



## Managing for Today's Cattle Market and Beyond

# *Leasing Arrangements For Cattle*

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### **Introduction**

Agriculturalists have long used leasing arrangements as a means of farming or ranching with more than owned resources. Most commonly, land has been leased from others, but other resources can be acquired in a similar manner. Beef cows are leased between parties on either a cash or share of calf crop basis, but share leases seem to be predominant. Bulls, when not part of a cow share agreement, are primarily leased for cash.

Leasing arrangements may be considered in several situations. Producers can use leases, calf share in particular, to transfer ownership of cows to others over time with possibly less income tax consequences compared to an outright sale. Individuals who are forced to liquidate cow herds may use leases as a means for re-establishing a herd without needing to borrow money for capital purchase. Producers who wish to establish new or expand current cow herds might consider leases as alternatives to raising or purchasing cows.

### **Lease or Buy Cows and Bulls?**

The decision whether to buy or lease cows and bulls involves several factors in addition to cost comparison. Cost comparisons can usually ignore all costs for the cows except ownership and lease costs, provided that the cows to be leased are of similar size,

milking ability and quality to those to be raised or purchased. Comparison to raised cattle requires estimating the cost to raise a replacement heifer /bull to breeding, calving or other age, depending on when she/he would enter the herd. That cost forms the basis for comparison rather than a purchase price. Depending on the year, feed costs and replacement purchase prices, raised replacements may cost more or less than purchased.

#### **Cost Comparison**

1. Estimate ownership costs per year for purchased or raised cow or bull.

a. **Depreciation (D)** can be estimated as the difference between beginning value (BV) and cull value (CV) divided by expected years in herd (YH) or  $(BV-CV)/YH$ . For example a \$600 heifer with an expected cull value \$300 at the end of 8 years would have annual depreciation of \$37.50/cow. A \$2000 bull with an \$800 cull value and only 4 years in the herd would have annual depreciation cost of \$300.

b. **Interest on investment (I)** is usually an opportunity cost and should be figured for the average value (AV) of the cow or bull times a relevant interest rate (i).

$$\text{Average value (AV)} = (BV + CV)/2.$$

In our example suppose we use 6 percent interest rate, then  $I = i \times AV$  or  $.06 \times \$450 = \$27.00/\text{year}$  for the cow and  $.06 \times \$1400 = \$84/\text{year}$  for the bull.

c. **Death loss (DL)** is another cost of cow ownership. Death loss should be some percent of AV.

If we assume a 1% death loss, then the cost for our example is \$4.50/year for the cow and \$14/year for the bull.

**d. Property tax** may be assessed against cow and bull values in some states. In such cases these taxes should be added to the ownership cost.

**e. Total ownership costs (TO) = D + I + DL** or in the example,  $\$37.50 + 27 + 4.50 = \$69.50$ /year for the cow. The annual ownership cost for the bull would be  $\$300 + \$84 + \$14 = \$398$ . Higher cow or bull values or interest rates or a shorter depreciation period will increase the cow and bull ownership costs.

**2.** Estimate ownership costs per year per cow for bull by dividing the bull TO by number of cows served, e.g.  $\$398/30 = \$13.27$ /cow.

**3.** Compare the ownership cost of the cow with the lease cost of a cow. In situations where the bull is provided as part of the lease, add the bull ownership cost per cow to the ownership cost of the cow for comparison.

**a. Cash lease.** A cash lease for a cow (bull discussed later) is the easiest to compare to owning. In our example, we would compare the cash lease to \$69.00 without a bull or \$82.27 if the bull is provided. If the cash lease exceeds the \$82.27, then we may be ahead to purchase the cow. However, our cash flow may not permit purchase and our lender may not be willing to loan us the amount to buy cows or bulls. The cash lease might also present a cash flow problem depending on when the payment is due. If all or part is due at the beginning of the lease, it could be nearly a year before any cash is generated by the cow/calf enterprise.

The conditions of the cash lease are important to the comparison. If the cow owner stands death loss and is willing to replace infirm and open cows for reasonable reasons, then the comparison can be made straight forward and as described above. If, however, the cow owner expects payment for any death loss, then the amount of rental payment the producer should be willing to pay should be reduced by estimated death loss. Also if open cows are not replaced and the lessee is expected to feed them until the lease terminates, then the lease cost should be negotiated down by perhaps as much as 5 to 10% depending on what is a reasonable expectation for percent open.

Remember, the straight cash lease does not change during the year if cattle prices go up or down. If calf prices go up the lessee may be the primary beneficiary and the cow owner will not gain. When calf prices fall the cow owner is protected and the lessee will carry the burden of all reduced gross value

of sales.

**b. Share leases** may be a useful way to obtain capital in the form of cows and/or bulls in situations where cash or credit is limited. Comparing ownership to share leasing is more difficult than comparing to cash lease. In most share lease arrangements the cows and bulls are furnished for a share of the calf crop.

Unlike cash leases the cost to the lease and the value of the cow owner's share will change if the market price of calves goes up or down and if productivity of the cow herd changes. Cow owners usually will replace dead and unproductive cows under share rental arrangements. Cull income usually goes to the cow owner as it does with a cash lease. The producer wishing to lease cows on share basis must estimate the lease costs on terms that can be compared to ownership costs. This comparison requires the estimation of: calf weaning weights, price of weaned calves, and number of weaned calves for the cows leased. Suppose weaned calves are expected to average 500 pounds and bring \$65/cwt. But due to open cows and death loss of born and unborn calves the producer expects to wean 90 calves per 100 cows leased. Expected cost per cow leased then is the share payment (assume 30 percent) for the example times the net per cow leased. In the example, the net per cow is  $5 \times \$65 \times .9 = \$292.50$ . Cost per cow leased then is  $\$292.50 \times .30 = \$87.75$  which can be compared to the ownership cost of \$69.00 without a bull and \$82.27 with bulls. Often the cow owner will provide bulls for the same share as without the bull. Under a share lease, the cow owner shares in price risk and usually production risk.

### *Other considerations*

Productivity and quality of the leased versus owned cattle should also be considered. Producers who have improved the genetic base of their cow herds may be reluctant to bring in leased cattle unless they can be assured the quality is similar. One way of helping control quality is for the lessee to continue to provide his or her own bulls or AI service. It is important to know as much as possible about the quality of leased cattle.

Income and, in some states, property tax impacts should also be considered. Cash lease costs will be a deductible expense for income tax. All cow ownership costs may not be deductible, especially if the cows are raised replacements. The cash costs involved in raising a replacement are deducted as an expense, but the imputed interest cost (opportunity cost) may not be

deducted on income tax. Interest which is actually paid can be deducted. Purchased replacements are usually listed on a depreciation schedule. Thus, the depreciation is deducted, but again only interest actually paid is a deductible expense.

If property tax is charged on the cows, it should be added to the ownership costs discussed above. Of course in a lease situation the property tax is paid by the cow owner so that becomes a consideration in making the comparison.

If the share lease arrangement compares favorably to ownership costs, it is probably fair; however, testing a lease arrangement for fairness will help both parties be more comfortable with the arrangement. A lease that strongly favors one party over the other is not likely to last in the long run. In the long run all parties should have the opportunity to profit from the lease; otherwise, it will lead to a dissolution of the agreement.

### *Cow-Share Lease*

Even if the cow-share lease turns out to compete economically with owning cows, producers should consider other points. Those who enter such agreements must realize that they are giving up some degree of control and management now may be shared.

#### *What is Fair?*

Fairness is in the eyes of the “beholder.” What may appear fair to one may not be to another. The agreement must be fair in the eyes of **all** those agreeing to its terms if they are going to continue to do business together.

The common arrangement in an area is one way of judging fairness. A recent survey of Nebraska Sandhills ranchers (Clark and Coady, 1993) found that the typical cow owner received between 30 to 40 percent of the calf crop. The cow owner usually furnished the bulls. The rancher (lessee) provided the feed, labor, most management, and veterinary expenses.

Common does not, necessarily, mean fair. A fair share arrangement, from an economic standpoint, is one in which output is shared in the same proportion that costs for all inputs are shared. In other words, if one party provides 35 percent of the value of all inputs, then that party should get 35 percent of the output (calves). This method works reasonably well if risks associated with the agreement are quantified as costs or ignored. Production and price risk of calves is usually shared; however, the cow owner typically

bears price risk for cows. Death loss can be quantified as a cow-owner cost. Because of this additional risk for the cow owner, Feuz et al. argue that cow owners' share should exceed their percentage contribution to total costs.

#### *Determining relative contributions*

The procedure for determining relative contributions of the contracting parties seems quite simple, but that can be misleading. The economic value of the inputs contributed by each party are added and then divided by the **total** value of **all** inputs (Robb et al., 1989). The more difficult part is valuing various inputs. For example, what is the value of a cow? The cow owner and lessee may or may not agree, but it is an important number for determining the cow owner's contribution. The rate of return the cow owner should receive is also an important determinant of the owner's contribution and could be a point for discussion. The evaluation of the contributions by the lessee is also critical. Some resources, especially labor, can easily be double counted. Inputs such as hay and grazing should be valued at their opportunity cost. When this is done the contribution of labor and land is already valued so labor for hay harvesting, for example should not be counted again. Clark (1995) and Robb et al. (1989) provide a more detailed discussion of the process of valuing inputs and testing the fairness of the agreement.

### *Cash Leases for Bulls*

#### *Cost comparisons*

Bulls may be leased separate from cows and when this occurs they are usually leased for cash payment. A producer should compare the bull ownership costs as described above with the cash rental rate for the bulls. In addition quality and health factors should be considered.

One major difference between bulls leased as part of a cow or calf share arrangement and bulls leased outright for cash pertains to the length of time a bull must be cared for. Bulls leased for cash are usually on the lessee's premises for only the length of the breeding season. This arrangement reduces the feed and care costs of the bull compared to owning the bull. The reduced feed and care costs should be estimated and used to reduce the lease cost when comparing to ownership. For example, if the bull is not around during the winter, no hay or protein supplement will be needed so costs could be reduced easily by \$100 per bull per year just through reduced feed.

Bulls leased for cash are often replaced by the

bull owner if the bull is injured, dies or becomes unacceptable for some other reason. If the lessor has adequate bulls of the needed breed and quality this type of replacement guarantee can be an important advantage. In addition the lease fee will be deductible on income tax whereas only part of the ownership costs may be deductible as discussed above.

### *Other considerations*

Ideally, only virgin bulls should be added to the bull battery for the cow herd. When leasing bulls, this may not always be an option. Virgin bulls minimize the risk of introducing venereal diseases into the herd. The two common venereal diseases (spread by breeding) are vibriosis (campylobacteriosis) and trichomoniasis. These diseases can reduce pregnancy rates by 20-30 percent and result in many late bred, as well as open cows. Other diseases and breeding soundness are potential considerations. A bull breeding soundness examination should be done yearly, 1 to 2 months prior to the breeding season. This should be provided by the bull leasing firm. The best advice would be to discuss bull leasing with your veterinarian. He or she can contact the veterinarian in charge of the herd health of the bull leasing firm to evaluate the herd health program and help you consider the pros and cons of bull leasing for your cow herd.

While health and economic issues are keys to the lease decision, other important questions should be considered. Are EPDs available for the leased bulls? Can you pick the bulls? Are appropriate breeds available year after year to match your breeding program?

## *References and Other Share Lease Sources*

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