



Beef Cow Leasing Arrangements

Leasing or sharing arrangements between farm operators and property owners are being used more in farm operations today than ever before. This system has long been used to acquire control of land. In recent years, leasing has become more common for machinery and livestock acquisition.

Purpose of Rental Arrangements

Farming requires control of large amounts of capital if the farm operator is to have adequate net income for a comfortable living. It is very difficult, if not impossible, for farm operators to acquire adequate capital without borrowing. Leasing livestock is a form of borrowing capital. However, rather than borrow from a bank or lending institution, the operator borrows from another individual or firm. This way the farm operator acquires the use of capital and pays a rental fee or shares the costs and returns of the operation.

Share-Leasing Beef Cows Advantages to Operator

Leasing beef cows on a share basis can have definite advantages for both parties. Some advantages for the operator include:

1. Making use of working capital without going into debt for breeding stock.
2. Sharing the risk of the operation with the owner.
3. Obtaining capital over and above the limits of credit agencies.
4. Borrowing capital at a fair rate of interest. (This assumes the lease is equitable!)
5. Permitting an increase in the volume of business.
6. Getting started in livestock production for the beginning operator.
7. Providing more efficient utilization of labor if the operator is underemployed.

Advantages to Owner

Leasing can also be advantageous for the livestock owner. Some of these advantages include:

1. Allowing an owner to maintain a breeding herd, even though labor cannot be provided.
2. Providing a source of rental income.
3. Providing an opportunity for returns on capital investment.
4. Providing a means of transferring ownership over a period of time.
5. May have income tax and social security advantages.

What is a Fair Sharing Agreement?

In developing a lease, owners and operators generally want an arrangement that is fair to both parties. As a rule, share arrangements are considered fair or equitable if the shares received by the parties involved are approximately the same as the contributions (i.e. income is shared the same as costs are contributed). It is best if an owner and operator can work together in determining their respective contributions. They might work independently at first, then iron out any differences.

Determining Sharing Arrangements

Three factors need to be determined for an equitable share-leasing arrangement.

1. Costs to be included.
2. Costs to be contributed by each party and costs to be shared.
3. Percent of costs contributed by each party.

When these three factors are determined, the owner and operator should share income in the same proportion as they contribute to the operation. Some production expenses, such as veterinary and drugs, may be shared. Any expenses shared in the same proportion as income are not listed as contributions since they do not affect the relative contributions. However, these costs will affect cash

flow and profitability analyses, so they can be listed in the shared expense section.

The leasing agreement should be evaluated occasionally to assure an equitable arrangement over time. Fluctuating prices can cause the proportion of contributions to shift. This could be caused by changes in interest rates, feed costs, value of breeding stock, or labor and management.

A key principal to remember when developing a cow herd lease is to **KEEP IT SIMPLE!** A beef cow lease should only involve the beef cows and bulls. The leasing of other items—pasture, hay land, machinery, etc. should be a separate agreement. The time and effort spent developing a simple, straight forward, and equitable arrangement in the beginning will be rewarded with better relations between owner and operator and a more efficient beef-cow enterprise.

Determining Costs to be Included

Actual farm records are an excellent place to start when determining the basic input items and costs that should be considered when developing a beef-cow lease. Standard budget worksheets (Form 1) or computer programs can also be used. These are especially helpful when working out a lease agreement for the first time.

Cow herd costs can be calculated in one of two forms: herd totals or per cow unit basis. Total herd figures are sometimes easier to obtain from farm records, but the parties must be sure cost items are based on the same number of cows that will be in the lease. For this reason, it is often recommended costs be calculated on a per cow unit basis. A cow unit is the cow, her calf, her share of the bull, and her share of a replacement heifer when replacements are raised within the lease. For example, if there are 100 cows in the herd and both the owner and operator agree that 15 heifers need

to be retained each year, then 15 percent of the per-heifer development costs should be entered into the cow unit cost budget. Likewise, the costs associated with bull ownership and management should be adjusted by the bull-to-cow ratio.

A short explanation of each cost item listed in Form 1 may help in arriving at an equitable arrangement.

Livestock Ownership

Interest on the average value of cows represents the investment contribution of the owner. The interest rate used should be between the rate that could be earned if money were invested in other alternatives (opportunity cost) and the rate for borrowed capital.

Depreciation on cows is a contribution of the owner if he/she is responsible for purchasing or raising the replacements outside the lease. Total depreciation is the difference between the market value of the cow when she is placed in the herd and her salvage value when she is removed from the herd. To arrive at the annual depreciation, total depreciation is divided by the number of years the cow is expected to remain in the herd. When replacement heifers are raised within the lease, these costs are included in the production inputs and are not eligible for depreciation.

Interest and depreciation on bulls are computed the same as for cows. The annual cost of the bull is divided by the number of cows served each year to determine the cost to be allocated against each cow.

Taxes on livestock are the amount of personal property tax (if any) on the cows and bulls.

Cow insurance or death loss should be considered a contribution of the owner. The cost of insuring the cow is typically used, but death loss can be substituted when the owner "self-insures" (does not buy insurance). Cow insurance or death loss is usually computed at 0.5 to 1 percent of the average value of the cow.

Livestock Machinery and Buildings

Interest and depreciation on buildings and equipment used in the livestock operation is a contribution of the party who owns the buildings or equipment.

The value of buildings and machinery used in the beef-cow enterprise varies from operation to operation. The method to evaluate these investments varies from current market value to cost of replacement value.

Current market value is the estimated price that these items would bring if sold within six months and is used to calculate depreciation. Depreciation is calculated by dividing the investment by the years of remaining life of the investment. The remaining years' life will be shorter for existing machinery or buildings compared to if they were new. Current market value typically represents the average investment. Newer items will be added occasionally to maintain the current value. Interest is charged on the average investment.

Cost basis is used for records and income taxes and represents an accounting value as opposed to a market value. Cost is the cash "boot" plus the undepreciated basis of any trade-in item. Depreciation is calculated by dividing the cost basis by the expected useful life of the item purchased. Used machinery or buildings would have a shorter useful life than new items. The average investment would be the cost basis plus salvage value divided by two. Interest is charged against the average value.

Replacement value is based on the purchase price and expected salvage value of a new machine or building that would replace a current item. Depreciation would be calculated by subtracting the salvage value from the purchase price and dividing by the useful life of the new machine or building. The average investment would be purchase price plus salvage value divided by two. Interest is on the average investment.

Different methods can yield different annual contributions depending on current fair-market value, salvage value, and years of life used in the calculations. This bulletin uses the current market value method to calculate depreciation and interest. Schedules A and B can be used to estimate the machinery and building investment used in livestock production.

Livestock machinery and equipment would include tractors, wagons, trucks, trailers, loaders, manure spreaders, big bale spears, hay feeders, feed bunks, mineral feeders, and handling facilities used in feeding, handling, and observing livestock. Machinery and equipment does not include hay or silage harvesting equipment.

Taxes and insurance on buildings and equipment are the costs for taxes and insurance incurred against property used for livestock during the year. These costs range from 1 to 2 percent of the current value of buildings and equipment.

Repairs on buildings and equipment is the cost of maintaining buildings, equipment, and fences used for livestock production. Repairs average 2.5 to 4 percent of new costs on an annual basis.

Pasture

The land charge for pasture can be calculated two ways: a) landowner's ownership costs or b) cash rental value. Ownership costs include a return on land investment plus real estate taxes. A fair market value for agricultural purpose is placed on the land and multiplied by the long-range rate of return to land (4 to 6 percent) to calculate the annual contribution. Real estate taxes are actual costs. The rental value for the landowner is the amount the property could be rented for to someone else. If the land is being rented by the party providing it, then the contribution is the actual cost of rent. Rental rates may be quicker and easier to use if there is an established market for pasture in the area. Sched-

ule C can be used to calculate the number of acres of pasture needed per cow unit.

Feed and Other Expenses

Hay, silage, and other raised feed should be valued at long-run market prices. Market value is the price that could be received if the product were sold instead of used on the farm. Cost of production could be used in a whole farm lease agreement; however, market values are generally used because they are simpler to calculate. It is recommended that long-run market values be used for all raised feed for the beef cow herd share agreement. NOTE: The landowner should receive credit for hay, silage, and/or grain fed that is raised under a separate crop-share lease arrangement.

Protein and mineral should be valued at market value. It is generally recommended protein and mineral be furnished by the same party providing the hay and forage so there will be no conflict concerning winter rations.

Veterinary and drug expenses may be contributed by either party, or they may be shared the same as the income is shared. When shared the same as income, they are not listed as a contribution. (See section on shared and unexpected expenses.)

Fuel and oil costs would be for feeding, hauling, and observing livestock.

Truck expenses, including repairs, license, insurance, interest, and depreciation, should be prorated to the cow herd if the truck is not included in the livestock machinery and equipment. Hired trucking and marketing generally are shared, because they are often deducted from sales.

Utilities and miscellaneous costs should include water, electricity, telephone, postage, dues, and fees that are chargeable to the cow herd.

Labor is a contribution of the party who provides it. If labor is hired, its cost is the actual cost to the party who pays for it. If labor is furnished by one or both parties, then labor should be valued at the going rate as though it had been hired. Labor required per cow per year will vary with the size of the herd. For herds of less than 30 cows, 10 to 15 hours per cow per year may be required. Large herds will require 5 to 6 hours per cow per year. An additional allowance would be required if replacements are raised within the lease rather than purchased. Figure 1 can be used to estimate labor requirements.

Management of the cow herd should be the responsibility of both parties. The owner of the cows should decide, in consultation with the operator, which cows to cull and which heifers to keep for replacements. The owner, along with the operator, should decide on bulls to use that will

maintain or improve the herd quality. The operator should be responsible for the day-to-day decisions involved in managing the cow herd to produce maximum returns. Management can be valued at .5 to 1 percent of capital managed or 5 to 10 percent of value of production. Schedule D can be used to calculate a management charge.

Shared and Unexpected Expenses

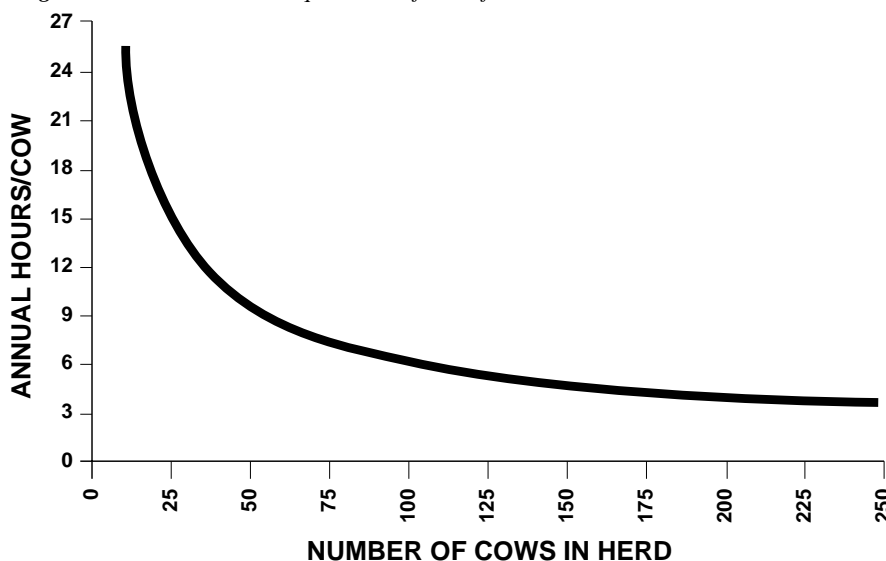
Unexpected expenses such as additional feed during a blizzard or drought, catastrophic health problems, and other irregular items should be shared, because they are periodic and hard to predict. If shared, unexpected expenses do not change the percent contribution of either party when they occur.

Production-increasing expenses may be shared the same as income. That way both parties benefit in proportion to their expense. Examples of production increasing expenses include, but are not limited to, antibiotics, implants, and creep feed. Even though shared expenses do not affect relative contributions, they should be calculated for a total cost estimate that can be used for cashflow and profitability analysis. These costs can be entered on Form 1, part 4.

Total Costs

Total costs may concern parties about the profitability of the cow herd operation. This is the risk each party assumes. If returns per cow exceed total costs per cow, each party will get full value for all costs plus a “profit.” If returns are less than total costs, then each party will not receive full value for their contribution. However, this does not mean that each party does not benefit from the operation. There are benefits such as capital gain advantages and pride of ownership realized by the owner. There may also be advantages for the operator in the use of hard-to-market feed and off-season labor.

Figure 1. Estimated labor requirements for beef cowherds



Determine Contributions of Each Party

After the annual contribution for all production inputs have been determined (Form 1, column 1), costs are allocated to the party who contributed that input (columns 2 and 3). If a certain input factor is provided by both parties, it is prorated to each. Form 1 can be expanded to include more than two parties if needed. As noted earlier, the value of homegrown grains and forages raised on land owned by one party and farmed by the other party would need to be prorated based on the crop-share agreement. When the allocations are completed, the inputs are added to determine the total contribution by each party.

Determining Percent Contributed by Each Party

To determine the percent contributed by each party, divide the amount contributed by the total contribution of all parties. Expenses to be shared should be shared in these same

percentages. If a specified share is desired, contributions can be adjusted so that each party contributes a predetermined share.

Determining Income

Value of production is shared in the same proportion as costs are shared. Value of production may or may not be the same as sales. When replacement heifers or cows are purchased or provided from other sources outside the lease, value of production equals total calf sales. Calf sales are shared based on the percent contribution. However, when replacement heifers are retained and not sold, their estimated value plus calf sales equals value of production. Total value of production is shared based on the percent contribution.

The method of providing replacement cows or heifers has a major impact on items that are considered as contributions and on how cash income is shared. The following are two ways for calculating contribution and four ways of sharing income based on how

replacement cows or heifers are provided. In all cases, cull bull income would go to the party that provided the bull(s).

1. Replacements not raised as part of the lease. Depreciation and death loss are part of the owner's contribution.

1a. Replacements purchased by owner. All calves are sold and proceeds are split based on contributions. Cull cow sales go to the owner and the owner provides replacements. This is the simplest and most clear-cut method.

1b. Replacements kept but raised in separate operation. A market value is placed on the replacement heifers as if they were sold. When the remaining calves are sold, 1) the operator and owner share all calf sales, and the owner purchases the operator's share of the replacement heifers; or 2) the operator receives a higher percentage of cash sales because the cow owner receives the replacement heifers as a share of income. In either case, the operator's income equals operator percent-

Illustration—KEEP IT SIMPLE

Keep Cow Lease and Pasture Lease Separate

SPECIAL CASE

Situation: Dad has 30 cows and a bull and owns enough pasture for this size of herd. Dad wants to retire, so he and Son develop a beef-cow share-lease agreement. Dad buys replacements. After five years, Dad wants to gradually get out of cow ownership. How is the lease structured?

Example 1. Son cash rents all pasture from Dad and develops a 75 percent (Son)—25 percent (Dad) share arrangement. Based on Example Form 1, livestock investment equals 25 percent of contributions. When Dad starts reducing his herd, he has fewer cows to lease. Son adds his own cows to fill the pasture. Share stays at 25 percent—75 percent.

Year	Dad's cows	Share	Son's cows
1st-5th	30	75-25	0
6th	25	75-25	5
7th	20	75-25	10
10th	5	75-25	25
11th	0		30

Example 2. Dad and Son develop a 55 percent (Son)—45 percent (Dad) lease agreement. Based on Example Form 1, livestock investment equals 25 percent and pasture equals 20 percent of contributions for a total of 45 percent. When Dad starts reducing his herd, he cash rents excess pasture to Son. Lease stays 45 percent—55 percent with fewer cows leased each year.

Year	Dad's cows	Share	Son rents pasture for his cows (head)
1st-5th	30	55-45	0
6th	25	55-45	5
7th	20	55-45	10
10th	5	55-45	25
11th	0		30

age share times the sum of cash sales and the value of replacement heifers. The cow owner would receive all cull cow income, would own the replacement heifers, and be responsible for the cost of growing them to maturity.

2. Replacements raised as part of lease. Depreciation and death loss are not part of the owner's contribution. The cow owner has a smaller share of contributions unless other adjustments are made.

2a. Share value of production of calves (calf sales + value of replacement heifers). This method is the same as 1b except the cow owner's share of contribution and receipts would be smaller.

Owner's cost would be lower because the cost of growing the replacement heifers is included in contributions. The cow owner would own the replacement heifers and would receive all cull cow sales.

2b. Share all sales. All calf and cull cow sales would be shared based on percent contribution. Cow sales are substituted for the value of replacement heifers. This method is simpler and works well when cull cows are about equal in value as heifers and the size of the herd stays the same. The owner has less capital sales and more ordinary income.

A beef-cow share-leasing arrangement that is FAIR, EQUITABLE, and SIMPLE can be very satisfactory for all parties. The worksheets in this bulletin and supporting schedules can be used to determine the value of contributions and percentages for sharing income. A companion computer program is also available that can be used to estimate the equitable share rent and cash rents.

The computer program can be ordered from Kevin C. Dhuyvetter, Extension Agricultural Economist, Northeast, 1515 College Avenue,

Manhattan, KS 66502-2796. Phone, 913-532-5833; FAX, 913-539- 9384; E-mail, KDhuyvet@oznet.ksu.edu.

Cash Leasing Beef Cows

Cash leasing is common with pasture, less so for crop ground and less yet for livestock. However, some people will want to consider a cash lease.

Advantages Compared to Share Lease:

Operator

- Provides the operator full control and responsibility for management.
- Allows operator to benefit from above-average prices and production.

Owner

- Provides a fixed income without any operating expenses.

Disadvantages Compared to a Share Leases:

Operator

- Assumes full production and price risk.

Owner

- Gives up potential income from above average price and production.

Terms of the Lease

For the cash lease, the cow owner furnishes a set of bred cows or heifers to the operator for a set period of time for a predetermined lease price. The operator receives the livestock, cares for and manages them, keeps the calf crop, and returns the cows to the owner at the end of the lease. The lease may be for one or more years. In a multi-year agreement, the cow owner is responsible for providing replacement cows, or the leased herd could become smaller and smaller over the years from death loss and cull sales.

Additional details need to be agreed upon before a lease is signed. Some of these are the condition of the cows when returned, breeding program, death loss, and veterinary cost for the cows. If the lease is for one year only, the cow owner would furnish the bull because the operator-tenant would not

have any benefit from the next year's calf crop. If the lease is for more than one year, the operator-tenant would probably provide the bull to control the genetics of the next calf crop.

Determining the Cash Rental Rate

Cash rental rates can be determined three ways:

1. Livestock ownership costs.
2. Livestock owner net share rent.
3. Operator's net return to livestock.

Livestock Ownership Costs

Ownership costs are the same as discussed in the share lease section. They are depreciation, interest on investment, insurance or death loss, and personal property taxes, if any. Section 1 of Form 2 can be used to calculate ownership costs.

Livestock Owner's Net Share Rent

Net share rent for the livestock owner is the owner's share of value of production less shared expenses and a risk adjustment. The net share rent is adjusted for risk because the owner no longer has any production or price risk (Form 2, Section 2).

Operator's Net Return to Livestock

Operator's net return to livestock is the value of production minus the operator's production expenses. The net return to livestock represents what the operator could pay as a maximum given the estimated costs. Form 2, Section 3, can be used to calculate the operator's costs and net return to livestock.

Cash Rental Rate

Evaluation of the three rates can provide an opportunity for discussion and negotiation to determine a fair and acceptable cash rental rate.

Cash rental rates need to be reevaluated on a regular basis. Cattle prices can change significantly from year to year, changing the return to fixed assets. Because risk is not shared between owner and operator, the lease may need to be reevaluated or changed to a share arrangement.

Beef Cow Share Lease Agreement Worksheet—Per Cow

A. Production Input

- Replacements Purchased or Raised Outside of Lease
 Replacements Raised within Lease

Total Contribution	
	Operator	Owner

1. Livestock Investment

Depreciation:*

Cow (\$ <u>750</u> market value – \$ <u>460</u> salvage) ÷ <u>6</u> years =	\$ <u>48</u>	\$ _____	\$ <u>48</u>
Bull (\$ <u>1800</u> market value – \$ <u>900</u> salvage) ÷ <u>3</u> years ÷ <u>25</u> number cows/bulls =	<u>12</u>	_____	<u>12</u>

Interest:

Cow \$ <u>605</u> average investment** × <u>9</u> % interest =	<u>54</u>	_____	<u>54</u>
Bull \$ <u>1350</u> average investment × <u>9</u> % interest ÷ <u>25</u> number cows/bulls =	<u>5</u>	_____	<u>5</u>

Taxes and Insurance:

Cow \$ <u>605</u> average investment × <u>1.0</u> % interest =	<u>6</u>	_____	<u>6</u>
Bull \$ <u>1350</u> average investment × <u>1.0</u> % interest ÷ <u>25</u> number cows/bulls =	<u>1</u>	_____	<u>1</u>

Death Loss: \$ 659 average value × 1.0% =

	<u>7</u>	_____	<u>7</u>
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*Do not include cow depreciation if replacements are raised within the lease.

**Average investment = (market value + salvage value) ÷ 2

2. Livestock Machinery and Building Investment (Beef Cow Share)

Depreciation on machinery: \$ <u>182</u> investment/cow ^A ÷ <u>12</u> years =	<u>15</u>	<u>15</u>	_____
Interest in machinery: \$ <u>182</u> average investment × <u>9</u> % interest =	<u>16</u>	<u>16</u>	_____
Depreciation on buildings: \$ <u>170</u> investment/cow ^B ÷ <u>20</u> years =	<u>9</u>	<u>9</u>	_____
Interest in buildings: \$ <u>170</u> average investment × <u>9</u> % interest =	<u>15</u>	<u>15</u>	_____
Taxes and insurance on buildings and machinery \$ <u>352</u> @ <u>.5</u> % =	<u>2</u>	<u>2</u>	_____

3. Pasture, Feed, and Other Expenses (List only if not shared the same as income.)

- a. Return to Land Investment (4% to 6%)

Pasture: \$ _____ per acre × _____ acre/cow unit^C × _____ % return = _____

Taxes: \$ _____ per acre × _____ acre/cow unit = _____

- b. Cash Rental Value

Pasture: <u>7.4</u> acre/cow unit ^C @ <u>14.60</u> /acre =	<u>108</u>	<u>108</u>	_____
Hay ^C : <u>1.37</u> tons/cow unit @ \$ <u>55</u> /ton =	<u>75</u>	<u>75</u>	_____
Silage ^C : _____ tons/cow unit @ \$ _____ =	_____	_____	_____
Crop Residue ^C : _____ lbs/cow unit @ \$ _____ =	_____	_____	_____
Grain ^C : _____ lbs/cow unit @ \$ _____ =	_____	_____	_____
Protein ^C : <u>187</u> lbs/cow unit @ \$ <u>117/T</u> =	<u>11</u>	<u>11</u>	_____
Salt and Minerals: <u>60</u> lbs/cow unit @ \$ <u>16/cwt</u> =	<u>10</u>	<u>10</u>	_____
Veterinary, drugs, etc.: @ \$ _____ =	_____	_____	_____
Fuel and oil for feeding, hauling, and observing @ \$ <u>12</u> =	<u>12</u>	<u>12</u>	_____
Utilities and miscellaneous @ \$ <u>13</u> =	<u>13</u>	<u>13</u>	_____
Repairs on machinery and equipment @ \$ <u>22</u> =	<u>22</u>	<u>22</u>	_____
Repairs on buildings and fences @ \$ <u>5</u> =	<u>5</u>	<u>5</u>	_____
Labor: <u>8.1</u> hours @ \$ <u>8</u> /hour =	<u>65</u>	<u>65</u>	_____
Operating interest (sum of pasture, feed, other \$ <u>321</u> ÷ 2) @ <u>9</u> % =	<u>14</u>	<u>14</u>	_____
Management ^D : \$ <u>28</u> =	<u>28</u>	<u>21</u>	<u>7</u>

B. TOTAL CONTRIBUTION	\$ <u>553</u>	\$ <u>413</u>	\$ <u>140</u>
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C. PERCENT	\$ <u>100.0</u> %	\$ <u>74.7</u>	\$ <u>25.3</u>
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4. Shared Expenses

<u>Veterinary and Drugs</u>	\$ <u>10</u>	\$ <u>7.47</u>	\$ <u>2.53</u>
_____	\$ _____	\$ _____	\$ _____

D. TOTAL SHARED EXPENSES	\$ <u>10</u>	\$ <u>7.47</u>	\$ <u>2.53</u>
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E. TOTAL EXPENSE (B + D)	\$ <u>563</u>	\$ <u>420.47</u>	\$ <u>142.53</u>
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^{A-D}Lettered superscript designates the supplemental detailed schedule that can be used to calculate the input value.

Schedule A

Livestock Machinery and Equipment Investment (Do not include hay or silage production equipment.)

Machine	Market Value	% to Beef Cows	Beef Cow Investment
Tractor	\$ 12,000	25	\$ 3,000
Pickup Truck	15,000	15	2,250
Hay Feeders	300	100	300
Bale Spear	250	100	250
Manure Loader	300	100	300
Manure Spreader	500	100	500
Scraper	300	100	300
Gooseneck Trailer	2,200	100	2,200
TOTAL	\$ 30,850	XXXX	\$ 9,100
Number of cows		÷	50
INVESTMENT PER COW		=	\$ 182

Schedule B

Livestock Buildings, Feed Storage, and Fence Investment

Building	Market Value	% to Beef Cows	Beef Cow Investment
Barn	\$ 5,000	100	\$ 5,000
Hay Barn	2,500	100	2,500
Corrals	1,000	100	1,000
TOTAL	\$	XXXX	\$ 8,500
Number of cows		÷	50
INVESTMENT PER COW		=	\$ 170

Feed Requirements Per Cow Unit

- Replacements Purchased or Raised Outside of Lease
 Replacements Raised within Lease

1. Pasture

Acres per cow and calf 7.1 × 1 unit = 7.1
 Acres per replacement heifer _____ × _____% replacement = _____
 Acres per bull 7.1 ÷ 25 number of cows/bull = .3
 TOTAL PASTURE ACRES PER COW UNIT 7.4

2. Hay

Pounds/day/cow and calf 22 × 120 number of days ÷ 2,000 = 1.32
 Pounds/day/heifer _____ × _____ number of days ÷ 2,000 × _____% replacement = _____
 Pounds/day/bull 22 × 120 number days ÷ 2,000 ÷ 25 number cows/bull = .05
 TOTAL TONS OF HAY PER COW UNIT 1.37

3. Silage

Pounds/day/cow and calf _____ × _____ number of days ÷ 2,000 = _____
 Pounds/day/heifer _____ × _____ number of days ÷ 2,000 × _____% replacement = _____
 Pounds/day/bull _____ × _____ number days ÷ 2,000 ÷ _____ number cows/bull = _____
 TOTAL TONS OF SILAGE PER COW UNIT _____

4. Crop Residue

Pounds/day/cow and calf _____ × _____ number of days = _____
 Pounds/day/heifer _____ × _____ number of days × _____% replacement = _____
 Pounds/day/bull _____ × _____ number days ÷ _____ number cows/bull = _____
 TOTAL POUNDS OF RESIDUE PER COW UNIT _____

5. Grain

Pounds/day/cow and calf _____ × _____ number of days = _____
 Pounds/day/heifer _____ × _____ number of days × _____% replacement = _____
 Pounds/day/bull _____ × _____ number days ÷ _____ number cows/bull = _____
 TOTAL POUNDS OF GRAIN PER COW UNIT _____

6. Protein

Pounds/day/cow and calf 2 × 90 number of days = 180
 Pounds/day/heifer _____ × _____ number of days × _____% replacement = _____
 Pounds/day/bull 2 × 90 number days ÷ 25 number cows/bull = 7
 TOTAL POUNDS OF PROTEIN PER COW UNIT 187

Estimated Management Charge

Method 1. Capital Managed

Breeding Herd Investment Per Cow:

Market Value: Cow \$ 750 + (Bull 1,800 ÷ 25 number of cows/bull) \$ 822

Machinery and Equipment Investment Per Cow, Schedule A 182

Building and Fence Investment Per Cow, Scheduled B 170

Land Investment Per Cow 7.4 acre/cow × \$ 315 /acre 2,331

Total Capital Managed Per Cow \$ 3,505

Management Charge (typically .5 to 1.5%) .75 %

Management Charge Per Cow \$ 26.29

Method 2. Value of Production

Steers 550 lbs/head × 50% × 93 % calf crop¹ @ \$84/cwt = \$ 214.83

Heifers 525 lbs/head × 50% × 93 % calf crop¹ @ \$79/cwt = 192.86

Cull Cows² _____ lbs/head × _____ % replacement rate @ \$ _____ = _____

Value of Production Per Cow \$ 407.69

Management Charge (typically 5 to 10%) 7.5 %

Management Charge Per Cow \$ 30.58

¹Percent calf crop raised in a typical year

²Include cull cows only if cull income is shared (type 2b) and reduce heifer percentage by percent replacement.

Example: (50% – 15% replacement = 35% heifers.)

Method 3. Average of Capital Managed and Value of Production

Management Charge Per Cow – Capital Managed = \$ 26.29

Management Charge Per Cow – Value of Production = \$ 30.58

Total \$ 56.87 ÷ 2 = \$ 28.43

Beef Cow Cash Lease Worksheet—Per Cow

1. Livestock Ownership Cost

Depreciation:

Cow \$ <u>750</u> market value – \$ <u>460</u> salvage ÷ <u>6</u> years	= \$ <u>48</u>
Bull (\$ <u>1800</u> cost – \$ <u>900</u> salvage) ÷ <u>3</u> years ÷ <u>25</u> number cows/bull	= \$ <u>12</u>

Interest:

Cow \$ <u>605</u> average investment* × <u>9</u> % interest =	= \$ <u>54</u>
Bull \$ <u>1350</u> average investment* × <u>9</u> % interest ÷ <u>25</u> number cows/bull	= \$ <u>5</u>

Taxes and Insurance:

Cow \$ <u>605</u> average investment* × <u>1.0</u> % =	= \$ <u>6</u>
Bull \$ <u>1350</u> average investment* × <u>1.0</u> % ÷ <u>25</u> number cows/bull	= \$ <u>1</u>

Death Loss: \$ <u>659</u> average investment × <u>1.0</u> % =	= \$ <u>7</u>
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OWNERSHIP COST PER COW PER YEAR

\$ 133

*Average investment equals (cost or market value + salvage value) ÷ 2

2. Livestock Owner's Net Share Rent

Value of production ^D \$ <u>408</u> × <u>25.3</u> % owner share (from Form 1)	= \$ <u>103</u>
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Less equitably shared expenses per head	– \$ <u>3</u>
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NET SHARE RENT <u>100</u>	= \$ <u>100</u>
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Reduction for risk, net share rent \$ <u>100</u> × <u>10</u> % risk (5 to 10%)	– \$ <u>10</u>
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NET SHARE RENT REDUCED FOR RISK	= \$ <u>90</u>
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3. Operator Net Return to Livestock

Value of Production	\$ <u>408</u>
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Costs

Pasture ^c <u>7.4</u> acre/cow × \$ <u>14.60</u> /acre	= \$ <u>108</u>
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Hay ^c <u>1.37</u> tons/cow × \$ <u>55</u> /ton	= \$ <u>75</u>
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Silage ^c _____ tons/cow × \$ _____/ton	= \$ _____
---	------------

Crop residue ^c _____ lbs/cow × \$ _____	= \$ _____
--	------------

Grain ^c _____ lbs/cow @ \$ _____	= \$ _____
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Protein ^c <u>187</u> lbs/cow @ \$ <u>115</u> /T	= \$ <u>11</u>
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Salt and mineral <u>60</u> lbs/cow × \$ <u>16</u> /cwt	= \$ <u>10</u>
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Veterinary and drugs @ \$ _____	= \$ _____
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Fuel and oil @ \$ <u>12</u>	= \$ <u>12</u>
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Utilities and Miscellaneous @ \$ <u>13</u>	= \$ <u>13</u>
--	----------------

Repairs on machinery and equipment @ \$ <u>22</u>	= \$ <u>22</u>
---	----------------

Repairs on buildings and fences @ \$ <u>5</u>	= \$ <u>5</u>
---	---------------

Labor <u>8.1</u> hours @ \$ <u>8</u> /hour	= \$ <u>65</u>
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Operating interest (sum of pasture to labor \$ <u>321</u> ÷ 2) × <u>9</u> %	= \$ <u>14</u>
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Management ^D : \$ <u>28</u>	= \$ <u>28</u>
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Depreciation on machinery: \$ <u>182</u> investment/cow ^A ÷ <u>12</u> years	= \$ <u>15</u>
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Interest on machinery: \$ <u>182</u> average investment × <u>9</u> % interest	= \$ <u>16</u>
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Depreciation on buildings: \$ <u>170</u> investment/cow ^B ÷ <u>20</u> years	= \$ <u>9</u>
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Interest on buildings: \$ <u>170</u> average investment × <u>9</u> % interest	= \$ <u>15</u>
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Taxes and insurance on buildings and machinery \$ <u>352</u> @ <u>.5</u> %	= \$ <u>2</u>
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TOTAL COST	\$ <u>420</u>
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AVAILABLE FOR RENT	\$ <u>-12</u>
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^{A-D}Lettered superscript designates the supplemental detailed schedule that can be used to calculate the input value.

Beef Cow Share Lease Agreement Worksheet—Per Cow

A. Production Input

- Replacements Purchased or Raised Outside of Lease
- Replacements Raised within Lease

	•••• Contribution ••••	
Total	Operator	Owner

1. Livestock Investment

Depreciation:*

Cow (\$ _____ market value – \$ _____ salvage) ÷ _____ years = \$ _____ \$ _____ \$ _____

Bull (\$ _____ market value – \$ _____ salvage) ÷ _____ years
 ÷ _____ number cows/bulls = _____ _____ _____

Interest:

Cow \$ _____ average investment** × _____% interest = _____ _____ _____

Bull \$ _____ average investment × _____% interest
 ÷ _____ number cows/bulls = _____ _____ _____

Taxes and Insurance:

Cow \$ _____ average investment × _____% interest = _____ _____ _____

Bull \$ _____ average investment × _____% interest
 ÷ _____ number cows/bulls = _____ _____ _____

Death Loss: \$ _____ average value × _____% = _____ _____ _____

*Do not include cow depreciation if replacements are raised within the lease.

**Average investment = (market value + salvage value) ÷ 2

2. Livestock Machinery and Building Investment (Beef Cow Share)

Depreciation on machinery: \$ _____ investment/cow^A ÷ _____ years = _____ _____ _____

Interest in machinery: \$ _____ average investment × _____% interest = _____ _____ _____

Depreciation on buildings: \$ _____ investment/cow^B ÷ _____ years = _____ _____ _____

Interest in buildings: \$ _____ average investment × _____% interest = _____ _____ _____

Taxes and insurance on buildings and machinery \$ _____ @ _____% = _____ _____ _____

3. Pasture, Feed, and Other Expenses (List only if not shared the same as income.)

- a. Return to Land Investment (4% to 6%)

Pasture: \$ _____ per acre × _____ acre/cow unit^C × _____% return = _____ _____ _____

Taxes: \$ _____ per acre × _____ acre/cow unit = _____ _____ _____

- b. Cash Rental Value

Pasture: _____ acre/cow unit^C @ _____/acre = _____ _____ _____

Hay^C: _____ tons/cow unit @ \$ _____/ton = _____ _____ _____

Silage^C: _____ tons/cow unit @ \$ _____ = _____ _____ _____

Crop Residue^C: _____ lbs/cow unit @ \$ _____ = _____ _____ _____

Grain^C: _____ lbs/cow unit @ \$ _____ = _____ _____ _____

Protein^C: _____ lbs/cow unit @ \$ _____ = _____ _____ _____

Salt and Minerals: _____ lbs/cow unit @ \$ _____ = _____ _____ _____

Veterinary, drugs, etc.: @ \$ _____ = _____ _____ _____

Fuel and oil for feeding, hauling, and observing @ \$ _____ = _____ _____ _____

Utilities and miscellaneous @ \$ _____ = _____ _____ _____

Repairs on machinery and equipment @ \$ _____ = _____ _____ _____

Repairs on buildings and fences @ \$ _____ = _____ _____ _____

Labor: _____ hours @ \$ _____/hour = _____ _____ _____

Operating interest (sum of pasture, feed, other \$ _____ ÷ 2) @ _____% = _____ _____ _____

Management^D: \$ _____ = _____ _____ _____

B. TOTAL CONTRIBUTION \$ _____ \$ _____ \$ _____

C. PERCENT \$ _____ \$ _____ \$ _____

4. Shared Expenses

_____ \$ _____ \$ _____ \$ _____

_____ \$ _____ \$ _____ \$ _____

D. TOTAL SHARED EXPENSES \$ _____ \$ _____ \$ _____

E. TOTAL EXPENSE (B + D) \$ _____ \$ _____ \$ _____

^{A-D}Lettered superscript designates the supplemental detailed schedule that can be used to calculate the input value.

Schedule A

Livestock Machinery and Equipment Investment (Do not include hay or silage production equipment.)

Machine	Market Value	% to Beef Cows	Beef Cow Investment
	\$		\$
TOTAL	\$		\$
Number of cows		÷	
INVESTMENT PER COW		=	\$

Schedule B

Livestock Buildings, Feed Storage, and Fence Investment

Building	Market Value	% to Beef Cows	Beef Cow Investment
	\$		\$
TOTAL	\$		\$
Number of cows		÷	
INVESTMENT PER COW		=	\$

Feed Requirements Per Cow Unit

- Replacements Purchased or Raised Outside of Lease
 Replacements Raised within Lease

1. Pasture

Acres per cow and calf _____ × 1 unit = _____

Acres per replacement heifer _____ × _____% replacement = _____

Acres per bull _____ ÷ _____ number of cows/bull = _____

TOTAL PASTURE ACRES PER COW UNIT _____

2. Hay

Pounds/day/cow and calf _____ × _____ number of days ÷ 2,000 = _____

Pounds/day/heifer _____ × _____ number of days ÷ 2,000 × _____% replacement = _____

Pounds/day/bull _____ × _____ number days ÷ 2,000 ÷ _____ number cows/bull = _____

TOTAL TONS OF HAY PER COW UNIT _____

3. Silage

Pounds/day/cow and calf _____ × _____ number of days ÷ 2,000 = _____

Pounds/day/heifer _____ × _____ number of days ÷ 2,000 × _____% replacement = _____

Pounds/day/bull _____ × _____ number days ÷ 2,000 ÷ _____ number cows/bull = _____

TOTAL TONS OF SILAGE PER COW UNIT _____

4. Crop Residue

Pounds/day/cow and calf _____ × _____ number of days = _____

Pounds/day/heifer _____ × _____ number of days × _____% replacement = _____

Pounds/day/bull _____ × _____ number days ÷ _____ number cows/bull = _____

TOTAL POUNDS OF RESIDUE PER COW UNIT _____

5. Grain

Pounds/day/cow and calf _____ × _____ number of days = _____

Pounds/day/heifer _____ × _____ number of days × _____% replacement = _____

Pounds/day/bull _____ × _____ number days ÷ _____ number cows/bull = _____

TOTAL POUNDS OF GRAIN PER COW UNIT _____

6. Protein

Pounds/day/cow and calf _____ × _____ number of days = _____

Pounds/day/heifer _____ × _____ number of days × _____% replacement = _____

Pounds/day/bull _____ × _____ number days ÷ _____ number cows/bull = _____

TOTAL POUNDS OF PROTEIN PER COW UNIT _____

Estimated Management Charge

Method 1. Capital Managed

Breeding Herd Investment Per Cow:

Market Value: Cow \$ _____ + (Bull _____ ÷ _____ number of cows/bull) \$ _____

Machinery and Equipment Investment Per Cow, Schedule A _____

Building and Fence Investment Per Cow, Scheduled B _____

Land Investment Per Cow _____ acre/cow × \$ _____/acre _____

Total Capital Managed Per Cow \$ _____

Management Charge (typically .5 to 1.5%) _____%

Management Charge Per Cow \$ _____

Method 2. Value of Production

Steers _____ lbs/head × 50% × _____% calf crop¹ @ \$ _____ = \$ _____

Heifers _____ lbs/head × 50% × _____% calf crop¹ @ \$ _____ = _____

Cull Cows² _____ lbs/head × _____% replacement rate @ \$ _____ = _____

Value of Production Per Cow \$ _____

Management Charge (typically 5 to 10%) _____%

Management Charge Per Cow \$ _____

¹Percent calf crop raised in a typical year

²Include cull cows only if cull income is shared (type 2b) and reduce heifer percentage by percent replacement.

Example: (50% – 15% replacement = 35% heifers.)

Method 3. Average of Capital Managed and Value of Production

Management Charge Per Cow – Capital Managed = \$ _____

Management Charge Per Cow – Value of Production = \$ _____

Total \$ _____ ÷ 2 = \$ _____

Beef Cow Cash Lease Worksheet—Per Cow

1. Livestock Ownership Cost

Depreciation:

Cow \$ _____ market value – \$ _____ salvage ÷ _____ years = \$ _____

Bull (\$ _____ cost – \$ _____ salvage) ÷ _____ years ÷ _____ number cows/bull = \$ _____

Interest:

Cow \$ _____ average investment* × _____ % interest = \$ _____

Bull \$ _____ average investment* × _____ % interest ÷ _____ number cows/bull = \$ _____

Taxes and Insurance:

Cow \$ _____ average investment* × _____ % = \$ _____

Bull \$ _____ average investment* × _____ % ÷ _____ number cows/bull = \$ _____

Death Loss: \$ _____ average investment × _____ % = \$ _____

OWNERSHIP COST PER COW PER YEAR \$ _____

*Average investment equals (cost or market value + salvage value) ÷ 2

2. Livestock Owner's Net Share Rent

Value of production^D \$ _____ × _____ % owner share (from Form 1) = \$ _____

Less equitably shared expenses per head = \$ _____

NET SHARE RENT _____ = \$ _____

Reduction for risk, net share rent \$ _____ × _____ % risk (5 to 10%) = \$ _____

NET SHARE RENT REDUCED FOR RISK = \$ _____

3. Operator Net Return to Livestock

Value of Production \$ _____

Costs

Pasture^C _____ acre/cow × \$ _____/acre = \$ _____

Hay^C _____ tons/cow × \$ _____/ton = \$ _____

Silage^C _____ tons/cow × \$ _____/ton = \$ _____

Crop residue^C _____ lbs/cow × \$ _____ = \$ _____

Grain^C _____ lbs/cow @ \$ _____ = \$ _____

Protein^C _____ lbs/cow @ \$ _____ = \$ _____

Salt and mineral _____ lbs/cow × \$ _____ = \$ _____

Veterinary and drugs @ \$ _____ = \$ _____

Fuel and oil @ \$ _____ = \$ _____

Utilities and Miscellaneous @ \$ _____ = \$ _____

Repairs on machinery and equipment @ \$ _____ = \$ _____

Repairs on buildings and fences @ \$ _____ = \$ _____

Labor _____ hours @ \$ _____/hour = \$ _____

Operating interest (sum of pasture to labor \$ _____ ÷ 2) × _____ % = \$ _____

Management^D: \$ _____ = \$ _____

Depreciation on machinery: \$ _____ investment/cow^A ÷ _____ years = \$ _____

Interest on machinery: \$ _____ average investment × _____ % interest = \$ _____

Depreciation on buildings: \$ _____ investment/cow^B ÷ _____ years = \$ _____

Interest on buildings: \$ _____ average investment × _____ % interest = \$ _____

Taxes and insurance on buildings and machinery \$ _____ @ _____ % = \$ _____

TOTAL COST \$ _____

AVAILABLE FOR RENT \$ _____

^{A-D}Lettered superscript designates the supplemental detailed schedule that can be used to calculate the input value.

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