

CattleFax Cow-Calf Survey 2018 – Lacks Data for a Real Measure of Costs or Revenue

There are three sources of cow-calf profitability frequently used by the ranch press including CattleFax, Sterling Marketing Inc. and the Livestock Marketing Information Center (LMIC). These sources are **not full cost measures** of profitability as they do not include depreciation or compensation for ranch owner and family labor and management. These three published data sources are not from ranch accrual adjusted financial statements, necessary to calculate profit.

The purpose of this article is to describe the CattleFax survey shortcomings and provide the information from other sources and decision aids for producers to address their need for information on their cow-calf cost and profitability.

The CattleFax 2018 Survey

Ethan Oberst describes the 2018 CattleFax survey as follows. “The survey represents nearly 1,500 producers and between 500 and 700 thousand head of cows. We feel like this is an adequate sample size for the cow-calf industry and data gathered from most of the states, with a more than adequate sample size from the main producing states, commonly referred to as the Beef Belt” (Ethan Oberst). This would put herd size at between 333 and 467 head or in the top 4% of herd size (See Table 1). The survey data is provided by CattleFax members.

The census shows that 90% of cow-calf operations are part-time cow herds and **land resource managers**. Economies of scale are clearly recognized in the cow-calf sector. Herds of 100 cows or less are not expected to generate a true financial profit.

Out of 34 CattleFax survey six questions are relevant to measuring cow-calf cost and profitability. These are questions directly related to measuring costs and profitability.

3. Size of cowherd – range 1 to 5,500 cows follow census size categories

7. Weaning weight – steers and heifers

8. Weaned calf crop – based on calves weaned from cows exposed

9. Calves during cow’s life – not used in cost calculation

13. Gross income per calf – no revenue included for cull cows or bulls

Question 16. What is your estimated or figured cash costs in 2018? **This does not include returns to management or depreciation**. Choose cash cost from seven levels - Less than \$400 to over \$1,000 in increments of \$100.

17. What percentage of your cash cow costs did you allocate for (**Total must equal 100**)

% pasture (year around)

% feed (hay, protein and supplements, mineral/salt, year around)?

% labor?

% veterinarian/vet supplies and misc. supplies?

% facilities, equipment, repair, fuel, utilities, etc. (overhead)?

% bull cost (on a per cow basis)?

18. What was the average price paid for bulls in 2018?

As will be discussed a survey is an inadequate means to generate the data to truly measure cow-calf cost and revenue data to calculate total cost and revenue.

Table 1. U.S. Number Beef Cows by Herd Size - 2017 Census

Size of Herds	Number of	% by	Head of	% by	Average
1 to 9	244,836	33.6%	1,116,265	3.5%	5
10 to 19	148,259	20.3%	1,998,588	6.3%	13
20 to 49	183,640	25.2%	5,502,040	17.3%	30
50 to 99	80,411	11.0%	5,373,199	16.9%	67
Less than 100	657,146	90.1%	13,990,092	44.1%	21
100 to 199	42,774	5.9%	5,652,042	17.8%	132
200 to 499	23,188	3.2%	6,609,375	20.8%	285
500 or more	5,938	0.8%	5,470,530	17.2%	921
200 or more	29,126	4.0%	12,079,905	38.1%	415
Total	729,046		31,722,039		44

Source: USDA, National Agricultural Statistics Service, 2017 Census of Agriculture.

CattleFax Data and Methodology Shortcomings to Calculate Cow-Calf Costs and Profit

It should be clear that not including depreciation, interest cost or return to management means costs are incomplete. In addition, cow-calf operations do have revenue for cull cows, bulls and open heifers not accounted for in the survey. Not having cull revenue does partially offset the lack of management return in the net cash income. It's not clear how bull cost per cow is calculated when depreciation or cull salvage value is not included.

Some reporting of Cattle-Fax calls the survey-based measure "cash profit" other as profit. Seldom does the explanation fully explain what is included in cost and revenue to arrive at "CattleFax cow-calf profitability".

CattleFax Breakeven Cost Calculation

Breakeven Cost is total cost divided by total saleable product. **A breakeven price that does not cover full cost, or total unit cost (TUC) is very misleading if being compared to net price received.**

As noted, CattleFax has incomplete cost but also divides this cost per cow by average weight of steers and heifers. There is no adjustment for the herd weaning percentage or production per cow. Total costs are not adjusted for sales of culls nor is the deviser adjusted for weaning percentage.

The CattleFax Trend example divided incomplete cost by 547 for an average weaning weight of steers and heifers. Although not reported, if one used an average weaning percent of 85% the divisor should be (85% times 547 or 465) TRENDS – Mid- April 2019. Not using the weaned calf weaning percent adjustment means breakeven cost is understated.

The proper calculation is total cow-calf herd total cost that includes depreciation, interest and owner compensation minus salvage revenue from culls divided by total weaned calf production. This would provide a breakeven or total unit cost of production (TUC).

Getting the Cow-Calf Costs and Return Numbers Correct

Information provided below will assist users wishing to calculate their TUC for calves. Also explained is how to calculate true cow-calf financial profitability and information necessary to calculate return on assets (ROA). Alternative sources of information on cow-calf profitability are identified. Sources of decision aids are identified to calculate cow-calf costs and profitability by producers using their own data. The extra effort will lead to more informed decisions.

Measuring Ranch Profit is Beyond Cash Reporting

Ranch Financial Profit is not measured by accounting systems that use cash data for compliance using the Revenue Service (IRS) Schedule F, Profit or Loss from Farming. These reports do not account for cattle or feed inventory change, or changes in prepaid expenses, receivable or payables.

This means profit or net income is not measured with cash reporting. Following IRS rules, the short useful 5-year recovery period (or useful life) for capital assets and no salvage value means depreciation expense is distorted. Replacement heifers expensed for IRS tax purpose are not a correct finance cost. There is no compensation for owner operator or family labor and management using IRS sole proprietorship reporting. **Working for nothing** by not accounting for withdrawals for family living does reflect business reality.

This a list of additional data required beyond what is necessary for compliance with Internal Revenue Service (IRS) cash reporting to prepare the business **Accrual Adjusted Financial Statements** that measure profitability and Return on Assets (ROA) including:

- Beginning and ending fiscal year cattle and feed inventories.
- Cattle sales by category of raised and purchased – head, weight and total net sales revenue.
- Other data for accrual adjustments including prepaid expenses, accounts payable and receivable and accrued interest and taxes.
- Owner operator labor and management compensation equivalent to hired services.
- Market value of capital assets for the balance sheet. Completing the IRS schedule F does not require a business balance sheet. The (FFSC) recommends using a market valued balance sheet which includes loan balances and payments due to calculate ROA.

Alternative to Current IRS Depreciation

- **Replacement cost for capital assets** or depreciable assets including purchased breeding cattle, vehicles, machinery and equipment and land improvements including buildings. **Capital Asset Recovery Cost** is used as an alternative to IRS reported historical depreciation. Cost recovery is based on current **replacement cost** and estimated years of useful life and salvage value determines the use of the asset in the current fiscal year. Replacement cost must be revised at the beginning of the fiscal year. Base value or estimated cost of raised replacement stock is used (FFSC).

In summary profitability is measured by calculating accrual adjusted revenue and expenses as reported in the business **accrual adjusted** income statement. Breeding stock replacement cost is calculated using FFSC base value method. Depreciation of capital assets is based on replacement cost or a CPA generated “**book value**” based depreciation that use expected useful life and salvage values on capital assets. Owner operator labor and management compensation used is equivalent to hired compensation. Family living withdrawals beyond this level are equity withdrawals. Interest is the cash paid and change in accrued interest. Net income or profit is for a fiscal year and does not include real estate appreciation.

Recall you achieve nothing financially with a breaking even net calf price. The calculate breakeven is not the **ultimate goal**. It is extremely important to understand what is included in the cost to arrive at reported breakeven price. Not included income to cover depreciation, finance, owner’s labor and management (living withdrawals) or self-employment and income taxes means the price is below the true total cost.

Your business will go broke if there is no income to cover total costs. Business profitability is measured with the business accrual adjusted income statement. A breakeven price must be in excess of total cost to provide a positive return on assets. This is the proper business goal.

Cow-Calf Sector Return on Assets (ROA) a Real Measure of Profitability

The cow-calf sector is an asset driven business. Disregarding depreciation and compensation for owner operator labor and management makes financial performance information have limited value. The incomplete financial information cannot be used to calculate ROA, a fundamental measure of profitability. **If financial data is insufficient to measure ROA it means profit cannot be measured.**

Information Sources

Many Land Grant Universities provide cow-calf budgets and decision aids educational programs to assist ranchers that need assistance in calculating cow-calf costs, revenue and profitability. Farm Business Associations do facilitate the generating accrual adjusted financial statements. The depreciation data generated for IRS compliance is increasingly distorted as a measure of depreciation. The tax CPA can assist by generating “book depreciation”. See references below.

Appendix A: Summary of Key Definitions Measuring Cow-Calf, Costs, Returns and Profit

- For this purpose, measuring ranch profit and expenses should include a cost equivalent for **compensation for unpaid operator and family labor and management if hired**. Owner wages and salaries are not included in the IRS Schedule F expenses for sole proprietorship expenses. Other forms of business entities may have owner compensation in operating expenses. Family living withdrawals is also a measure of compensation. If withdrawals are in excess of a hire equivalent it means that capital draws are required to cover living costs. This **is not an IRS tax deductible cost** for a sole proprietor filing using the IRS Schedule F.
- **Measuring ranch profitability** requires accrual adjustments **to match revenue with expenses during the fiscal year**. Ranch revenue is recorded **when earned and expenses are recorded when incurred**. This is in contrast to the **cash basis of accounting** where revenue is recorded only when cash is received, and expenses are recorded when cash is paid. When using cash accounting no attempt is made to match revenue against expenses. However, this cash data is a big part of developing useful accrual adjusted income statements.
- **Financial performance ratios** are normally pre-income tax for comparative purpose and to compare alternative investments.
- **Return on Assets (ROA)**. This ratio is an indicator of how productive the assets are being used by the enterprise. This percentage is calculated as net income from operations plus interest expense minus family withdrawal representing a payment to owner labor and management divided by average total assets. The reason interest is added back is interest paid represents a return to the debt capital. ROA is a return to capital invested irrespective of capital ownership.
 - When examining ROA from a market value basis, the value for average total assets is determined by their current market value. The resulting percentage evaluates profitability based on current market value. In other words, this is an indication of profitability if one was to go into the market place and acquire the assets at their current market value.
 - **ROA** indicates the profitability per dollar of assets, thus allowing comparisons over different size firms and different types of businesses or investments
 - **Cash costs** often reported in the ranch press cannot measure ROA as costs are incomplete. See definitions above.
- **Return on Equity (ROE)** - Is the net income after all interest charges. That is, the residual return to the owner's investment divided by the average equity investment. It is a measurement of the return the owners of the business receive on their money invested. ROE can be compared to rates of return in other equity or investment opportunities.
- **Retained Earnings** is a measure of the real growth in the ranch business and is the change in net worth.
- **Economic profitability** is measured with the same financial accrual adjusted information with the additional adjustments of an opportunity cost for land and improvements (cash lease minus property tax and maintenance cost not covered in a cash lease), raised feed at market value, and operating and non-real estate capital valued at opportunity cost. The opportunity cost of capital is a return expected on the next most profitable return on investment with similar risk. **Economic profitability is a measure of the consequence of entry or exit of the business.**

CattleFax References Used

CattleFax – “Cow-Calf Survey Costs and Revenue” TRENDS – Mid- April 2019

www.cattefax.com

CattleFax - CattleFax 2018 Survey “CC Survey 2018”

www.cattefax.com

Oberst, Ethan, “Cow-Calf Survey Costs and Revenue” CattleFax, April 25, 2019.

www.cattefax.com

References and Information Sources

Farm Financial Standards Task Force FFST. “*Recommendations of the Farm Financial Standards Task Force: Financial Guidelines for Agricultural Producers*”. Original 1991 revised 2016, Farm Financial Standards Council, website www.FFSC.org.

University of Minnesota Extension, Center for Farm Financial Management, FINPACK software www.extension.umn.edu

Texas A&M University – Department of Agricultural Economics Crop and Livestock Budgets <http://agecoext.tamu.edu/resources/crop-livestockbudgets>

Texas A&M University – Department of Agricultural Economics Decision Aids Beef <http://agecoext.tamu.edu/resources/decisionaids/beef>

Oklahoma State University – Department of Agricultural Economics <http://www.ageco.okstate.edu/livestockbeefextension>

University of Nebraska - Lincoln UNL Beef Website <http://beef.unl.edu/>

Kansas State University – Farm Management <http://www.ksre.k-state.edu/agriculture/farmmanagement/>

Kansas State University and Kansas Farm Management Association - agmanager.info/KFMA

Farm Business or Management Associations have web sites in a number of states including: ND, NE, IA, IL and MN.

Land Grant University Extension – many have Cow-Calf Budgets

ERS-USDA Commodity Cost and Returns