</b>	<b>\$179.47</b>	\$137.23	\$119.39
SC KFMA - Non-irrigated Wheat		\$2.66	<b>\$2.74</b>	\$2.60	<b>\$133.81</b>	\$120.06	\$103.45
NW KFMA - No-Till Corn		<b>\$2.04</b>	\$2.00	\$2.01	<b>\$173.59</b>	\$119.08	\$115.17
SW KFMA - Irrigated Corn		<b>\$2.15</b>	<b>\$2.15</b>	\$2.11	<b>\$454.57</b>	\$356.88	\$344.51
		Total Cost			Profit		
		High 1/3	Mid 1/3	Low 1/3	High 1/3	Mid 1/3	Low 1/3
State - Beef Cows		<b>\$75.01</b>	\$97.46	\$122.35	<b>\$3.08</b>	(\$17.77)	(\$49.15)
NE KFMA - Non-irrigated Corn		\$244.54	<b>\$244.08</b>	\$332.78	<b>\$31.98</b>	(\$11.58)	(\$103.97)
SE KFMA - Non-irrigated Soybeans		\$136.16	<b>\$127.15</b>	\$145.69	<b>\$16.17</b>	(\$9.12)	(\$42.61)
NC KFMA - Non-irrigated Milo		\$163.10	<b>\$154.46</b>	\$181.94	<b>\$16.37</b>	(\$17.23)	(\$62.55)
SC KFMA - Non-irrigated Wheat		<b>\$108.46</b>	\$131.35	\$149.93	<b>\$25.35</b>	(\$11.29)	(\$46.48)
NW KFMA - No-Till Corn		\$154.53	<b>\$143.06</b>	\$175.58	<b>\$19.06</b>	(\$23.98)	(\$60.41)
SW KFMA - Irrigated Corn		\$421.54	<b>\$400.30</b>	\$472.50	<b>\$33.03</b>	(\$43.42)	(\$127.99)

<sup>a</sup> Shaded areas indicate the "best" (high or low) for the category.

labor is the opportunity cost of the farmer's labor, and assuming low mobility of this resource, it can be construed as a fixed cost. Unpaid operator labor is where most of the variation in the labor cost comes from. This implies that both the lower machinery and labor costs represent economies of scale for the more profitable farms. Fertilizer costs were also consistently lower for the high profit crop enterprise farms, averaging 23.7% less across all crop budgets.