



Beef Cattle Handbook



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Ranchers' Guide to Custom Cattle Feeding

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Custom cattle feeding refers to sending cattle to a commercial feedyard that specializes in feeding and managing cattle until they are ready for processing. This practice should be considered by ranchers as a means to evaluate the performance of cattle or as a marketing alternative. At times, custom cattle feeding can be a tool to increase the dollar return to a cow-calf or stocker program. At other times, it may be better to simply sell feeder cattle or calves. The rancher should consider custom cattle feeding when it is likely to increase net returns.

Some ranchers feed some of their cattle each year regardless of profit potential just to see how their cattle perform in the feedlot. This may become more important as feeders require evidence of superior cattle performance before paying top-market price.

Cattle producers who would like to try cattle feeding but are uneasy about sending 100 or more head of cattle to a feedlot for the first time, may want to consider participating in a feedout program. Many states offer similar programs that allow a producer to contribute five to fifteen head to a feedout trial in order to get performance and carcass data on the animals. Examples of these programs include: Georgia's "Beef challenge;" Idaho's "A to Z Retained Ownership Company;" North Dakota's "Badlands Performance Steer Test;" Oklahoma's "OK Steer Feedout;" South Dakota's "Retained Ownership Demonstration;" and Texas' "Ranch to Rail" Program.

Selection of Cattle For Feeding

One key to successful feeding lies in the makeup of the cattle that constitute a pen. Cattle should be as uniform as possible in weight, body type, age, breeding, and in

previous nutritional background. When these conditions are met, the cattle feeder can feed and sell the cattle to achieve optimum feed efficiency and market value of the cattle. When careful control is started on the producing ranch, uniformity in the cattle nearly always results in a 5 to 10 percent advantage in efficiency over carefully "put together" cattle.

Steers and heifers can be fed, but not in the same pen. Often heifers are discounted more as feeder calves in marketing channels more than they should be, and custom feeding may be a means to realize better prices for the rancher. When selecting a feedlot for heifers, be sure to find a feedlot that can feed and market heifers.

Evaluating a Custom Feeding Opportunity

Value Your Cattle

Put a realistic value on your cattle and calves at home. This is usually either the local auction price, less costs and shrinks involved in getting cattle to market, or a bid at your scales, less a possible pencil shrink. Cattle shrink and pencil shrink are very important. When considering shipping cattle to custom feedlots with a ten-hour haul, it is likely they will shrink three to eight percent from ranch weights. Please refer to Table 1 to estimate cattle shrinkage.

Examples of figuring cattle costs:

A buyer offers you \$68/cwt. for your steers with a three percent pencil shrink. In reality, he offered you 97 percent of \$68.00, or \$65.96.

You need to value your cattle for custom feeding in

a lot 300 miles from home. The cattle will shrink about 5.5 percent (from Table 1) from ranch weight during the haul. Thus, your cattle would have to cost \$69.80 [$65.96 \times (100/94.5) = 69.80$] laid into a feedlot to net you the \$65.96 at home.

Keeping records of a few actual shipments under specific conditions will establish the appropriate percentage of shrink for your operation.

Table 1. Shrinkage Loss Due to Different Handling Conditions.

Conditions	Percent Shrink
8-hour drylot stand	3.3
16-hour drylot stand	6.2
24-hour drylot stand	6.6
8 hours in moving truck	5.5
16 hours in moving truck	7.9
24 hours in moving truck	8.9

Freight Costs

Usually, a semi-trailer truck equipped to handle cattle is the most economical way to move cattle. These trucks will haul from 48,000 to 52,000 pounds of cattle. Hauling rates range from \$1.75 to \$2.00 per mile. Typical current rates are about \$2.00 per mile to a custom feedlot. Shipment of cattle 300 miles with a 50,000-lb. load will add about \$1.20/cwt. to the cost of the cattle.

If you could get \$68, less three percent shrink at home, figure that you could lay your cattle into a feedlot 300 miles away for \$69.80 plus \$1.20 freight for a total of \$71.00.

Feedlot Costs

Custom cattle feeders provide feed and services for a price. Good feedlot managers can estimate how much it will cost to feed your cattle from feedlot "In Weight" to final "Pay Weight." Estimates of lot costs, excluding yardage, can be made by multiplying feed conversion ratios (given in Table 2) times the cost of feed on a 100 percent dry matter basis.

Yardage and Other Costs

Some feedlots charge a yardage fee (usually 5 cents per head per day) in addition to the feed cost. In addition to the yardage, a rancher should inquire about other fees such as processing, hay, insurance, taxes, and check-offs. Cattle producers who feed cattle in a number of custom lots report that the fees other than yardage are quite variable, ranging from zero to over \$14 per head. The fee structure should be spelled out and included in the budget.

Table 2. 100 percent Dry Matter Feed Conversions on Average Cattle Types from Pay Weight to Pay Weight, Assuming High Concentrate Rations.

Cattle	In Wght	Mrkt Wght	Conversion Ratio
Steers	500	1000	6.0
	500	1050	6.3
	600	1000	6.0
	600	1050	6.3
	700	1050	6.0
	700	1100	6.3
	700	1150	6.8
	800	1150	7.1
	800	1200	7.3
Heifers	800	1250	7.5
	900	1250	7.7
	900	1300	8.0
	500	1000	6.9
	600	1025	6.9
	700	1050	7.3
	800	1100	8.0

Some feedlot rations are priced on an "as is" basis. They may be adjusted to a zero percent moisture basis (or 100 percent dry matter) by dividing the "as is" price by the dry matter content of the ration (expressed as a decimal) If, for example, a feedlot ration containing 28 percent moisture costs \$5.40 per hundred, its zero-percent moisture cost will be $\$5.40/0.72 = \7.50 .

Medical Costs

Most healthy yearling cattle incur medical costs (including processing and implants) of \$4 to \$8 per head during feeding. Sickly calves can at times incur costs as much as \$25 per head. All good feedlots can inform a rancher of steps necessary to keep health costs to a minimum.

Death Loss

It is normal to figure one-half to one percent death loss in yearling cattle in feedlots. Cattle placed on feed during late fall and early winter are most susceptible to high losses. Death losses in calves are potentially quite high if management of the calves prior to and during shipment and receiving is lacking. Usual death losses are about three percent, with a range of about one to ten percent. Most death losses in calves can be traced back to stale-sale barn calves moved during adverse weather. If a rancher intends to feed calves, it is wise to hold the cattle 20 to 30 days following weaning before shipping. Coordinate this pre-shipment program with the feedlot's veterinarian.

Death losses that are incurred soon after arrival at the feedlot are not as costly as losses later in the feeding period. Poor gains and conversions generally accompany high death losses. A high death loss is of less significance with low-priced cattle than with high-priced cattle. Any rancher feeding his own cattle should include a provision in his budget for death losses. With

yearling cattle, experienced feeders whose average death loss is one-half percent will often feed five or six pens without a death and then lose three head out of a hundred on the next. Feedlots will notify the cattle owner of death losses and the cause of death.

Pen Sizes and Risk Sharing

Feedlot cattle are usually fed in pens of 100 to 140 head. However, many feedlots have pens as small as 25 head to as large as several hundred. Several ranchers each having 100 steers to feed may find it desirable to pool their cattle into many pens, often started on feed at different times. Each rancher may own portions of each pen. This technique helps iron out peaks and valleys in both feeder and fed-cattle prices. One drawback to this approach is that the rancher may not get specific performance and carcass information on cattle.

Cattle should be carefully sorted so that each pen has the same size and type of cattle. Cattle "type" refers to the ultimate mature size. Charolais X Hereford crosses are usually a much larger type than Hereford X Angus crosses. Many feedlot managers prefer to feed Hereford X Angus cross steers because they are usually easy to sell at top market price when finished. Some exotic cross heifers make good feeders in high plains feedlots because they finish at more desirable weight for that market than do small type heifers. Feedlots in different regions sometimes specialize in different types of cattle. Thus, by shopping around, a rancher may locate a feedlot more comfortable with a particular type of cattle.

As a rule, the more uniform that cattle are in background, type and weight, the better job the feedlot can do in terms of minimizing costs and obtaining top price. Cattle that do not grade when finished are usually destined to be overfed and to sell for discount prices.

Fed Cattle Marketing

Feedlots make no separate charge for selling a customer's cattle. They do provide market advice and will sell according to producer instructions. Feedlot cattle are usually sold at the feedlot (FOB) on actual weights less a pencil shrink (for example, 4 percent in the Southern Plains). In this case, the buyer of the cattle is responsible for the freight and any possible condemnations (i.e. carcasses lost in the plant due to disease or injury).

Sometimes it is to the cattleman's advantage to sell on a dressed weight basis ("in the beef") or on a dressed weight and grade ("grade and yield") basis. When cattle are sold in this manner, the cattle owner pays for the freight to the packing plant and also stands the risk of any condemnations. Cattle with a high dressing percentage often bring more net money to the cattleman when sold on a carcass or dressed weight basis. With "in the beef" selling, the packer/buyer takes the grading risk. When cattle are sold on a "grade and yield" basis, the cattleman benefits when cattle have both a high dressing percentage and high quality grade percentage.

Interest and Financing

Methods of financing cattle feeding ventures are quite flexible. It is usually best to use your normal sources of financing when carrying your cattle through the feedlot. If the rancher has adequate financing to cover the cattle costs throughout the period required to finish the cattle, he can usually obtain additional local financing to cover feed bills. Feedlots usually bill for feed and services twice monthly. These bills can be sent either to the owner, or, a cooperating financial agent for payment. Another option frequently available is to make arrangements to have the feedlot finance the feed bill. When this is done, feed bill and finance charges are deducted at the time cattle are sold.

It is important that the rancher check local interest rates against those of the feedlot's financing plan and select the least-costly plan. Refinancing cattle at the time they are placed on feed is another alternative. In this case, cattle are appraised for value and the owner can receive cash for the difference between their appraised value and the loan margin required by the lender. Margin amounts are dependent on the owner's financial statement, and possible risk that the lender sees in the loan. Current margins range from \$50, to as much as \$150 per head, depending on the risk to the lending agency.

Interest costs are a significant item in the cost of feeding cattle. Total interest costs may be estimated as in the following example:

- A. Cattle cost at \$300 for 120 days at 10 percent
 $\$300 \times (.10/360^a) \times 120 = \10
- B. Feed cost at \$1.50 per day for 120 days = \$180
 $\$180 \times .5^b \times (.10/360^a) \times 120 = \3

^aBankers year (360 days)

^bAssuming feed is charged when fed

Prepaid Feed

A rancher can insure himself against unexpected rises in feed costs at times by purchasing sufficient quantities of grain through a feedlot either before or at the time cattle are placed on feed. At times of uncertainty about feed supplies and feed prices, a prepurchase of feed commodities offers a hedge against rising feed prices. The cost of the prepaid feed commodities are deducted from the normal ration price at each billing period. If feeds are purchased early, interest costs on feed may be much higher depending on the timing. The above formula for estimating interest costs on feed was based on the assumption that feed is not paid for until it is fed. Most, but not all, feedlots can handle prepaid commodities through their billing system. Alternatively, the basic commodities that make up a feedlot diet (i.e., corn and soybean meal) can be hedged with futures or options contracts for price protection.

Managing Fed Cattle Price Risk

A rancher with cattle in a custom feedlot has several alternatives to help manage the price risk of future cattle

sales. The need for price-risk protection will largely depend on the rancher's cattle price outlook, before and after placing cattle on feed, and may be influenced by financing or other considerations.

Cattle on feed may be forward priced with a cash-forward contract. This may be a fixed price contract but is more often a basis contract. A basis contract specifies that cattle will be priced at a fixed level above or below the futures price for a specific futures contract month. Typically, the rancher can decide what day's futures market price will be used to fix the price of the cattle. The rancher can usually price the cattle any time between the contract date and the beginning of the futures contract month that is tied to the basis contract. If the rancher sets the price immediately, the basis contract is converted to a fixed-price contract. Cash-forward contracts usually specify the month of delivery, with the packer choosing the actual delivery date.

Until the rancher "pulls the trigger" and sets the price, a basis contract does not reduce cattle price risk. However, a rancher could buy an option in conjunction with a basis contract to set a minimum price for the cattle, and subsequently, fix the cash price at a higher level if the futures market rises before the cattle are marketed. In some cases, basis contracts also specify that the cattle owner is responsible for freight to the packing plant. In that case, the basis level in the contract should reflect both the relationship between cash and futures

prices, plus the freight cost between the feedlot and the packing plant.

A rancher may also establish an expected fixed or minimum price for the cattle by hedging the cattle with futures or options. A simple hedge with futures or options does not eliminate all market risk but replaces price risk with basis risk, which is usually lower. As noted above, a basis contract can be combined with futures or options to establish a fixed or minimum price for the cattle.

The major factor influencing a rancher's decision to use price-risk management alternatives will be the rancher's view of market outlook and the risk of price declines. However, price-risk management may affect the feasibility and/or profitability of the custom feeding enterprise by reducing the interest rate and/or equity requirements for financing feedlot cattle. Check with your lender to see if use of risk management tools will improve the financial arrangements available to you.

Steps Required to Feed Cattle

There is little justification for putting cattle on feed except to make a profit. Step one in deciding whether or not to feed cattle is to calculate either the necessary selling price to break even, or to figure potential profit. Step two pertains to arranging the financing for the cattle, feed bills, and contract margins, and to develop a reasonable cash flow so that money is available when needed.

Table 3. Feedlot Budget

#	Example	Your Values
1. Ranch weight of cattle (lbs).	= 700	_____
2. Ranch value of animals (\$/cwt).	= \$78	_____
3. Estimated shrink from ranch to feedlot (%).	= 5.5	_____
4. Transportation cost from ranch to feedlot (\$/cwt).	= \$1.2	_____
5. Laid-in cattle price. a. (\$/cwt) $\#2/(1-(\#3/100))+\#4$ b. (\$/hd) $\#5a*(\#1/100)$	= \$83.74 = \$586.18	_____ _____
6. Estimated gain (lbs/day).	= 3.25	_____
7. Estimated feed conversion (lbs feed/lb gain).	= 6.3	_____
8. Estimated days to market.	= 140 days	_____
9. Estimated final weight. $\#6*\#8+(\#1*(1-(\#3/100)))$	= 1,116.5	_____
10. Interest rate on capital (%).	= 10	_____
11. Death loss: a. _____ (%), b. (\$/hd). $\#5b*(\#12a/100)$	= \$4.40 ($\#11a=0.75$)	_____
12. Veterinary and processing costs.	= \$5.00	_____
13. Estimated feed price, 0% moisture (\$/cwt).	= \$7.25	_____
14. Estimated feed cost (\$hd). $\#6*\#7*\#8*(\#13/100)$	= \$207.82	_____
15. Yardage cost: a. _____ (\$/hd/day), b. (\$/hd). $\#8*\#15a$	= \$7.00 ($\#15a=.05$)	_____
16. Interest on cattle and vet (\$/hd). $(\#5b+\#12)*(\#10/100)*(\#8/360)$	= \$22.99	_____
17. Interest on feed and yardage (\$/hd). $(\#14+\#15b)*0.5*(\#10/100)*(\#8/360)$	= \$4.18	_____
18. Total cost per animal (\$/hd). $\#5b+\#11b+\#12+\#14+\#15b+\#16+\#17$	= \$837.57	_____
19. Pay weight: a. shrink (%) _____, b. (lbs). $\#9*(1-(\#19a/100))$	= 1,071.8 ($19a=4$)	_____
20. Break even cost. $\#18/\#19b$	= \$78.14/cwt.	_____
21. Expected selling price (\$/cwt).	= \$79.00	_____
22. Expected profit (\$/hd). $\#21-\#20*(\#19b/100)$	= \$9.22/head	_____

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