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FAPRI Beginning Farmer and Rancher Development Project

Southwest Missouri Cow/Calf Representative Farm

FAPRI-MU Report #11-10

Providing objective analysis for over 25 years

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FAPRI Beginning Farmer and Rancher Development Project –
Southwest Missouri Cow/Calf Representative Farm

Intro to Project:

This representative farm was built as part of a three year project funded through the USDA Beginning Farmer and Rancher Development program. In the first year of the project, four panels of beginning farmers (farming 10 years or less) were selected to build farms that are representative of beginning farmers in their area, review how the representative (baseline) farm would perform financially over the next five years, and identify 2-3 alternative scenarios that are simulated and compared to the baseline. This report is a summary of the first year of one of these four panels. In the second year of the project, the panel members will have the option to model their individual operations, look at how they perform over the next five years, identify 2-3 changes they are contemplating for their operation and see how they compare financially to the baseline. In the third year of the project, financial tools will be distributed via the internet to beginning farmers and ranchers across the U.S.

Representative Farm Panel Process:

The representative farm approach treats a farm business unit as a unique system characterized by local features and resources to which the farm manager adapts. Local conditions are internalized in the creation and simulation of each farm.

To build a representative farm a local facilitator takes the lead in putting together a panel of 4-8 producers in the area that are similar in size, structure, and type of farming operation. For this project, a local University of Missouri Extension Specialist agreed to build a panel of local producers that fits the USDA definition of a beginning farmer or rancher. Primary data is initially developed and continuously validated by Missouri producers via a consensus process. Producers establish farm structure, size, farming practices, costs of production and associated financial requirements for the representative farm based on their individual operations. Business size, structure and management practices are held constant for the simulation period, 2007-2014.

For simulation, actual yield, price, and operating costs data is used for the years 2007-2009. The historical period provides some perspective of financial performance with known values and sets a footing for simulation over the five-year projection period. Farm financial statements are generated using the Farm Level Income and Policy Simulation Model (FLIPSIM), property of the Texas Agricultural Experiment Station, maintained at the Agricultural and Food Policy Center, Texas A&M University. National price estimates, generated by the FAPRI consortium at the University of Missouri and Iowa State University, are utilized for the 2010-2014 simulation.

The financial statements (income statement, cash flow, balance sheet) are used by the panel to make sure the farm is performing financially as it should over the three year historical period. After the panel validates the historical data, projections of financial statements for 2010-2014 are used to see how the farm will perform financially in the future.

Background of Panel:

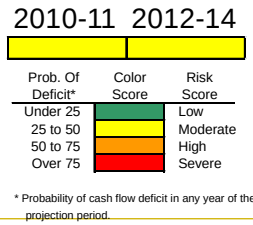
This panel is facilitated by Eldon Cole, Livestock Specialist and CPD - Lawrence County in the Southwest region of the state. The panel consists of 4 producers from Lawrence County. Panel members have been farming for 3 to 9 years, with an average of 6.5 years farming. The panel members own between 40-414 acres and cash lease 50-1290 acres of hay/pasture. The producer's cattle operations range from 20-339 cows with calves backgrounded from 45-90 days. Two of the producers work a full time job outside of their farming operation. The other two members do custom farming (hay, planting) utilizing the assets of their operation to help their cash flow.

Baseline Representative Farm:

The baseline farm consists of 180 cow/calf pairs on 150 acres of owned land and 560 acres of cash rented land. The farm was started in 2003 with the purchase of the 150 acres of land. The calves are backgrounded for 60 days, steer calves are sold at 680 lbs, and heifer calves are sold at 620 lbs. The farm puts up 200 acres of hay each year using their own equipment. The farm also has Other Farm Income of $12,000/year.

The table below includes summary financials for the baseline farm over the projection period (2010 – 2014). The farm has total operator assets, including land, machinery, and cattle of $511,000. The baseline farm starts the simulation period (2007) with 70% debt on land and 50% debt on machinery. The farm averages $21,700 per year return to family living ($120.64/cow). This number is the surplus the owner/operator has left over after paying all cash costs and uses to pay themselves for their management and labor.

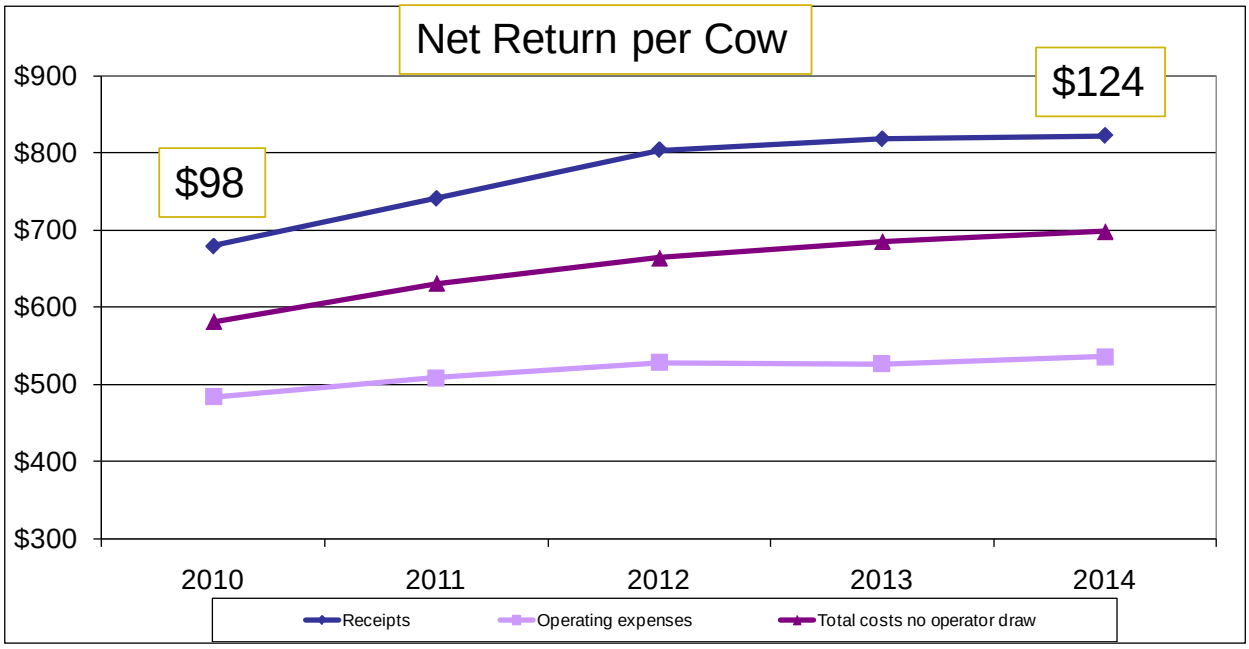
FINANCIALS (2010-14)			
Operator assets	$511,000	Cash risk score	
Total cash receipts	$139,000		
Net cash farm income	$46,100		
Return to family living	$21,700		



Another measure of the overall performance of the operation is the probability or likelihood that the farm will face a cash flow deficit. A farm faces a cash flow deficit when there is not enough cash available to cover all cash costs incurred by the operation throughout the year. Costs include variable production expenses, fixed costs, principal and interest payments, taxes, and family living. The table above shows the baseline farms cash risk score for two different time periods: 2010-2011 and 2012-2014. This farm scores in the yellow category (25-50% probability of a cash flow deficit) in both time periods. Therefore, each year the farm has a 25%-50% chance that it will NOT have enough cash to cover all cash costs. This is not the best position for a producer, but also not the worse. This farm would be categorized as having moderate cash risk.

The graph below contains three lines: operating expenses, total costs (not including any payment to the owner/operator for their management and labor), and cash receipts all expressed on a per

cow basis. The net return per cow is the difference between total receipts per cow and total costs per cow. This is the amount of cash per cow that is available for the owner/operator to pay themselves for their management and labor of the operation.



Over the projection period, the baseline farm is facing increasing costs and receipts. Net return per cow for the baseline farm ranges from a low of $98.00/cow in 2010 to a high of $139.83/cow in 2012.

Alternatives:

The panels, with assistance from the local facilitator, were asked to come up with two to three alternative scenarios that they would like to see simulated and compared back to the baseline. Many of these options are changes that the panel members are considering for their individual operations or changes that they have seen others in the area implement. The panel was then presented with the results and how they compared to the baseline.

Alternative 1: Background purchased calves

This alternative starts out with the baseline farm. Beginning in 2009, the farm purchases 100 550 lb calves in October, runs them on the 200 acres of hay ground, and sells them in April. A onetime cost of $1,200 is incurred in 2009 for electric fence chargers, wire, and posts. The calves will be strip grazed on the 200 acres of hay ground, and we assume that water is already available. An additional cost of $26/calf will be incurred each year to worm, vaccinate, and implant. The calves will be given 2 lbs/day of supplemental feed at approximately $0.14/hd/day.

The table below includes summary financials for Alternative 1 over the projection period (2010-2014). Total assets rose relative to the baseline farm ($511,000) to an average of $585,000. Alternative 1 started the simulation period with the same 70% debt on land and 50% debt on

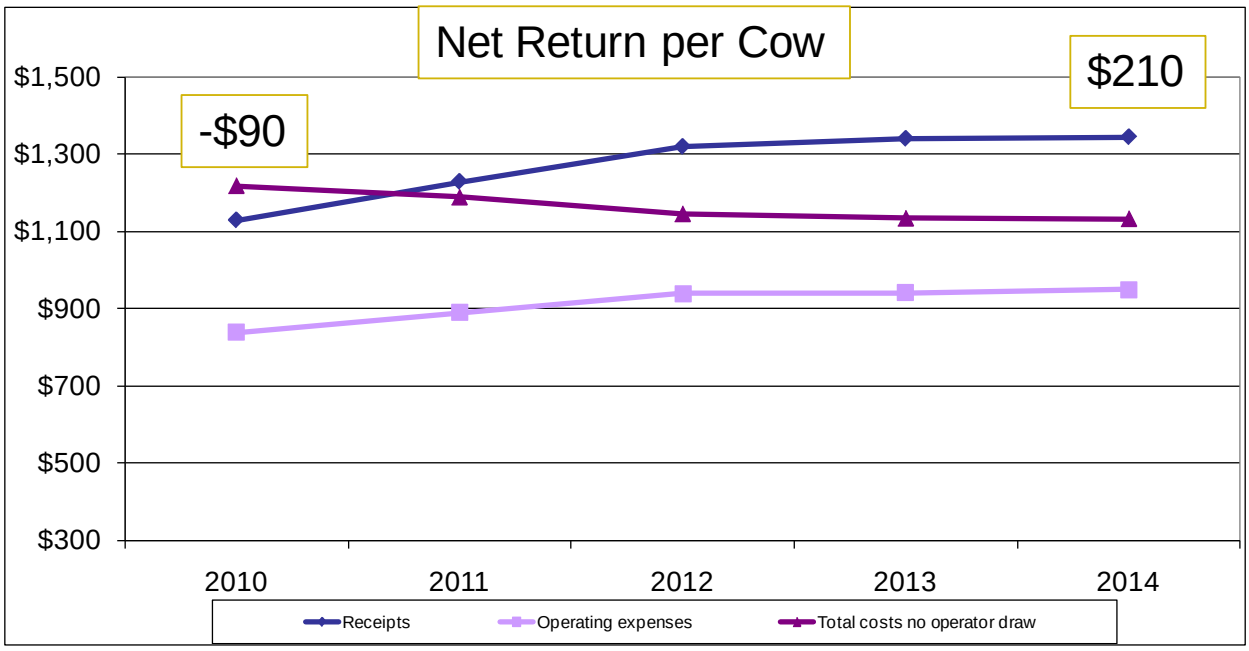
machinery as the baseline. Under Alternative 1 return to family living decreases to an average of $19,400/year ($107.73/cow), a decrease of $2,300/year. The cash risk rating initially declines , but then rebounds and improves during the 2012-2014 time period. Alternative 1 initially increases the cash flow risk and then reduces it significantly. The alternative is ranked as having severe and low cash flow risk compared to the marginal risk rating of the baseline.

FINANCIALS (2010-14)			
Operator assets	$585,000	Cash risk score	2010-11 2012-14
Total cash receipts	$228,800		
Net cash farm income	$64,900		
Return to family living	$19,400		

Prob. Of Deficit*	Color Score	Risk Score
Under 25		Low
25 to 50		Moderate
50 to 75		High
Over 75		Severe

* Probability of cash flow deficit in any year of the projection period.

The graph below shows operating expenses, total costs with no operator draw for management and labor, and receipts on a per cow basis. Alternative 1 starts out with much lower returns per cow when compared to the baseline. Due to the initial cost of calves in 2009, the alternative faces a large cash flow deficit in 2009 that carries forward to 2010. This results in a negative net return per cow in 2010. Net returns per cow range from -$90/cow in 2010 to $210.61/cow in 2014. Alternative 1 averages $12.91/cow less in net returns per cow over the 2010-2014 period when compared to the baseline.



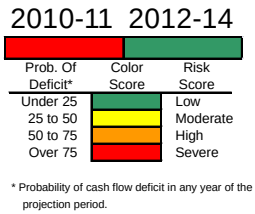
Alternative 2: Add cows through the use of a management intensive grazing system

This alternative starts with the baseline farm. Beginning in 2009, the farm purchases 60 additional cows. The farm is able to do this without purchasing or leasing additional acreage by incorporating a management intensive grazing system on the existing acreage. It is assumed that water is readily available and no additional cost is incurred to update the current water system.

The farm incurs a onetime cost of $6,010 in 2009 for electric fence chargers, wire, posts, insulators, and gate handles. Also, one additional bull is added to the herd.

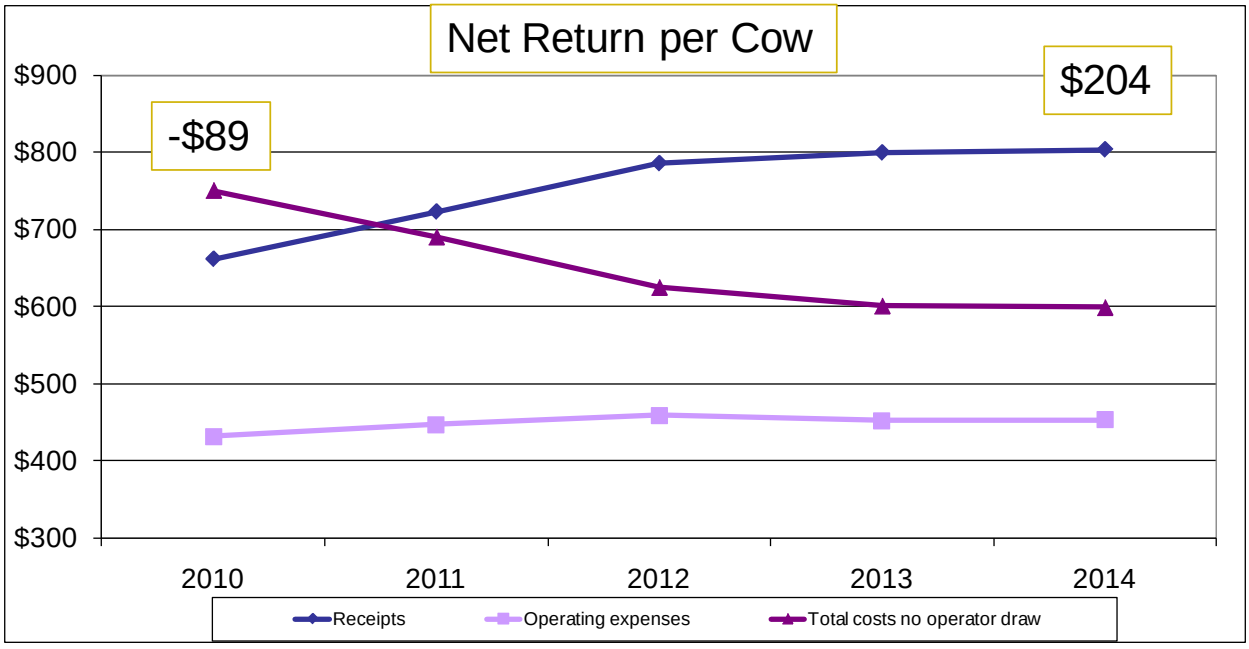
The table below includes summary financials for Alternative 2 over the projection period (2010-2014). Total assets rose relative to the baseline farm ($511,000) to an average of $580,000. Alternative 2 started the simulation period with the same 70% debt on land and 50% debt on machinery as the baseline. Under Alternative 2 return to family living increases to an average of $24,400/year ($101.49/cow), an increase of $2,700/year. The cash risk rating declines when compared to the baseline in the near term (2010-2011) and improves in the intermediate term (2012-2014). Alternative 2 reduces the cash flow risk over time. The alternative is ranked as having severe and low cash flow risk compared to the moderate risk rating of the baseline.

FINANCIALS (2010-14)			
Operator assets	$580,000	Cash risk score	
Total cash receipts	$181,000		
Net cash farm income	$73,500		
Return to family living	$24,400		



* Probability of cash flow deficit in any year of the projection period.

The graph below shows operating expenses, total costs with no operator draw for management and labor, and receipts on a per cow basis. Alternative 1 starts out with much lower returns per cow when compared to the baseline. Due to the initial cost of cows in 2009, the alternative faces a large cash flow deficit in 2009 that caries forward to 2010. This results in a negative net return per cow in 2010. Net returns per cow range from -$90/cow in 2010 to $210.61/cow in 2014. Alternative 1 averages $12.91/cow less in net returns per cow over the 2010-2014 period when compared to the baseline.



Results:

The table below summarizes assets, receipts, net cash farm income, and return to family living for the baseline, Alternative 1, and Alternative 2. Assets, receipts, and expenses increase for the two alternatives when compared to the baseline. The alternatives increase number of calves backgrounded (Alternative 1) and cows (Alternative 2) which result in the increases. Average returns to family living, or net returns, go down under Alternative 1. This is due to the added cost of calves in 2009 that causes a carryover debt into 2010, resulting in a negative net return in 2010. The negative net return in 2010 brings down higher net returns in 2012-2014 resulting in the lower average net returns. The addition of 60 cows in Alternative 2 results in higher average net returns compared to the baseline.

	Baseline	Alternative 1	Alternative 2
Operator Assets	$511,000	$585,000	$580,000
Total Cash Receipts	$139,000	$228,800	$181,000
Net Cash Farm Income	$46,100	$64,900	$73,500
Return to Family Living	$21,700	$19,400	$24,400

Overall, this beginning farmer representative farm struggles slightly to meet all cash obligations under baseline conditions resulting in moderate risk ratings (see table below) over the next five years. The two alternatives initially increase cash flow risk (2010-2011) but ultimately result in lower cash flow risk (2012-2014). The higher cash flow risk in the near term is due to the cost of purchasing calves (Alternative 1) and cows (Alternative 2) in 2009. After the additional cost is absorbed and income is realized, the farm faces very low cash flow pressure.

Risk Ratings

	2010-2011	2012-2014
Baseline		
Alternative 1		
Alternative 2		

Prob. Of Deficit*	Color Score	Risk Score
Under 25		Low
25 to 50		Moderate
50 to 75		High
Over 75		Severe

* Probability of cash flow deficit in any year of the projection period.

Reference Notes

The summary financial tables always refer to the annual average of the variable for the five projection years 2010–2014.

Cash receipts is total gross revenue from all sources, including cash sales in the market, insurance indemnities and government payments for crops that may not be planted. This figure also includes income from custom farming activity.

Cash risk rating is scored based on the probability of cash flow deficit over two time periods. Near term are the calendar years 2010 and 2011. Intermediate term is the period 2012-2014. Low risk is less than a 25 percent chance of cash flow deficit in *any* year of the time period; moderate risk is 25 to 49 percent, high risk is 50 to 74 percent, and severe risk is greater than a 75 percent probability of a cash flow deficit.

Net cash farm income is total cash receipts less all farm *operating* expenses including interest payments on all outstanding debt. Cash costs not included are principal payments on liabilities, cash down payment for capital replacement, income taxes, and owner withdrawal.

Return to family living is the farm's after-tax bottom line for the given year. It is the residual after all other cash expenses are deducted from current year receipts. This calculation includes carryover debt, but not carryover cash from prior years.

Probability of cash flow deficit is the chance that total receipts will be less than total cash expenses as a result of price and production risk. Alternatively, it is the chance that returns to family living will be less than the minimum owner withdrawal.