



Small-Scale Livestock Enterprises: Cow-Calf Enterprise Budget

Introduction

Are you considering starting a small-scale cow-calf enterprise? Perhaps you are also considering other small-scale livestock operations. This publication will enable you to evaluate alternatives and assess costs and returns for a small-scale cow-calf enterprise. The Purdue Comparative Decision Support (PCDS) matrix and PCDS2 profit/loss analysis tools are designed to help you take cost and price information to identify profitability and resource needs for small-scale livestock enterprises. If you are still considering different small-scale livestock operations you may want to refer to [EC-800-W](#) (*Small-Scale Livestock Enterprises: Tools for Choosing the Right Enterprise for You*) for additional discussion about how to use the PCDS and PCDS2 tools and compare alternative investments. This publication will help you assess the viability of a small-scale cow-calf operation given your needs and resources.

Cow-Calf Budget

One important goal, if you are going to start a cow-calf operation, is whether or not it will be profitable. Example budgets for operations and investment are presented in Tables 1 and 2. The example reflects a hay and pasture operation where calves are sold at a weight of 500 pounds. The budgets were designed with a 50-cow unit herd scale. (A cow-calf unit is 1 cow, .2 bred heifer, 0.9 calf, and 0.04 bull.) Price data were taken from national estimates when available and are provided to serve as a baseline for your planning process. We encourage you to replace price estimates with your farm-level data and local market prices. You can find the budgets, along with the PCDS and PCDS2 tools at <https://ag.purdue.edu/agecon/Pages/Livestock-Enterprise.aspx>. Click on the “assumptions” sheet of the file, and replace the price values with your own. Working with different input values, you can use the budget templates to optimize the effectiveness of your expected budget.

The operations budget, presented in Table 1 (page 2), contains revenue, variable costs, and fixed costs. Input your expected revenue per pound to find your incoming cash flow. Variable costs reflect assumed production decisions (i.e., feed ration and veterinary expenses). Once again, we encourage you to use the spreadsheet tool and adjust with your farm estimates whenever possible. A labor expense of \$14 per hour is assumed to take into account the value of your time, and once again you can change that value. Fixed costs reflect the investment portion of the budget on a per-cow unit basis and are presented in Table 2 (page 3). Depreciation, interest, taxes, and insurance on the facilities and machinery investment are estimated at 14%, and herd interest and insurance are estimated at 10%. The assumed cow-calf investment captured in these fixed costs in the operating budget is included on page 2 of this publication.

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Audience: Individuals operating or seeking to begin a small-scale cow-calf enterprise.

Content: Provides estimates for operating and investment budgets for a small-scale cow-calf enterprise. This publication also provides a framework for individuals to estimate their own input needs and incorporate their expected prices.

Outcome: Readers will have a baseline of expected costs and input needs for the assumed cow-calf enterprise from the interactive Web-based decision support tools PCDS and PCDS2 and corresponding budgets found at <https://ag.purdue.edu/agecon/Pages/Livestock-Enterprise.aspx>. They will be able to modify the estimates to fit their own cow-calf enterprise.

Table 1. Operating Budget for Small-Scale Beef Cow-Calf Enterprise

Beef Cow-Calf—One Cow Unit						
	Quantity		Price	Cash Flow	Your Farm	
Revenue						
Calf (0.72 head x \$_____/lb)	500 lbs	\$	lb	\$	\$	
Cull cow (0.18 head x \$____lb)	1350 lbs	\$	lb	\$	\$	
Total Revenue				\$	\$	
Variable Costs						
Feed Costs						
Pasture	2.45 acres	\$	35.00 acre	\$ 85.75	\$	
Pasture fert, misc costs	2.45 acres	\$	20.00 acre	\$ 49.00	\$	
Corn	4 bu	\$	5.50 bu	\$ 22.00	\$	
Salt & mineral	60 lbs	\$	22.00 cwt	\$ 13.20	\$	
Hay	2.1 tons	\$	150.00 ton	\$ 315.00	\$	
Corn stalks	4 acres	\$	3.00 acre	\$ 12.00	\$	
Total Feed Costs				\$ 496.95	\$	
Veterinary and health				\$ 25.00	\$	
Machinery, equipment, fuel, and repairs				\$ 15.00	\$	
Marketing and miscellaneous				\$ 20.00	\$	
Interest on variable costs	6 months		9%	\$ 25.06	\$	
Labor	8 hours	\$	14.00 hour	\$ 112.00	\$	
Total Variable Costs				\$ 694.01	\$	
Fixed Costs						
Machinery, equipment, fences				\$ 65.10	\$	
Interest, insurance on herd @10%				\$ 108.20	\$	
Bull depreciation/replacement				\$ 12.00	\$	
Total Fixed Costs				\$ 185.30	\$	
Total of all costs				\$ 879.31	\$	
Profit				\$	\$	
Breakeven selling price per lb.	_____			\$ 1.90	\$ _____	
Note: A cow-calf unit is 1 cow, 0.2 bred heifer, 0.9 calf, and 0.04 bull. Calf crop weaned of 92% of cows in herd, 20% replacement, and 2% death rate on replacement heifers and cows are assumed. Breakeven selling price per pound assumes a cull cow selling price of \$80/cwt.						

Table 2. Investment Budget for Small-Scale Beef Cow-Calf Enterprise

Beef Cow-Calf—Investment	
Breeding herd investment per cow unit	
Beef cow	\$ 850.00
Replacement heifer (\$850 x 0.20 head/cow unit)	\$ 160.00
Bull (\$1,800 divided by 25 cows)	\$ 72.00
Per cow unit	\$ 1,082.00
Bull replacement cost per cow unit	
Bull cost	\$ 1,800.00
Cull value	\$ 900.00
Number of cows per bull	25
Number of years	3
Replacement cost	\$ 12.00
Facilities and machinery investment (50 cow herd assumed, replacement cost)	
Utility tractor (\$18,000 x 25% cow use)	\$ 4,500.00
Hay moving equipment	\$ 2,000.00
Handling facilities	\$ 3,000.00
Fences (\$94.00 per acre x 125 acres)	\$ 11,750.00
Feeders and waterers	\$ 2,000.00
Total	\$ 23,250.00
Per cow unit	\$ 465.00
Depreciation, interest, taxes, insurance @ 14% annually	\$ 65.10

Conclusions—Making Your Decision

All investment decisions are individual. Investment in a small-scale cow-calf operation is no exception, and *only you can decide whether it is right for you*. As you use this publication and the corresponding PCDS and PCDS2 tools, keep the following questions in mind:

- What are your goals and objectives for entering into a small-scale cow-calf operation?
- What is the worst financial scenario you could encounter with this investment? (Note: you can determine this by inserting the “worst case” values in the “assumptions” sheet and view the outcome.) Do you have the resources to withstand this financial scenario?

- What is the best financial scenario you could encounter with this investment? (Again, use the computer tool to enter the “best case” values into the “assumptions” sheet and view the outcome.) Consider the return you would earn under the “best case” scenario. Is this investment attractive enough for you to undertake?

If a small-scale cow-calf enterprise is a good match with your goals and objectives and you are comfortable with your responses to the questions associated with return, then it would be rational to proceed. Otherwise, you should consider waiting for the next investment opportunity.

Sources

- Callan, P., Groover, G., Kauffman, D., Miller, M., Pease, J., White, A., et al. (2011, May 1). *2011 Virginia Farm Business Management Livestock Budgets*. Retrieved November 15, 2011, from Virginia Cooperative Extension: pubs.ext.vt.edu
- Ellis, S., Edwards, W., Lawrence, J., & Johanns, A. (2010). *Livestock Budgets for Iowa-2010*. Ames, IA: Iowa State University: University Extension.
- USDA-NASS. (2012). *Quick Stats 2.0*. (United States Department of Agriculture) Retrieved January 10, 2012, from National Agricultural Statistics Service: www.nass.usda.gov

The PCDS Tools

Find the interactive PCDS tools on the Purdue Agricultural Economics Extension website at

<https://ag.purdue.edu/Agecon/Pages/Livestock-Enterprise.aspx>.

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To find out more about how to use the PCDS and PCDS2 tools to compare alternative investments, see [EC-800-W](#) (Small-Scale Livestock Enterprises: Tools for Choosing the Right Enterprise for You).



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