



Leasing Beef Cows for a Profit

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Introduction

As we enter into this next beef price cycle, leasing or renting beef cows has been at an all-time high. Investors are expressing interest in owning beef cows and working ranchers are looking for alternative ways to finance beef cow expansion.

One way for an investor to capture some of the economic profits from beef cows is to own the cows and lease them to a working farmer or rancher. The working farmer or rancher, in turn, provides the labor and feed to operate the beef cow herd but does not need to provide investment capital.

A leasing or sharing arrangement allows these two business people to share the production costs and, in turn, share the beef cow income. A question that quickly surfaces, however, is, what would be an equitable beef cow leasing agreement?

This fact sheet will show you one way to determine an equitable beef cow leasing agreement.

Determining What Is An Equitable Leasing Agreement

The theoretical procedure for determining an equitable beef cow share agreement is really quite simple. An equitable beef cow share agreement is one in which the two parties share the calf income in the same proportion that they share the production costs. If the cow owner provides 25 percent of the production costs of operating the beef cow herd, and if the participating rancher provides 75 percent of the production costs, then the beef cow owner should receive 25 percent of the total calf income and the participating rancher should receive 75 percent of the calf income.

Expenses can be shared in many different ways. In some cases the cow owner provides the cows, the bulls, and sometimes even the summer pasture. Typically, however, the owner of the cows provides only the cows and the replacement heifers, and the participating rancher provides all of the rest of the resources. Each equitably shared arrangement should be tailored to the two participants' unique resource contributions.



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Include All Income From The Beef Cow Herd In The Agreement

Although in a typical lease the equity question relates mainly to the sharing of the calf crop, it is important to note that "all" the income from the herd should be accounted for--not just, as is frequently done, the calf income. A beef cow enterprise can generate income from five sources: steer calf sales, heifer calf sales, cull cow sales, open yearling heifer sales, and cull bull sales. Inventory change can even be a sixth income source. (Inventory change can be positive or negative.) An equitable sharing agreement has to ensure that all potential income sources are taken into account. Each party needs to clearly understand the total income potential of the herd.

Projecting The Full Costs of Production

An equitable beef cow share agreement should be based around the projected full costs of production. Full costs should include all resources employed in the beef cow enterprise, including the enterprise's direct costs and the opportunity costs for the working rancher's labor and management, and the equity capital of both parties. Cow depreciation should be included in place of replacement heifer costs (more on this later).

The projected direct-cost projection for an example cow herd selling 1994 calves is presented in Table 1. The projected cost of feeding this North Dakota beef cow herd from weaning 1993 until weaning 1994 is \$130 for the fall and winter feed plus another \$65 for summer pasture. This gives the total projected feed cost of \$195 per cow. Add vet and medicine at \$11 per cow, utilities at \$4 per cow, power and fuel at \$7 per cow, marketing at \$8 per cow, and miscellaneous at \$3 per cow to get a projected non-feed direct cost of \$32 per cow. Cow depreciation is projected at \$64 $((\$800-\$352)/7)$ per cow. Bull depreciation is projected at \$12 per cow, and another \$4 per cow debt interest cost on capital investment debt is assigned to the cow herd. After accounting for equipment and building repairs and insurance, the total of these projected direct costs of operating this cow herd comes to \$336 per cow.

Table 1. Projected full-cost budget for a beef cow weaning a calf in 166 cow herd.

	Units	Price	Total Costs
FALL AND WINTER FEED PER COW:			
Gr_Hay	1.88 TONS	\$50.00	\$94
Protein	38 LBS	\$220.00	\$4
Min&salt	37 LBS	\$320.00	\$6
Grain	.00 BU	\$1.10	\$0
Alf_Hay	.12 TONS	\$60.00	\$7
Straw	.94 TONS	\$20.00	\$19
Crop After math	0 DA	\$.10	\$0
Total Fall & Winter Feed Costs			\$130
SUMMER GRAZING COSTS:			
Pasture for cows	6 AUMS	\$10.00	\$60
Pasture for rep hfrs	.00 AUMS	\$10.00	\$0
Summer mineral and	32 LBS	\$320.00	\$5
Total Summer Grazing Costs			\$65
TOTAL FEED COST			\$195
LIVESTOCK COSTS:			
Vet & Medicine			\$10.74
Fly Tags			\$0.00
Bull Semen Check (\$0.00)			\$0.00
Worm cows & heifers			\$0.00
Utilities & general farm expense			\$4.06
Power & fuel			\$6.60
Miscellaneous			\$2.64
Bedding			\$0.00
Marketing			\$7.92
Livestock costs less breeding			\$32.00
Bull Depreciation and Insurance Cost:			\$12
Interest Cost (OP plus debt) \$4			
Fixed Expenses (excluding interest):			
Buildings (d,i,r)	7%	\$20,000	\$9
Equipment (d,i,r)	13%	\$15,000	\$13
Cattle Ins & Dep	9%	XXXXXX	\$72
Taxes on cattle	0%	XXXXXX	\$0
Total			\$93
TOTAL COSTS (Excluding labor, management, & equity capital)			\$336

The second step in setting up an equitable beef cow share agreement is to calculate the opportunity costs of selected resources provided by both parties (see Table 2). In this example herd, the eight hours of labor required per cow was calculated at \$8 per hour, management charge was calculated at 5 percent of gross income, and the charge for equity capital was valued at 8 percent of fair market value of assets. When the labor cost of \$64, management charge of \$28 and equity capital charge of \$89 is added in, the full-cost budget comes to \$516 per cow (Table 2).

Table 2. Opportunity costs for selected resources.

Labor Charge:	8.00 hrs @	\$8.00	\$64.00
Management Charge:	5% of gross	\$26.96	
Capital Investment:	8%		
Cows	XXXXXX	\$800	\$64.00
Rpl Hfrs	XXXXXX	\$0	\$0.00
Bull(s)	XXXXXX	\$14,000	\$7.18
Buildings	156 HD	\$20,000	\$10.26
Equipment	156 HD	\$15,000	\$7.69
Total equity capital interest cost			\$89.13
Full Cost of Production			\$516
Unit Full-Costs of Product			6.06 CWTs/Cow \$85
Percent Contribution			100%

Table 3 presents the projected total income for the example beef cow herd. This herd had 191 females (156 mature cows plus 35 replacement heifers) exposed to bulls the summer before. Fifteen exposed females were sold without pregnancy checking, reducing the SPA adjusted females exposed to 176 females. Out of this 176 females, pregnancy checking removed 10 more head so that 166 were kept and wintered. The 166 wintered cows produced 162 live calves at weaning. Eight calves died before weaning so that 154 live calves were weaned. This calculates to an 88 percent calf crop (154/176) based on live calves weaned per females exposed. This 88 percent calf crop is calculated according to the National IRM-SPA Guidelines.

The 154 calves were split evenly between heifers and steers. Twenty-one cows and two of the eight bulls were culled this year. The total income per cow is projected to be \$539 per cow. Table 4 presents a detailed description of the example herd.

The third step in setting up an equitable beef cow share agreement is to allocate each resource cost to the party that will pay that particular production cost. Each member of the agreement can contribute any combination of resources as long as at least one party agrees to cover each and every production cost.

Table 3. Gross revenue for single cow herd¹.

Cash Flow ²		Receipts		Economic Output
\$38308	77 Steer Calves	559 pounds	\$.89 /lb =	\$38,308
\$34151	77 Hfr Calves	528 pounds	\$.84 /lb =	\$34,151
\$9923	21 Cull cow	1050 pounds	\$.45 /lb =	\$9,923
\$0	0 Cull heifers	800 pounds	\$.74 /lb =	\$0
\$1728	2.00 Cull Bulls	1800 pounds	.48 /lb =	\$1,728
Beg. Inventory \$142000	End Inventory \$142000	Change=>		\$0
xxxxx Capital Gains/Loss	_____ cows & _____ bulls			\$_____
\$84110	Total Income Per Herd	100%		\$84110
\$539	Total Income Per Cow	calf %		\$539

¹This herd consisted of 191 females exposed to the bull at breeding time; however, 15 exposed cows were sold off with our pregnancy checking. The remaining 176 cows are SPA adjusted females exposed in this herd. Out of these 176 females exposed, the 166 pregnant checked cows were wintered. The 166 wintered cows produced 164 calves of which 8 died. This left 154 live calves at weaning for a calf crop of 88 percent (154/176). This 88 percent calf crop is calculated according to the National IRM-SPA Guidelines.

²Cash flow income does not need to equal economic income. It will be different if there is an inventory change and/or capital gains income is received from the sale of cull breeding animals.

Table 4. Description of example beef cow herd.

166 Head Spring Calving Cow Herd			
No Repl Heifers	35 Head	Cow Death Rate	1%
Calf Weaning Age	187 Days	Cow Culling Rate	13%
Steer Wean Weight	579 Pounds	Heifer Conception Rate	89%
Heifer Wean Weight	548 Pounds	Percent Calf Crop	88%
Feed Included For	166 Cows	Calf Transit Shrink	4%
and	35 Rpl Hfrs	Rpl Heifers	Raised
Number of Bulls	8 Head	Calving Distribution	Herd Ave
Cows On Pasture For	168 Days	Days On Aftermath	0
Calf Wt/Day Age	3.03 Pounds	Cows Wormed?	No

An Example Equitable Share Agreement

Let's evaluate a typical cow lease situation where the investor furnishes the cows, the bulls and the replacement heifers. The participating rancher provides the feed, labor and management. The direct-cost budget (Table 1) suggests that the direct cost of running this study herd is \$336 per cow and that the projected full cost of operating this beef cow herd totals \$516 per cow (Table 2).

Once the total costs are determined, the next step is to allocate each and every cost to one of the two participants. Costs can also be shared between the two parties. This cost allocation is best done by adding in two more columns on the direct-cost budget—one for the cow owner and one for the working rancher (see Table 5). Each resource cost is then allocated to the party that is going to pay that cost. When the cost items are allocated item by item to the cow owner or the participating rancher, the cost contributions are defined by the percent that the total of the two columns is of the total cost column (see Table 5a on page 6).

The owner of the beef cow herd represented in Table 5a is projected to contribute 29 percent of the full cost and the participating rancher is projected to contribute 71 percent of the full cost. This suggests that an equitable share agreement would be one where the cow owner receives 29 percent of the calf income plus all the cull cow income and all of the cull bull income. The participating rancher should receive 71 percent of the calf income.

If all calf income in this herd is shared in this 29-71 proportion, the owner of the cows is projected to receive \$221 per cow—\$140 from the sale of calves and \$80 cull sales income from the cow and bull investments (see Table 6). The working rancher is projected to receive \$343 per cow from calf sales.

In terms of total income, the cow owner gets 39 percent of all income and the working rancher gets 61 percent, even though the calf crop is to be shared 29-71. We are frequently finding that cattlemen are sharing the calf crop 40-60. Cull cow, cull open heifer and cull bull income goes to the party that provides the investment capital.

Alternative Equitable 29-71 Arrangements

Frequently working ranchers prefer to take their income in steer calves and cow owners prefer to take their income in heifer calves. There is frequently a tax advantage for the cow owner to take heifer calves, breed them and put them back out on shares without having a cash taxable income. A second 29-71 share agreement based on calves only is where the owner of the cows receives the cull cow income, cull bull income and all of their calf income from heifers (see Table 7). In this equitable agreement, the working rancher would get all of the steer calves and 30 percent of the heifer calves. The cow owner would get all the cull animal income and 70 percent of the heifer calves.

As illustrated, there are many different 29-71 share arrangements possible. It's up to the two parties to pick a share arrangement that is equitable and that they are both satisfied with.

Cull Cow Income Versus Cost Of Replacement Heifers

Calf crop sales may account for only 75-80 percent of the total income per cow in a cow herd that raises its own replacements. The remaining 20 to 25 percent of the cow herd's income typically comes from cull cows,

cull open heifers and cull bulls. Cull cows account for the biggest share of the cull animal income. Managers who buy replacements will have more calves to sell, so that cull cow sales are a smaller part of total income. Regardless of the size of cull cow income, it should be shared in the same proportion as the costs of replacement heifers are shared.

Table 5. Projected full-cost budget for a beef cow.

	Units	Price	Total Costs	% Age	Owner of Cows	Working Rancher
FALL AND WINTER FEED PER COW FOR A 166 COW HERD:						
Gr_Hay	1.88 TONS	\$50.00	\$94	0%	\$.00	\$94
Protein	38 LBS	\$220.00	\$4	0%	\$.00	\$4
Min&salt	37 LBS	\$320.00	\$6	0%	\$.00	\$6
Grain	.00 BU	\$1.10	\$0	0%	\$.00	\$0
Alf_Hay	.12 TONS	\$60.00	\$7	0%	\$.00	\$7
Straw	.94 TONS	\$20.00	\$19	0%	\$.00	\$19
Crop After math	0 DA	\$.10	\$0	0%	\$.00	\$0
Total Fall & Winter Feed Costs			\$130		\$.00	\$130
SUMMER GRAZING COSTS:						
Pasture for cows	6 AUMS	\$10.00	\$60	0%	\$.00	\$60
Pasture for rpl hfrs	.00 AUMS	\$10.00	\$0	0%	\$.00	\$0
Summer mineral and	32 LBS	\$320.00	\$5	0%	\$.00	\$5
Total Summer Grazing Costs			\$65		\$.00	\$65
TOTAL FEED COST			\$195		\$.00	\$195
LIVESTOCK COSTS:						
Vet & Medicine			10.74	0%	\$.00	\$10.74
Fly Tags			\$.00	0%	\$.00	\$.00
Bull Semen Check (\$.00)			\$.00	0%	\$.00	\$.00
Worm cows & heifers			\$.00	0%	\$.00	\$.00
Utilities & general farm expense			\$4.06	0%	\$.00	\$4.06
Power & fuel			\$6.60	0%	\$.00	\$6.60
Miscellaneous			\$2.64	0%	\$.00	\$2.64
Bedding			\$.00	0%	\$.00	\$.00
Marketing			\$7.92	0%	\$.00	\$7.92
Livestock costs less breeding			\$32		\$.00	\$32
Bull Depreciation and Insurance Cost:			\$12	100%	\$12	\$0
Interest Cost (OP Plus debt)			\$4	0%	\$0	\$4
Fixed Expenses (Excluding Interest):						
Buildings (d,i,r)	7%	\$20,000	\$9	0%	\$0	\$9
Equipment (d,i,r)	13%	\$15,000	\$13	0%	\$0	\$13
Cattle Ins & Dep	9%	XXXXXX	\$72	100%	\$72	\$0
Taxes on cattle	0%	XXXXXX	\$0	100%	\$0	\$0
Total			\$93		\$72	\$21
TOTAL COSTS (Excluding labor, management, & equity capital)			\$336		\$84	\$252

Table 5a continued

	Units	Price	Total Costs	%Age	Owner of Cows	Working Rancher
Labor Charge:	8.00 hrs @	\$8.00	\$64.00	0%	\$.00	\$64.00
Management Charge:	5% of gross		\$26.96	0%	\$.00	\$26.96
Investment Capital:	8%					
Cows	XXXXXX	\$800	\$64.00	100%	\$64.00	\$.00
Rpl Hfrs	XXXXXX	\$0	\$.00	100%	\$.00	\$.00
Bull(s)	XXXXXX	\$14,000	\$7.18	100%	\$7.18	\$.00
Buildings	156 HD	\$20,000	\$10.26	0%	\$.00	\$10.26
Equipment	156 HD	\$15,000	\$7.69	0%	\$.00	\$7.69
Total equity capital interest cost			\$89.13		\$71.18	\$17.95
Full-Cost of Production			\$516		\$155	\$361
Unit Full-Costs of Product	6.06 CWTS/COW		\$85		\$26	\$60
Percent Contribution			100%		30%	70%

Table 6. 29-71 equitable share agreement.

Economic Income/Cow from 166 cows:			Total Herd	%Age to Owner	Owner of Cows	Working Rancher
.49 head steer	559 LB	\$89.00	\$246	30%	\$74	\$172
.49 head hfr	528 LB	\$84.00	\$219	30%	\$66	\$153
.13 cull cow	1050 LB	\$45.00	\$64	100%	\$64	\$0
.00 cull hfr	800 LB	\$74.00	\$0	100%	\$0	\$0
.01 cull bull	1800 LB	\$48.00	\$11	100%	\$11	\$0
inventory change	\$0		\$0	30%	\$0	\$0
			\$539		\$214	\$325
					40%	60%

Table 7. Alternative 29-71 equitable share agreement.

Economic Income/Cow from 166 cows:			Total Herd	%Age to Owner	Owner of Cows	Working Rancher
.49 head steer	559 LB	\$89.00	\$246	0%	\$0	\$246
.49 head hfr	528 LB	\$84.00	\$219	64%	\$139	\$80
.13 cull cow	1050 LB	\$45.00	\$64	100%	\$64	\$0
.00 cull hfr	800 LB	\$74.00	\$0	100%	\$0	\$0
.01 cull bull	1800 LB	\$48.00	\$11	100%	\$11	\$0
			\$539		\$214	\$325
					40%	60%

A typical cow lease arrangement is where the cow owner provides replacement heifers. In this case, the cow owner should also get all cull cow income as a partial repayment for the original capital investment. The remaining original capital investment is covered by depreciation costs included in the cow owner's contribution portion of the full-cost production expenses.

Depreciation can be calculated as follows:

$$\text{Depreciation} = \frac{(\text{Purchase Cost} - \text{Projected Salvage Value})}{\text{Projected Years Cow Is In The Herd}}$$

where salvage value is the projected value of cull cows at the time that the cows are culled from the leased herd. When depreciation is calculated this way, all cull cow income goes to the cow owner. The total price risk associated with the value of the cull cow when culled is absorbed totally by the cow owner.

A second way to handle the cow owner's original investment repayment is to have both lease parties share cull cow income. This can be done by calculating depreciation with a zero salvage value and letting depreciation account for the total original investment cost of the cow; i.e., use a zero salvage value. This way a larger portion of the original cow investment is repaid to the cow owner each year the cow is in the herd. In this type of an arrangement, cull cow price risk is shared by both parties. Depreciation, in this case, should be calculated as:

$$\text{Depreciation} = \frac{(\text{Purchase Cost} - \text{Zero Salvage Value})}{\text{Projected Years for Cow In The Herd}}$$

When depreciation is calculated this way, all cull cow income is shared in proportion to expense contributions. Very few leasing arrangements, however, utilize this second approach.

A third leasing arrangement is where the replacement heifers are raised inside the leased beef cow enterprise, resulting in the cost of the replacement heifers being shared by both parties. Depreciation should go back to the previous method that includes a salvage value. The cull cow income, in this case, should be shared by the parties in proportion to their total herd expense contributions. Our experience to date has been that this leasing arrangement is messy, at best, and frequently leads to inequitable leasing arrangements.

In summary, we recommend that the replacement heifers be handled outside of the leased enterprise. We recommend the cow owner provide all replacement heifers. This is the most common arrangement and seems to be the easiest to ensure equitability. Regardless of how the income is shared, income tax capital gains or losses from the cow investment should go to the cow owner.

Final Comments

Two final cautions to any two business people entering into a beef cow share agreement: First, these agreements should be in writing and the written contract should clearly identify all of the specifics agreed upon. Participants are advised to cover all production costs, death losses and exactly how the business agreement will be terminated. It is a lot easier to work out the share agreement details before the agreement is signed than to work out an agreement after an emergency or business disagreement occurs.

It should also be pointed out that any two business people can enter into any legal agreement which both parties agree to, even if it is not equitable. The important thing to remember is that the two parties should agree on the terms of the business agreement and that the specifics need to be spelled out in writing.

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