

# How Can I Reduce Operating Cost and Maintain a Viable Operation?

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## Introduction

Before one can reduce operating cost in a cow-calf enterprise, production levels and cost inputs must be known. What are the total expenses for your cow-calf enterprise? How many cows do you expose to bulls and how many calves do you wean annually? How much do you spend per cow, or per calf weaned? On a per-cow basis, how much do you spend on feed, fertilizer and labor?

The starting point for reducing cost is a good accounting and record keeping system. Although many small operations can keep expenditures in a notebook, medium- to large-size operations require more involved record keeping methods. One procedure that accomplishes this task in a rather simplistic manner is Standardized Performance Analysis (SPA), a uniform accounting and record keeping program for cattlemen sponsored by the National Cattlemen's Association. SPA uses a computer program to determine cow-calf costs, and production variables such as calf weaning weight or pounds of calf weaned per cow exposed.

Training in SPA analysis is currently sponsored by the Florida Cattlemen's Association and coordinated by Pat Pfeil. Pat can be contacted at Carlton 2x4 Ranch near Arcadia, (941) 494-7302.

## Background for Discussion

In this discussion we are not going into the obvious cost-cutting items like buying that new pickup or tractor, keeping new fencing to a minimum, or renovating pastures. Nor will we discuss supplementing income with hunting leases, seed

production, or sodding pastures—income sources that can be substantial.

We are going to discuss inputs that directly affect calf production. What do they cost and what effect will their reduction have on calf production? Also, we will discuss the effect of cost cutting on the position of the ranching enterprise, relative to future feeder calf prices.

In this discussion we are going to evaluate specific cost inputs of the top 25% and second 25% of the most profitable cow-calf ranches in the US that used SPA (McGrann and Parker, 1996). These data were for the period from 1991 to 1994, and are presented in Table 1. Data shown are out-of-pocket expenses for an ongoing cow-calf enterprise, and do not include land cost, interest on the cow, or similar economic entities.

Similar cost figures for two typical, profit-minded cow-calf ranches in Florida are presented. These data are for the past two to three years. Both ranches are 1000+ brood cow operations. Similar to most larger ranches, neither feeds hay. Ranch A is a moderate-cost operation with an ongoing pasture development program, uses a moderate winter supplementation program for the cow herd, and has a moderate pasture maintenance program. Ranch B is a low-cost operation with limited pasture development, limited winter supplementation of the cow herd, and a low pasture maintenance program.

## Three Expenses Affecting Production

The three major expense items that affect calf production are feed, grazing costs, and labor (Table

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**Table 1.** Cow–calf performance measures of the top 25% and second 25% of the most profitable ranches in the US that use SPA, and two Florida ranches.

SPA Measure	US Top 25%	US 2nd 25%	Florida Ranches	
			A	B
Calf weaning weight, lb	540	501	486	450
Weaning rate, % of cows exposed	86	85	81	73
Lb of calf weaned per cow exposed	467	428	393	324
Purchased feed <sup>a</sup> cost, \$/cow exposed	84	102	43	20
Pasture cost, \$/cow exposed				
Fertilizer	—	—	29	13
Pasture maintenance	—	—	24	7
Total	71	71	53	20
Labor cost, \$/cow exposed	—	—	33	18
Total cost, \$/cow exposed	323	355	238	186
Calf-production cost, \$/cwt <sup>b</sup>	69	83	59	57

<sup>a</sup> Includes mineral cost.  
<sup>b</sup> Calf-production cost, \$/cwt = (total cost/cow exposed) ÷ (lb of calf weaned/cow exposed).

1). For US producers, purchased feed and grazing expenses averaged 48% of total cost. The top 25% and the second 25% of the most profitable US ranches that use SPA spent \$84 and \$102 per cow on purchased feed, respectively. In Florida, we are fortunate to be less dependent on purchased feed. The two Florida ranches spent \$43 and \$20 per cow annually on purchased feed, and this cost included purchases of mineral supplement.

In Florida, grazing expenses are lower than for most US producers. Both the top 25% and second 25% of the more profitable US cow–calf producers had a \$71 per-cow grazing expense. The two Florida ranches had a \$53 and \$20 per-cow grazing expense.

Many ranchers and their families provide most of the labor for small- and medium-sized operations; therefore, labor costs are not a problem. On larger ranches, the permanent employee pool is probably at the bare minimum. However, day work for fence building and similar tasks can be reduced.

### The Easy Cost Cuts

Research by University of Florida extension and research workers has demonstrated that, under grazing conditions in south Florida, bahiagrass will not show an economic response to phosphorus, potash, or to a pH higher than 5.0 (Sumner et al., 1991). Both Ranches A and B have followed a fertilization practice of using only nitrogen on bahiagrass for the past five years and have not seen a reduction in forage yield. Ranch B uses nitrogen fertilization only on a few selected pastures.

Dr. Jerry Kidder discusses other low-cost pasture fertilization alternatives in the following paper.

### Cutting to The Quick

Any major reductions in supplemental feed or nitrogen fertilizer will affect calf production. This is particularly true for smaller ranches, which usually utilize intensive management practices and

push limited resources to the maximum. Field research has shown that reducing nitrogen fertilization from 60 lb per acre to zero will reduce total bahiagrass yield 20% (Sumner et al., 1991). Supplementation research has shown that reducing winter supplementation from 3 lb TDN per head, daily, to zero will reduce calf production per cow 15% or more (Chapman et al., 1965; Pate et al., 1985). A good estimate is that eliminating both nitrogen fertilization and supplementation in an already intensively managed cow-calf operation will reduce calf production 30 to 40%.

### **Remaining Viable With Reduced Input**

The solution to remaining viable, while cutting supplemental feed and nitrogen fertilizer, is to reduce stocking rate. Attempting to maintain the same number of cows will result in disaster. Reducing herd size is necessary and can probably be accomplished to some degree by culling old and low-producing brood cows.

Let's go back to Table 1 and study the two Florida ranches. Ranch A has a 36 lb higher weaning weight and an 8% higher calf weaning percentage than Ranch B. But, Ranch A purchased \$20 more feed, \$16 more fertilizer, and put \$17 more into pasture maintenance, per cow, than Ranch B. These higher input items were responsible for the 69 pounds more calf weaned, per cow exposed, on Ranch A (393 lb) than on Ranch B (324 lb), but they were also responsible for the \$52 higher cost, per cow, for Ranch A (\$238) than for Ranch B (\$186). The total calf-production cost for Ranch A was \$60 per cwt of calf produced, compared to \$57 per cwt of calf produced on Ranch B. However, cost per cwt of calf produced does not present the whole story.

### **The Rest of the Story**

In Table 2, we have used the production and cost per cow information from Table 1 to compare the profitability of Ranch A and Ranch B for vari-

ous feeder calf prices, ranging from \$40 per cwt to \$110 per cwt. For discussion purposes we assume all weaned steer and heifer calves are sold as feeders. What these figures show is that the profitability of a moderate-cost cow-calf enterprise, compared to a low-cost enterprise, is related to feeder calf prices. When feeder calf prices are high, the moderate-cost ranching operation is more profitable. Thus, most investments that result in increased calf production are worthwhile. When feeder calf prices are low, the low-cost ranching operation is more profitable.

It is simple to go from a moderate-cost to a low-cost cow-calf operation when calf prices are low; just cull the cow herd to an acceptable stocking rate and spend less money on feed and fertilizer. The hard part is to position your operation, relative to management level and cow stocking rate, such that it will be most profitable when feeder calf prices return to a higher level. It takes several years to rebuild a brood cow herd with good replacement heifers.

Before decisions are made to reduce input and stocking rate, the long-term viability of the beef industry must be taken into account. That is, what will be the price of feeder calves in future years?

### **Management Changes That Improve Efficiency**

A short-term decision that will assist in cost cutting is to manage the cow herd according to age. If only a limited quantity of supplemental feed can be purchased, it should be provided to younger cattle, especially first-calf heifers and second-calf cows.

Similar decisions need to be made relative to fertilizer applications. Apply fertilizer to pastures that will be grazed by young cattle and(or) apply fertilizer to grasses that will give the best response. These grasses include pangolagrass, stargrass, hemarthria, and bermudagrass.

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If you are currently weaning and marketing calves once annually with a 120-day or longer breeding season, consideration should be given to shortening the breeding season. Late-calving cows will continue to calve late for many years. A shorter breeding season will increase average calf weaning weight and calf uniformity. Ranches that maintain a good supplementation and pasture grazing program should be able to manage a 90-day breeding season.

### Summary

In summary, ranches that cut cost by reducing supplemental feeding and fertilization need to make adjustments in stocking rates. Cull old and low-producing cows first. Improve fertilization efficiency by applying only nitrogen to bahiagrass in February or early March. Give priority to fertilizing grasses that respond best, such as pangolagrass,

stargrass, hemarthria, and bermudagrass. Even when cutting costs, ranchers should consider providing good management practices to younger cattle, especially first-calf heifers and second-calf cows. Now is the time to make management changes that will be beneficial over the long term, such as a shorter breeding season.

### References

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**Table 2.** Profitability of a moderate-input (A) and a low-input (B) Florida ranch at different feeder calf prices.

Feeder calf price, \$/cwt <sup>a</sup>	Net return, \$/cow <sup>b</sup>	
	Ranch A	Ranch B
40	-85.00	-60.00
50	-47.00	-32.00
60	-9.00	3.00
70	30.00	34.00
80	68.00	65.00
90	106.00	97.00
100	144.00	128.00
110	182.00	160.00
SPA Measure	Ranch A	Ranch B
Calf weaning weight, lb	486	450
Calf weaning rate, % of cows exposed	81	72
Lb of calf weaned per cow exposed	394	324
Cwt of calf sold/cow exposed <sup>c</sup>	3.82	3.41
Total cost, \$/cow exposed	238	186

<sup>a</sup> Feeder calf price would be an average for heifers and steers  
<sup>b</sup> Net return, \$/cow = [(feeder calf price, \$/cwt) × (cwt of calf sold/cow exposed)] - (total cost/cow exposed, \$).  
<sup>c</sup> Cwt of calf sold/cow exposed = [(lb of calf weaned/cow exposed) - (3% pencil shrink)] ÷ 100 lb.

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