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Julie Walker

South Dakota State University, julie.walker@sdstate.edu

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Managing Annual Cow Costs

Julie Walker
SDSU Beef Extension Specialist,
Brookings, SD

What is your annual cow costs? _____

What is your breakeven cost (\$/pound of weaned calf)? _____

The cow/calf enterprise is a highly competitive, narrow margin business. Every day the margin seems to get smaller. Cattle producers are always looking for ways to save a dollar or get an additional dollar for their product.

When you hear talk about ‘managing annual cow cost’ do you think that equates to being a low cost producer? You have been told to manage cow cost in the largest cost category, which is normally feed. Feed costs are normally 50 to 75% of the annual cow cost. At the 1995 National Cattlemen Association Cattlemen’s College, the top two ways (Table 1) to reduce costs was 1) reduce supplemental feed costs and 2) rotational grazing, both applying to feed costs. Currently, producers are using these management options to reduce cost.

Table 1. Top 5 ways Low-Cost Producers Reduce Costs

Items	Percent of Respondents
1) Reduce supplemental feed costs	40%
2) Rotational grazing (better pasture management)	30%
3) Right genetics	27%
4) Reduce labor costs	25%
5) Strong herd health program	19%

McGrann and Walter, 1995

What is the current annual cow cost for cow-calf producers? Table 2 provides the most recent annual cow cost for each state. There is a wide range of annual cow costs within the four state’s reports. Each of these annual cow costs was calculated slightly different and for different years. Annual cow costs range from \$475 to \$915, which is \$440 between high and low values. The key to understanding the numbers is knowing what’s included and what’s not.

Table 2. Annual Cow Cost

	Annual cow cost, \$/cow/year	Year	Source
Colorado	\$475	2012	Rod Sharp, CSU Agriculture and Business Management Economist
Nebraska	\$915	2013	Aaron Berger, UNL Associate Extension Educator
South Dakota	\$865	2012	SD Center for Farm/Ranch Management
Wyoming	\$785	2010	Eisele, et al., 2011

Table 3 shows you some of the general difference in the information between the states. First, remember these numbers are for different years. Some of the differences in costs could be due to federal and state leases, which are much cheaper costs than privately owned land rates. When examining the calculations from each state, some costs that were not easily detected, such as 1) charges for replacement animals (Colorado), 2) credits for cull animals (Colorado), or 3) marketing and transportation costs (South Dakota). These costs may have been included within a different section. The bottom-line is each producer need to take the time to calculate their operations' annual cow costs. Below are the individual state's information/spreadsheets that can help you calculate your annual cow costs.

- <http://www.sdstate.edu/econ/extension/index.cfm>
- <http://www.coopext.colostate.edu/ABM/cowcalfbudget.pdf>
- <http://www.wyomingextension.org/agpubs/pubs/B1217.pdf>
- <http://beef.unl.edu/cowcosts2013>

Table 3. Data included within Annual Cow Costs calculation

	Colorado	Nebraska	South Dakota	Wyoming
Feed:				
Purchased	X	X	X	X
Homegrown	X	X	X	X
Grazing	Public leases	Private	Private	Public leases and Private
Health Supplies	X	X	X	X
Labor	X	X	X	X
Replacement animals (Heifers, Cows, and/or Bulls)		X	X	X
Marketing & Transportation	X	X		X
Overhead Costs	X	X	X	X
Interest	X	X	X	X
Credit for Cull Animals		X	X	X

X = included within annual cow costs

Public leases = Federal and/or State public leases

Private = Property owned by producers or leasing other privately owned land

Let's explore what goes into the cow-calf annual expenses (Table 4). The livestock list would include mature cows, 2-yr-old heifers, replacement heifers and breeding bulls. Replacement heifers intended for sale are considered a separate enterprise. Also, you should notice that weaned calves are not included within the annual cow cost; they are revenue for cow-calf enterprise.

The enterprise budget can be divided into variable and fixed costs. Variable costs are tied to individual animal numbers and fixed costs are the same no matter the size of herd. Looking at the feed section, several questions arise: 1) what do you charge for pastures and 2) what do you charge for hay. Economists would say the going rate would be the same amount as if you rent the pasture out or sell the hay. However, many producers believe that is overcharging the enterprise. Not charging for pasture or homegrown feeds will not accurately reflect annual cow costs.

Maintaining the herd size requires replacements of both female and male animals. Annual cost must include the value of the replacement animals. For an example replacement rate of 20%, multiply number of cows times the replacement rate (500 cows * 0.20 = 100 replacement females). Breeding bulls are normally easier since producers don't replace the entire bull battery in one year. One way to estimate the bull expenses is to come up with some assumptions for the example: eg. 1) 3 year life in the herd, 2) mating to 25 cows per year and 3) purchase price \$4,000. Multiply the years by cows mated (3 * 25 = 75) then divide purchase price by cows serviced (4,000 ÷ 75 = \$53.33 per cow). I have also included cost for AI'ing. In most operations only a portion of the herd is AI'ed; however, the cost would be spread across all the cows.

Animal health and labor are pretty straight forward, taking the amount and splitting over all of the cows.

Other direct costs and overhead costs are more difficult to determine since many operations have multiple enterprises. If the operation is solely a cow-calf enterprise, all the expenses go into the budget; however, it can be difficult to split correctly when it is a multi-enterprise operation (backgrounding calves, selling hay, feedlot). Each producer will have to determine the appropriate percentage to bill to the cow-calf enterprise. Having detailed records makes these decisions easier to make correctly.

Annual cow costs need to be credited for cull animals, these would include bulls, cows and replacement heifers. Many producers include cull animals into revenue instead of crediting cow costs. However, it is clearer accounting to credit the cow-calf enterprise for cull animals and bill the enterprise for replacement animals.

Many producers believe lowering annual cow cost is identical to improving profit. Profit is simply revenue minus cost. Lowering costs and maintaining or improving revenue equals higher profit. However, lowering costs may decrease production and/or product quality resulting in lower revenue. It takes time to measure and record details; however, this enables you to make the best management decisions possible. The old saying is true "you can't manage what you don't measure".

Annual cow cost is only part of profit. Instead of looking for ways to become a low cost producer, I would challenge you to think about being the best manager of cost and a better marketer of your product (feeder calves). This might require a shift in where the money is spent or increasing an expense. When talking about spending money there is a point of diminishing returns.

It is easy to understand the principle of diminishing returns. At some point, each additional unit of input will produce less and less output. An example would be applying fertilizer to a crop field. You want to apply an appropriate amount of fertilizer to get the desired yield. Not enough fertilizer results in lower yields; but applying extra fertilizer can reduce profit by adding cost with no additional yield to pay for it. Finding the right balance requires an evaluation of where the diminishing returns lie.

This principle also apply is beef production. Let's use winter-feeding of cows as an example. The quantity and/or quality of hay provided to beef cows can influence the pounds of calves produced. Meeting the nutrient recommendations gives you an optimal size of feeder calf to sell, the optimal feeder calf size will be different for each operation. Winter underfeeding (quality or quantity) of cows can result in lower conception rates or weak calves hence lower number of pounds weaned per cow exposed. Winter overfeeding of beef cows can result in over conditioned cows that can reduce reproductive performance and milk production hence lower weaning weights.

This example is simple to understand, but employing this principle is much more difficult. First, we don't know the end price point at the time when the decision on inputs is required. Second, there are numerous biological factors that influence these outcomes. However, producers need to constantly be making these assessments as they are managing the operation expenses. A few examples of possible management considerations are:

1. Nutrition Program(s)
2. Hay Delivery System
3. Reproduction
 - a. AI'ing
 - b. Sexed semen
 - c. Bull purchase price
 - d. Bull to cow ratio
4. Genetics

Maybe my question becomes: should we be managing annual cow cost or managing the profit, which includes both the revenue and costs? Hoyt and Oedekoven (1994) summarized 8 years of SD Farm Management data in which high profit herds were able to produce larger calves at lower cost. They recommended that investment in depreciable purchases be controlled. The profit per cow in 1993 was \$104. South Dakota Center for Farm/Ranch Management reported a loss of \$27.05 in 2012; however, 2011 showed an \$88.34 profit. A large portion of the charge in profit was due to higher feed prices. University of Wyoming researchers reported a loss of \$168.46 in 2010. We expect yearly variation in profit, which

can be seen in many data sets. What is your profit per cow and how much variation do you see between years?

Looking at the revenue side, are you selling or marketing your product? Marketing is defined as the process or technique of promoting, selling and distributing a product or service (Webster's Dictionary). What is your product, feeder calves, finished animals or beef? I would say it is a step in the beef value chain. Do you know the quality of your product? Producers take months to produce the end product, but how many days to market it?

It is critical to know more about your product than the buyer. The ultimate product is beef. Given proper management in the feedlot, will it be a prime, choice or select carcass? How many days to finish the animal? Marketing is more than delivery them to the sale location and hoping for the best price. Programs are available to provide information on how your calves performance within the feedlot and get carcass characteristics. Financial situations may not allow you to enroll all of the calves; however, a representative group will provide a starting point. Some buyers will work with you to learn more about your cattle.

Managing costs is only one portion of making profit. In today's climate, management is critical to both the cost and enhancing revenue to reach optimal profit. This requires detailed records, which allows you the best information to make management decisions. You need to continually evaluate your management decisions to enhance profit.

Have factors affecting cattle production changed over the years? In 2008, Cattle-Fax provided a list of eight key factors affecting cattle production (Table 5). This list would include all sectors of the beef production systems not just cow-calf producers. These considerations are impacting your bottom-line. Most producers believe they have very little control over these factors and feel they are making cattle production more difficult and more challenging each year. However, understanding how these external factors impacts your operation will continue to be important as management decisions are assessed.

Table 5. Key factor affecting cattle production

1. Weather
2. Land values
3. Ethanol
4. Alternative land values
5. Urban sprawl
6. Government policy
7. Age of the producer
8. Profit/loss margin

Source Cattle-Fax

The cow-calf production environment is constantly changing over the years; however, adequate profit is needed for beef producer's success. There are factors that we can't control, but having detailed information from your operation allows for the best management decisions to be made. It is critical to understand where costs are occurring and how they impact the production practices. Many producers feel that they can't tighten their belts

anymore, so the logical option is to improve profitability through increasing revenue. It is time to be an effect record keeper, which will allow you to manage your operation's annual cow cost.

References:

Hoyt, C. and D. Oedekoven. 1994. South Dakota Beef Herd Profitability 1986-1993. South Dakota Beef Report. pp. 92-94.

McGrann, James and Shawn Walter. "Reducing Costs with IRM/SPA Data." PE-102 1995 Cattlemen's College. National Cattlemen's Association Annual Meeting. Nashville, TN. January 25, 1995.

Table 5. Enterprise Budget for Cow-Calf Operation

Item	Quantity	Price	Cost/Cow	Your Herd
Feed Costs				
Pasture				
Grazing Lease				
Hay				
Crop Residue				
Supplement				
Salt				
Mineral				
Total Feed Costs				
Reproduction Costs				
Breeding Bull(s)				
Replacement Heifers				
Replacement Cows				
Artificial Insemination				
Total Reproductive Costs				
Animal Health				
Veterinarian Service				
Medication & Supplies				
Vaccinations				
Bull testing & Vaccines				
Total Animal Health				
Labor				
Custom Labor				
Hired Labor				
Total Labor Costs				
Other Direct Costs				
Fuel & Oil				
Repairs				
Marketing				
Transportation				
Total Other Direct Costs				
Overhead Costs				
Facility Maintenance				
Interest				
Utilities				
Depreciation				
Property Taxes				
Ranch Insurance				
Miscellaneous				
Total Overhead Costs				
Cull Credits				
Cull Cows				
Cull Heifers				
Cull Bulls				
Total Cull Credit				
Annual Cow Cost				

