Fed Breakeven Calculator

A unique tool for feedlots to:

Discover - fair market value for calves or feeder cattle.

Calculate - backward from a projected fed-cattle price while including normal or expected feedlot costs to arrive at the value of the cattle upon entering the feedlot.

Assist - buyer and seller in establishing a breakeven price at the time the calves or feeders are being sold or entered into joint ownership.

Project - potential carcass quality of the cattle and also adjust the values that are being paid for quality grade, yield grade and weight.

Make Informed Results – through increased research and understanding of fed cattle and carcass marketing.

Elements:

Finished Cattle Marketing Parameters are the most useful way to project price for calves or feeder cattle months before they are harvested as finished cattle by using the Live Cattle futures price for the expected month that the cattle will be harvested.

Live Market

- Final values based on selling finished cattle "live" to the packer with no further adjustments for carcass premium or discounts.
- An equivalent carcass price is displayed and explained below.

Grid Market

- Values are calculated beginning with the "Equivalent Carcass Price" from B10 and then adjusting for dressing percentage, carcass premiums and discounts from the grid pricing section, and freight cost to the packing plant.

Feeder Calf Delivery Parameters define the average weight of the cattle when they are transferred from the ranch to the feedlot and the associated freight conditions. This information is used to calculate the final breakeven calf price.

Feeding Parameters summarize the costs of feeding inputs as well as the expected performance of the cattle. Detailed knowledge of cattle feeding and feed markets will yield the most accurate information. Consultation with a feedlot manager or other experienced individual is advised for those unfamiliar with these areas.

Grid Marketing Parameters consider historical carcass data from the cow herd and management to derive a best-case scenario. If historical information is not available then breed type, age, days on feed and other factors may help to derive probable outcomes.

Grid Prices evaluates the premiums and discounts associated with the different quality grade and yield grade measures. While these are typically somewhat different between packers, a knowledgeable feedlot manager may be consulted to estimate the prices used for these numbers.

Fed Price Breakeven Calculator
Line by Line Explanation

B2: Number of Head – The number of cattle.

B3: Weight per Head – The weight of the cattle.

B5: Price – The purchase price per hundredweight for the cattle while C5 is the resulting price per head.

B6: Trucking Charge/Mile – The cost per mile to ship the cattle from the ranch of origin to the feedlot. Price is typically similar between trucking companies, but a quote should be obtained for accuracy.

B7: Trucking Mileage – The distance from ranch of origin to the feedlot.

B8: Number of Loads – The number of loads is important in properly distributing the trucking costs on a per head basis. Accounting for the maximum weight allowed per truck is important in accurately estimating the number of loads required to ship the cattle. Adjusting the number of loads will automatically make changes to cell B9, which displays the weight per truck that results from the head count, number of loads and weight per head.

B9: Cattle Weight per Truck – The total cattle weight per semi-load is calculated based the number of loads from cell B8, the weight per head from cell B3, and the number of head from cell B2. Accuracy in this cell is important in deriving the delivered cost per head and trucking cost per head.

B11: Trucking Cost – Summarizes the trucking cost per hundredweight of live weight and cell C11 summarizes the trucking cost per head.

B13: Delivered Cost – Summarizes the cost per hundredweight of the cattle after trucking cost is added to purchase price per hundredweight and the delivered cost per head based on delivered cost per hundredweight times weight per head.

B16: In Date – The date cattle will arrive at the feedlot.

B17: Average Daily Gain – The expected average daily gain for the cattle. This is influenced by cattle gender, age, genetics, condition, feeding season, feedstuffs used in the feeding period and nutritional background. Consultation with a feedlot manager or historical data derived from the cow herd that produced the calves will yield the best estimate for this number.

B18: Feed Conversion – Measured in dry matter, pounds of feed required to produce one pound of weight gain in the cattle. This is influenced by all factors described under "Average Daily Gain".

B19: Pay Weight Out – The estimated finished weight of the cattle. A "pencil shrink" should be subtracted from the actual live weight of the cattle at the feedlot at the time of shipping. This is commonplace in selling live cattle to a packer to account for weight loss during shipping from the feedlot to the packing plant. A 4% shrink is typical.

B20: Yardage Charge/Head/Day – A cost per head per day that the feedlot charges the customer for caring for the cattle, providing pen space and overhead expenses. The costs and services that are included in this charge vary from feedlot to feedlot a good deal, and a full understanding of these differences is important when analyzing the true cost of feeding.

B21: Vet/Med./Processing Cost per Head – Costs associated with processing cattle to give vaccinations as well as medicine for any sick cattle should be included. This number will depend somewhat on the feedlot's historical averages as well as the class, weight and condition of the cattle.

B22: Death Loss Percentage – A death loss estimate should be included in calculating a breakeven. This will depend on the class of cattle, vaccination history and other factors. An estimate of one to two percent death loss may be a good starting point for cattle that have a thorough vaccination background.

B23: Ration Cost per Ton (DM) – The cost per ton of all feed ingredients included in the ration, on a dry matter basis, should be used to determine this price. When creating a breakeven estimate, the futures market and current market conditions for feed products can be used. Several sources of estimates will help to solidify industry average numbers, or individual feedlots will have accurate estimates of their local prices for different commodities.

B24: Interest % (Cattle) – The interest rate offered by the lender for purchasing the cattle should be used. If the user does not wish to consider this in the analysis, then make the interest rate equal to zero.

B25: Interest % (Feed) – If the feed required for the feedlot phase is to be financed through a lender, or through the feedlot, then an appropriate interest percentage should be used here. However, some people choose to pay the feed charges every two weeks or monthly in order to avoid interest charges. If the user does not wish to consider interest cost on financing the feed, then use an interest rate of zero here.

B26: Equity per Head at Purchase – If a loan is acquired to purchase the cattle then most lenders will require a down payment. The down payment is the borrower's "equity". A suggested value is 30% of the purchase price of the cattle per head. If no money will be borrowed, or the cattle are in a retained ownership arrangement, then make cell B24 "Interest % (Cattle)" equal to zero and disregard cell B26.

B27: Amount Financed per Head – The delivered cost per head from cell C13 minus the equity per head from B26, if applicable.

B28: Cattle Interest Cost per Head – A summary of the total interest cost per head in the case where the purchase of the calves or feeder cattle is financed through a lender. It is calculated from the amount financed per head, the interest rate and the days on feed in cell B30.

B29: Feed Interest Cost per Head – Summary of the interest cost per head for financed feed on a per-animal basis.

B30: Days on Feed – The number of days on feed is calculated from the estimated in-weight and out-weight of the cattle, average daily gain and feed conversion ratio.

B31 : Average Daily Consumption (DM) – The feed conversion, in-weight, out-weight, average daily gain and days on feed.

B32: Total DM Consumption per Head – The total feed consumed during the entire feeding period per head. It is based on the same factors as in figuring the Average Daily Consumption.

B33: Feed Cost of Gain – The cost of feed per 100 pounds of live weight gain. It does not include interest, yardage or death loss.

B34: Total Feed Cost per Head – The total feed cost required during the feeding period on a per head basis.

B35: Total Yardage Cost per Head – Calculated from the estimated days on feed and the daily yardage charge per head.

B36: Death Loss Cost per Head – The lost value of any dead animals during the feeding period and is calculated from the estimated death loss percentage. The cost of half of the feed for one animal for the entire feeding period is included in this calculation.

B37: Expected Finish Date – The expected harvest date for the cattle in question, calculated from the in-weight, out-weight an average daily gain.

B38: Total Cost of Feeding per Head – The sum of all costs incurred during the feeding period per head.

B40: Total Cost of Gain – The total cost of 100 pounds of live weight gain per animal with interest charges and death loss accounted for.

B43: Age/Source Verified Premium per Head – If cattle have been verified through a USDA-approved third party as "Age and Source Verified" then the cattle may qualify for a premium from the packer, especially if they will be harvested at an age less than 21 months. Get an informed quote for what this premium might be for the month of expected harvest. If this does not apply, use a value of zero.

B44: Checkoff Per Head – All cattle sold in the U.S. are subject to the $1.00 per head checkoff.

B45: Other Premiums per Head – If the cattle qualify for "Natural" or "Non Hormone Treated Cattle" premiums then those dollars should be accounted for here on a "per head" basis. If not know, then use a zero value or consult with a feedlot operator for further information.

F16-F21: The percentage of Prime, CAB®, Choice, Select and Standard carcasses. Percentages for Prime, Choice, Select and Standard should add up to 100% in cell F21. The CAB® percentage (cell F17) is considered entirely separate from the other quality grade descriptions and does not influence the total in cell F21. Every CAB® qualified carcass will also have been graded as a Choice or Prime quality grade carcass, so CAB® carcasses are accounted for in more than one percentage section.

F25-F30: Estimate the percentage of Yield Grades 1 through 5. The total in cell F30 must be 100%.

F34-F35: The percentage of lightweight and heavyweight carcasses should be accounted for here. In most cases, the lightweight category will be estimated at zero percent, but some nominal percentage of heavyweight carcasses may be estimated as a safeguard. This will depend on the genetic potential of the cattle and management of the feedlot.

G40: The expected dressing percentage of the cattle may be difficult to arrive at by the cow-calf operator or backgrounder. The industry standard of 63.5% should be used if further information is unavailable. Heavier muscled or fatter cattle may achieve a higher dressing percentage while lighter muscled or leaner cattle will achieve a smaller dressing percentage. As well, excessive gut fill at the time of harvest and excessive mud on the hide at harvest will create a lower dressing percentage. The latter two factors are not easily adjusted for in a breakeven analysis.

H16-H20, H25-29, H34-35, G41: Each of these values should be researched with the assistance of a feedlot manager or other knowledgeable person. First-hand knowledge of grid values is necessary to complete this section. The USDA market reporting service also can serve as a guide to these dollar amounts.

M40-M43: Freight costs to ship fed cattle to a packing plant are often the responsibility of the seller and may be estimated by considering mileage and freight costs per mile. Some grid marketing situations include an allowance for freight costs, so marketing options should be evaluated with this factor in mind.

K48: Live Breakeven – The live animal price per hundredweight at which a breakeven is achieved based on the purchase price of the cattle and all of the combined input factors are accounted for. This price excludes all of the grid marketing factors.

K49: Equivalent Carcass Price (at 63.5% yield) – The "live breakeven" price converted to price per carcass hundredweight. Calculated by dividing the live breakeven price by 63.5%.

K51: Carcass Breakeven (w/ Freight, Dressing % and Grid) – The price per carcass hundredweight at which a breakeven is achieved. Unlike the "live breakeven" this price also factors in all of the grid values that have been entered as well as dressing percentage and freight to the packing plant.

K52: Equivalent Live Price (at 63.5% yield) – The "carcass breakeven" price converted to live animal price per hundredweight. Calculated by multiplying the carcass breakeven price by 63.5%.

Questions or More Information:

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