

Is Adding Livestock the Solution to Profit Margins?

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<http://www.agmanager.info/KFMA/Newsletters/Research/LivestockProfitMargin.pdf>

With considerably lower crop prices and unchanging input prices many farmers across the state and country are beginning to wonder if their margins are enough to survive. The Kansas Farm Management Association (KFMA) data shows that during the last decade farm income has become more dependent on crop production and less dependent, and in some cases hindered, by livestock income. This spring, as we were preparing to meet up with our producers and discuss ways to supplement decreasing crop farm income, we economists in the North Central KFMA Association decided to look into the impact of livestock on farm income over a longer period of time.

As you can see in Figure 1, from the mid 1980’s through the mid 1990’s crop income and livestock income on farms were fairly equal. In the mid 1990’s, we started to see crop income become more important to farms than livestock income. The crop boom in the mid 2000’s started a time when livestock income was an afterthought compared to crop income on the farm. It shouldn’t go unnoticed that livestock income on the farm did increase over the 20 year period from 1985-2014, it just did not come close to keeping pace with crop income. Notice that there is a correlation with an increase in one side and a decrease in the other. This is apparent in both livestock and crops, as crop income surged in both the mid 1990’s and mid 2000’s, livestock incomes stumbled, and in 2014 as livestock incomes jumped, crop incomes fell.

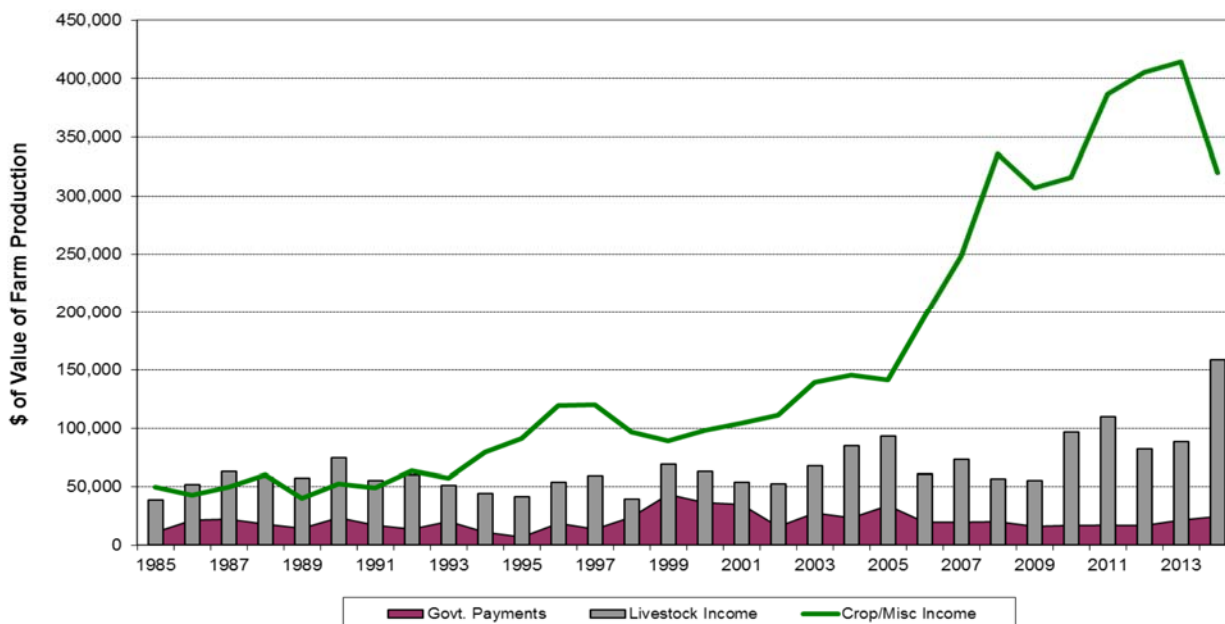


Figure 1. North Central KFMA Historical Value of Farm Production by Income Source, 1985-2014

We decided to look into this a little further and see over time how profitability stacked up between crop only farms and farms that were diversified with at least half of their time and management devoted to livestock, referred to as 50/50 farms. As Figure 2 shows, net farm income between the two farms were fairly equal through the 1990's, with 50/50 farms having a slight edge over the crop only farms. During the mid-2000's, when crop prices greatly increased, crop only farms net farm income increases greatly outpaced 50/50 farms. 50/50 farms were seeing a good increase in net farm income, but it was held down by high feed costs which hindered their livestock enterprises.

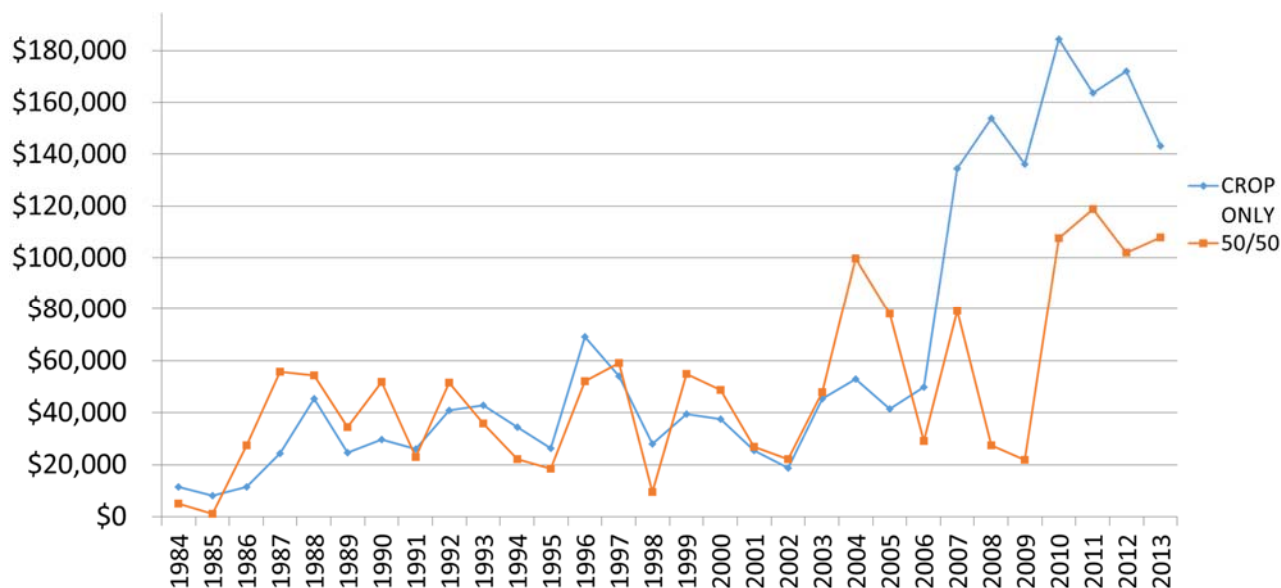


Figure 2. North Central KFMA Historical Net Farm Income by Farm Type

Figure 3 splits up the 20 year period into 3 parts, 1984-1999, 2000-2005, and 2006-2013. After adjusting for inflation, 50/50 farms averaged a \$6,000 net farm income every year for the period 1984-1999. From 2000 to 2005, 50/50 farms saw a \$21,000 net farm income per year advantage. However all gains made by being a 50/50 farm from 1984-2005 were quickly lost by crop only farms averaging \$74,000 higher net farm incomes from 2006-2013. This is why we saw a decrease in livestock with our members, because as they saw the decrease in livestock profitability, they opted for the more profitable crop only operation. Most farms did not completely get rid of livestock; they did decrease the intensity of their livestock so they could focus their attention on the crops, which were making the larger portion of their income.

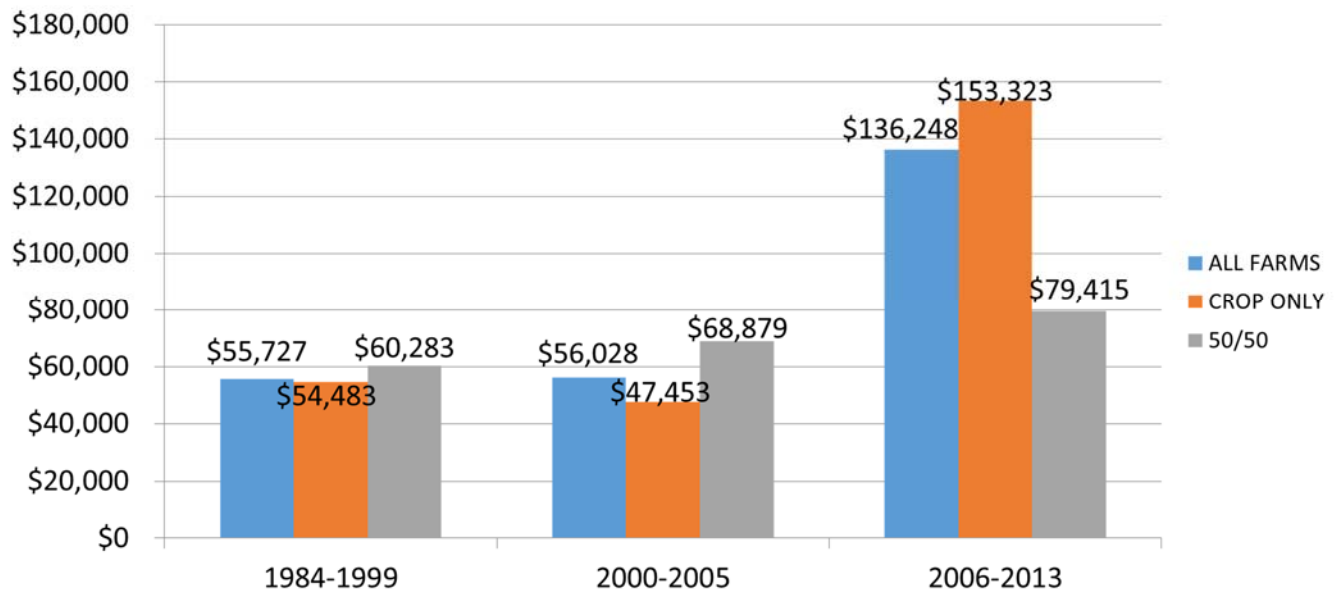


Figure 3. North Central KFMA Adjusted Average Net Farm Income by Farm Type

After seeing that livestock has added value to farms over time, just not in recent years, we decided to look at what percent of gross farm income came from livestock in different profit groups. As Figure 4 shows in 2014, the High-Profitable Quartile had \$387,563, or 46%, of their gross income from livestock, compared to \$32,704 or 9%, with the Low-Profitable Quartile. This is something that had changed greatly over time as Figure 5 shows. In 2000, similar to 2014, the percent of gross income from livestock was much higher for the top quartile, more than 50%, than the low quartile, about 30%. Throughout the 2000’s the percent of gross income from livestock dropped for the top quartile, dropping to slightly below 10% in 2008, as the low quartile group stayed fairly steady at 30% of their income from livestock. In the late 2000’s and early 2010’s both groups had about 20% of their income coming from livestock.

COMPARISON BY NET FARM INCOME - 2014				
	HIGH 25%	HIGH MIDDLE	LOW MIDDLE	LOW 25%
Livestock Income	\$387,563	\$154,574	\$55,696	\$32,704
Value of Farm Production	\$844,627	\$518,680	\$290,347	\$351,669
Total Farm Expense	\$545,517	\$410,370	\$252,595	\$390,360
Net Farm Income	\$299,110	\$108,310	\$37,753	(\$38,691)
Net Farm Income per Operator	\$266,529	\$115,478	\$48,587	(\$48,226)
% Return on Equity	11.33%	2.97%	-1.59%	-9.47%
Total Loans/Total Assets Ratio	0.30%	0.26%	0.18%	0.32%
Asset Turnover Ratio	0.3121%	0.2937%	0.2018%	0.2384%
Total Assets	\$2,895,093	\$1,862,686	\$1,432,520	\$1,472,050
Total Expense Ratio	0.6459%	0.7912%	0.8700%	1.1100%
Adjusted Total Expense Ratio	0.7435%	0.9247%	1.0649%	1.2773%
Economic Total Expense Ratio	0.8693%	1.0648%	1.2904%	1.4386%
Harvested Acres	1,709	1,404	971	1,264
Gross Crop Value/Harvested Acre	\$296.52	\$305.02	\$294.88	\$292.13
Crop Production Costs/Harvested Acre	\$214.93	\$232.40	\$224.08	\$270.90
Crop Machinery Costs/Harvested Acre	\$79.73	\$84.57	\$83.99	\$100.19

Figure 4. North Central KFMA Comparison of Net Farm Income by Profitability Quartiles

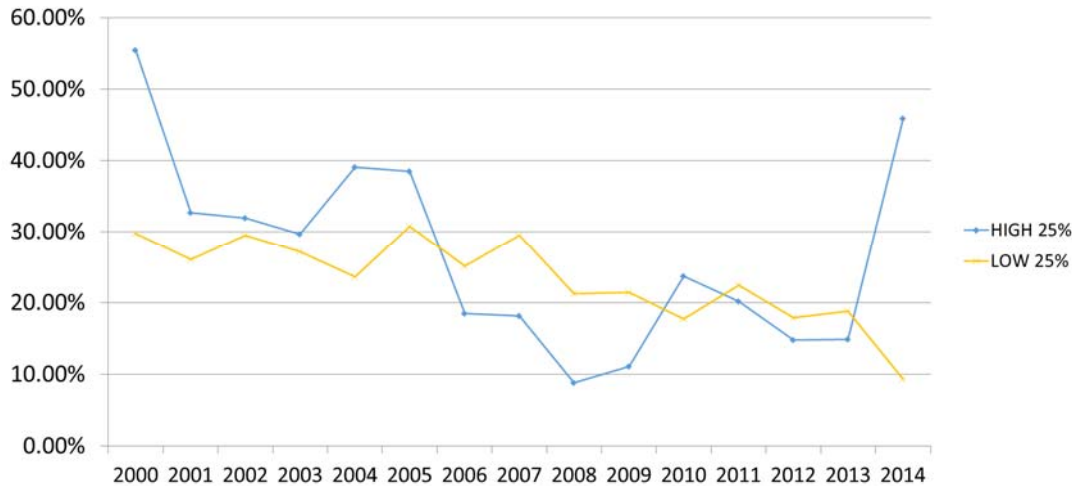


Figure 5. North Central KFMA Livestock % of Value of Farm Production between the top and bottom Profitability Quartiles

As figure 6 shows, over the 15-year period, farms in the top quartile averaged 3.5% more of their income coming from livestock than the low quartile group. This may not sound like a large difference, but it does show that the more profitable farms have shown a history of having more livestock.

After getting together and interpreting the data, we concluded what most would expect, there is a benefit to having livestock. However, in the recent history, it has been more of hindrance than helpful. The thing is, our farms are not expecting recent history to be the norm for their farm for the next few years. They are expecting lower crop prices, which would in turn lead to lower crop profitability. If this is the case, we need to look back further than the last 10 years into a time that would be more similar, and in so doing, it appears that adding livestock to an operation is a benefit.

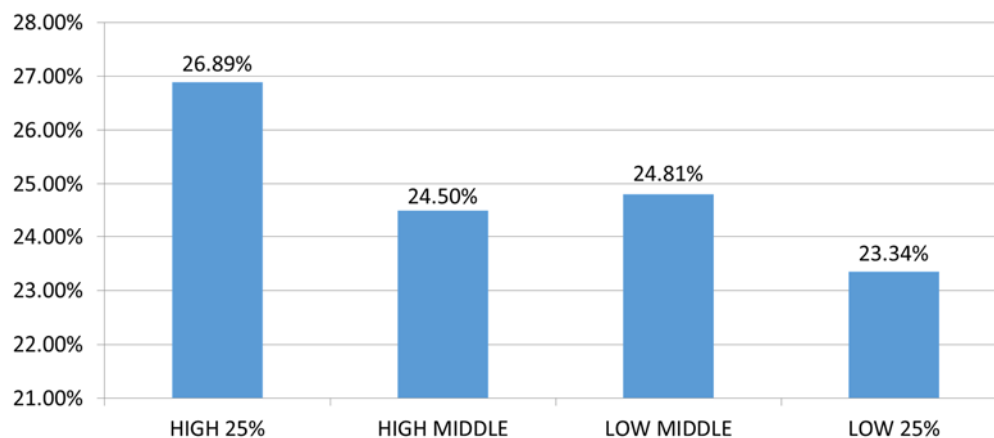


Figure 6. North Central KFMA Average Livestock % of Value of Farm Production 2000-2014

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