Retained Ownership Finished Cattle – Calculating Total Costs and Net Margin

Production and marketing plans for ranches must begin with complete accrual adjusted financial statements for the business that measures net income or profit. The accounting system must be organized to provide data to calculate the direct and indirect costs and net income for each production activity.

The annual indirect cost is often overlooked in published information. Indirect cost is equivalent to per head day yardage cost used by feedyard breakeven price projection or closeout financial reports. Knowing the actual net income (loss) if sold as a feeder is very valuable decision information for that phase of production and marketing.

This means decision makers having information on the profit (loss) position for cow-calf and each retained ownership activity. See definitions that follow and source for decision aids at the end of this guide.

At the time a raised or purchased feeder cattle are ready for sale or retained ownership through finishing the owner's feeder cost is a **sunk cost**. The net sales price is the **"opportunity sales value"** of the feeder. It's then a question. Will the retained ownership production and marketing alternatives add net income or margin at the custom finishing phase? The question is to retain or sell?

This retained ownership through the finishing phase decision aids allows entering the feeder owner's actual total feeder production costs. The feeder total payweight cost and the feedyard cost of gain (COG). Also, a target net margin is entered to calculate net return or profit and return on investment ROI.

Once this "actual feeder cost" analysis if is made then the **"opportunity sales value"** can be evaluated. The feedyard will enter a "plugged market feeder price" for the initial feeder cost.

Published feedyard retained ownership reports use **calculate breakeven as if it were the ultimate goal.** It is extremely important to understand what costs are included to arrive at the breakeven sales price reported. Nothing is achieved using breakeven price when incomplete costs are used to guide decision to retain ownership**.**

The notes and definitions below help address the retained ownership questions.

Nothing is Achieved Breaking Even by the Feeder Owner Through Retained Ownership

Nothing is achieved financially by breaking even in finishing cattle. Yet, published retained ownership feedyard projections report **breakeven price as if it were the ultimate financial goal.** It is extremely important to understand what is included in the costs to arrive at breakeven feedyard price when deciding to retain ownership and selecting risk management options.

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Feedyard level calculations for retained ownership are **only direct feedyard costs** of production. Nothing is included to cover the feeder's owner's indirect cost's labor and management (living withdrawals) or taxes. This must be included in the actual owner's feeder's initial payweight costs or added into the retained projection to measure business profitability. Your business will go broke if there is no income to pay business indirect or overhead costs or full feeder costs.

Breaking even is financial failure as a business is not financially sustainable if net price received in retained ownership cost merely covers incomplete costs reported in the cattle finishing sector.

It is **not the responsibility of the feedyard** to include the additional costs required to feeder owner's measure of profitability. The feeder owner must account their costs when evaluating retained ownership opportunities or evaluating a finished cattle lot of closeout results. This is true for both projections and closeouts. The feedyard will "plug a feeder price" in the lot closeout not the actual feeder owner's full feeder cost or opportunity sales value of the feeder owner.

The reported feedyard closeout breakeven price does not include a net margin or profit for the feeder owner. It's a zero return on investment (ROI). This is why the retained ownership producers must do their own analysis.

Finishing cattle should have a favorable ROI on investment after all costs are included. There is added production and market price risk when retaining ownership.

Be sure to do **"what if"** analysis before making the commitment to retained ownership.

An area of information not communally observed is closeout performance evaluation of where the **margins are earned** which stresses the importance of marketing when retaining cattle ownership. These margins are defined as follows:

Marketing margin is the net payweight sales for the weaned calf or purchase payweight of the stocker (feeder) based on sales and inventory adjustments times buy/sell margin or the rollback or roll-up (positive or negative margins between cost of buying and selling price). For a negative marketing margin, the cost of gain has to be less than its market price (sales price) to have a positive net income.

Feeding margin is the sales price minus the cost of gain (COG) times the net payweight gain. It is a measure of how much the value of gain exceeds the cost of gain. Under normal buy-sell prices, there is a negative marketing margin. The feeding margin must offset this negative margin for the enterprise to generate a positive net income. To generate a profit, the marketing margin plus the feeding margin must be positive.

The most important product of the cattle cost accounting system is the COG of gain as it measures both efficiency and competitiveness of finishing cattle. The sum of marketing margin and feeding margin is net margin or profit per head.

Annualized Net Return on Assets (Capital) Financial ROA is the annualized return on assets (ROA) and is the net income plus cash interest cost plus the target margin objective divided by annualized capital (asset) requirement to support the enterprise. Capital is adjusted for the time cattle are fed.

The reason interest is added back in the ROA calculation is that it had been calculated out in determining net income. Interest represents a cost of capital, so it must be added back to net income to calculate an income before interest to determine what net income is capital.

Key Retained Ownership Definitions

Annualized Net Return on Investment ROI is the annualized return on investment (ROI) is the net income plus cash interest paid divided by annualized capital investment requirement to support the cattle feeding activity. The reason interest is added back is interest paid represents a return the debt capital. ROI is a return to capital invested irrespective of capital ownership. Capital is adjusted for the time cattle are on feed.

Investment required is estimated by taking one half of the investment is non-cattle costs plus the total payweight cost of the feeder cattle times days on feed divided by 365 days. A low ROI is due to high feeder cost relative to sales value, high feeding costs of gain, poor production performance or a combination of these factors.

Average Daily Gain (ADG) is the net payweight weight gain divided by head days. This weight is adjusted for death loss (deads are in) as only live cattle payweight are counted. Average daily gain is total saleable net gain divided by head days fed.

Breakeven Cost is a cost component divided by the amount of saleable product. The costs included must be defined before a breakeven can provide useful information to a decision maker. A break-even that does not cover full cost is misleading. Custom feedyards never calculate a “full cost” breakeven for customers as they do not have access to costs cattle owners’ costs beyond the direct costs incurred in the feedyard. Their breakeven is a feedyard direct cost breakeven. Producers must use closeout information and add the full payweight cost of the feeder and the cattle owner’s business’s general and administrative (G & A) costs including management cost. They must have total unit cost to have a true measure of profitability. Having G&A and actual interest cost will mean the cattle feeding activity profitability and TUC is consistent with the business income or profit and loss (P&L) statement. **Calculating true full breakeven cost is the responsibility of the feeder owner not the feedyard.**

Direct Costs are expense items that are directly related to production activity such as feed, yardage, health and feeder cost. All retained ownership costs in feedyards are direct costs.

Death and Cull (Railers) Losses are reported together as neither result in finished cattle sales.

Cattle Owner Management cost or compensation should be included in the production cost calculation at the manager’s salary lever or a level equivalent to the salary required hiring a non-family member to provide an equivalent service. Cattle owner's management costs need to be included in costs as compensation for feeding and marketing decisions.

Economic Cost is in addition to the financial or accounting cost, an opportunity cost that is charged for equity capital (what it would earn in an alternative investment or by how much it would reduce interest if used to repay debt).

Opportunity cost represents the return that could be received for a resource in its next best use. Economic cost represents the cost "if all resources" earned their opportunity cost or a use forgone.

Feeder Price That Could Be Paid – in the closeout this is a calculation that with the results of sales revenue and costs what could have been paid for the feeder going in to the production and marketing activity and total unit costs (TUC) be covered. This can then be compared to actual cost of the feeder to calculate over or under payment for the feeder.

Financial Analysis focuses on determining the accounting cost (cash and non-cash), profitability or change in equity, and repayment capacity of the enterprise or business being evaluated.

Financial Costs include cash costs, depreciation, and non-cash adjustments, such as accounts payable, accrued interest, etc. These costs are recorded and reported in the business accounting system. The financial cost does not include opportunity cost of resources like lease equivalent or owned land and interest on equity capital.

Freight Shrink is the extra shrink cattle suffer when they travel long distances. The time and feed required to recover will reduce performance and increase cost. This should be a factor of consideration in reviewing and comparing close outs.

Freight or Trucking Costs are a marketing cost and reduce the gross revenue or the net payweight price received for cattle. They should not be included as a cost of gain.

Feeding Margin is the net feeder sales price minus the total cost of gain times the net payweight gain. This is a measure of cost of gain versus the sales value of finished cattle.

General and Administrative Cost (G&A) is the costs that all business incurs to cover book keeping, professional fees, insurance, office supplies, computer services, phone and other utilities cost. Administrative cost includes the salary and payroll for hired of owner management. There is management time spent on planning, implementation and marketing issues for the cattle feeding retained ownership activity.

Indirect Costs is necessary to include to ensure production activity costs match up with the business P&L This includes ownership and operating costs. Depreciation, repair, maintenance of improvements vehicles, machinery and equipment, labor and management, and property tax are examples of indirect costs. Indirect costs continue as the number of cattle increase or decrease. General and Administrative Costs (G&A) are included in indirect costs to run the business such as bookkeeping, professional fees for accounting and legal services, dues, utilities, general insurance, office supplies and administrative personnel salary, and payroll and benefits. There is management time spent on planning, implementation and marketing issues for the cattle custom feeding retained ownership activity. Indirect costs are also referred to as overhead costs or fixed cost.

Payweight Price is the net income from sale after adjustments for freight and marketing costs. Payweight is the net weight after shrinkage for the cattle.

Marketing Margin is the initial feeder payweight times the roll back or roll up in price or the positive or negative margin between initial feeder price and the finished cattle sales price.

Net Payweight Gain is the difference between net sales or payweight and feeder weight.

Net Margin or net income is the difference between the value of the net sales and the original feeder value and added cost for production, G&A and financing cost. If these costs are included this is total cost or total unit cost per head of per cwt. of cattle marketed. The net margin is made up of two components, marketing margin and feeding margin.

Net Payweight Sales Revenue is the revenue received per cwt after shrink and all freight and marketing costs are accounted for.

Payweight In is the net beginning payweight weight. Off truck weight at arrival at the feedyard is irrelevant in cattle feeding production and economic performance analysis. As its payweight that counts in the end.

Payweight Out is the net weight out after shrinkage (deads are in). In other words, it is net-to-net payweight. Feedyard performance with deads out is wrong and just distorts reality.

Preconditioning and Backgrounding is often used interchangeably. This is the phase of production between weaning and selling or transferring to a feeder or finishing phase of production. Preconditioning is a 30-60-day period. Backgrounding is normally used to describe cattle that are confinement fed for a longer period between weaning and sale as feeders.

Profit (Loss) care must be exercised in reading reports in the cattle sector labeling the value profit or loss. Most frequently in feedyard and other cattle reporting, these numbers are gross margins (gross revenue minus direct feedyard costs) and do not include overhead and owner labor and management costs, which are required to calculate a true profit or return to business equity. Feedyard closeouts reports interest for costs financed by the feedyard but not financed by the cattle owner's sources.

Rate of Return on Investment (ROI) can also be called return on assets. This ratio gives an indication of how productively the assets are being utilized. A low return on assets could indicate inefficiencies in the use of assets; low net income due high cattle cost, high feed costs, poor production performance or low cattle sales price or a combination of these factors. See annualized net return on investment above.

Roll Back is a term to describe the difference between the net payweight price of finished cattle and their payweight feeder purchase price or cost. This is the cost per cwt. weight on the beginning weight that has to be overcome by cost of gain to make a profit.

Sunk Cost – is used to describe a cost that has incurred or has taken place that cannot be reversed. At the weaning time the costs to produce the calf are sunk costs. These costs do not determine if the weaned calves should be retained or not. It's a question will the added revenue be greater than the added costs from retained ownership in greater selling the unweaned calf.

Total Unrealized Sales Value (opportunity cost) is the net sales revenue that is projected if the calves are sold at weaning after shrink and marketing costs. The weight, price and marketing costs are critical in determining net payweight and payweight price.

Yardage Cost is used as an expression feedyard indirect cost that include ownership and operating cost of the feedyard and general and administrative (G&A) costs. These costs are and charged on a per head basis to individual lots. The sum of direct costs and yardage when combined with financing cost would be the feedyard's total unit cost.

Value of Gain versus Cost of Gain
For retained ownership feeder in cost or price must be offset by lowers cost of gain costs of weight gain to be profitable. Value of Gain is the net retained income minus the net total cost value divided by the net sales payweight. The value of gain must be greater than the cost of gain to be profitable market alternative. The formula is as follows: For value of gain per Lb. = ((Net Sales Value – Total Feeder Costs)/Net Payweight).

Calculations of Feedyard Margins
To accurately calculate these margins for evaluation of growing and finishing alternatives, decision makers need the following data:

- Payweight of weaned calf, stocker (feeder) cattle.
- Payweight purchase or accumulated raised cattle costs.
- Net payweight when marketed.
- Payweight gain.
- Full cost of gain – all cost including overhead and all interest cost.
- Payweight net sales price.
- Number of head sold net of death loss.

The formulas for calculating margins are as follows: **
Marketing Margin ($/Hd) = ((Total Purchase Payweight * .01) * (Sales Price Purchase Cost)) / Head Out
Feeding Margin ($/Hd) = ((Sales Price – Total Cost of Gain) * Net Gain * .01) / Head Out
Net Margin or Income ($/Hd) = Marketing Margin + Feeding Margin

**All prices and costs are in $/cwt, weights are in pounds, and margins are dollars per head out. Payweight to payweight accounts for death loss.

Decision Aid Source: http://agecoext.tamu.edu/resources/decisionaids/beef