



# Calculating the Cost of Production for a Cow-Calf Operation

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**C**ost of production is a key piece of information needed to make the best economic decisions when selling animals. When calculated, the cost of production helps you to determine the minimum price you need to get for your calves to avoid losing money. If the price the buyer pays is less than your cost of production, you will lose money.

The price you receive is determined by how much buyers are willing to pay. If you are the only seller and there are many buyers, you likely have the power to set your price higher than your cost of production. But the market for calves here and on the U.S. mainland generally has more sellers than buyers. Sellers often must compete with one another, giving buyers more choice in picking which seller's calves to buy. In this type of market, the price that buyers are willing to pay is likely to be closer to the seller's cost of production.

When a seller can control a market and set the price, it often attracts competition. Sellers with a large share of the market should always expect new sellers to emerge or existing sellers to become more competitive. Unfortunately, such "seller's market" conditions are not often found in Hawaii's livestock industry today. Most cow-calf operations in Hawaii do not get a per-pound price for calves that is significantly higher than the cost of production. In fact, some operations may make little or no profit. To navigate such market conditions *and* keep your operation going, knowing your cost of production becomes critically important.

Long before you have calves to sell, you need to compare the price you are likely to be offered with your cost of production to make sure you can cover your costs. This way, if your costs will not be covered, you will have time to make changes.

This publication details the information needed to calculate cost of production for a cow-calf operation. It also presents a calculator that runs on Microsoft Excel and uses information you supply to figure the cost of producing a calf. The information needed by the calculator is described, and blank worksheets are provided for making notes. You can enter your information into the Excel calculator yourself, after you download it from our website, or you can ask a Cooperative Extension Service agent to assist you in entering the data. If you do not have Excel and do not wish to purchase it, you can use the calculator provided on our website, which does not require Excel. The website address is [www.ctahr.hawaii.edu/paniolo](http://www.ctahr.hawaii.edu/paniolo), and the site also provides contact information for CES county offices. You can also complete the calculations yourself, using the information and formulas on the worksheets.

## Identifying your costs

You will need to collect information about costs associated with herd and pasture management, including pasture infrastructure improvement and upkeep, maintenance of herd health and genetics, transportation, and marketing efforts. Most of the information can come from your operation's Form 1040 Schedule F for last year. You may also need to use your financial statement, spend some time adding up the hours spent running your operation, or confer with other producers or suppliers.

A full year of information is needed to complete the calculator. This guide is written as if you will be using last year's information. However, if it is late in the year, you could use this year's information and get a more up-to-date summary. We recommend that you calculate your cost of production every year so you can track your progress.

Two costs that are often overlooked are the cost of your time spent working in the operation and the cost of your investment. These two costs should be paid from the operation's profits. Your business will not automatically cover these costs unless you determine what they are and include them in your calculations. Ordinarily, you would not work for free or invest in a company without any returns. However, the cost of your time and your investment are not costs that an accountant would recognize. These costs are economic costs associated with putting your time and money into your own business, instead of the next-best opportunity. Unlike accountants, economists call these costs *opportunity costs* and feel that they should be included in your cost of production estimates.

To estimate the cost of using your money in your operation, you first need to determine how much you have invested in the operation. You can get that information from a balance sheet prepared by your accountant or estimate it yourself. You must then decide how much your investment is expected to earn. If you were to invest your money in a savings account rather than in your cow-calf operation, your money would earn very little, maybe only 2–3 percent a year. If you invest your money in a S&P-500 stock index mutual fund, you would have earned an average of 10.4 percent a year over the past 40 years (J. Waggoner, "IRS tables tell you how much you need in retirement," *The Honolulu Advertiser*, October 14, 2000). Only you can decide if you want to earn as much investing in your own operation as you would expect to earn from investing in someone else's business. You must decide what your next-best opportunity is, that is, where you would invest your money if you were not putting it into your own operation, and then use that rate as the rate you might expect to earn. The cost calculator will tell you if you are earning what you wanted on your investment. If you find that you are not making the amount you wanted, you can change the rate and run the calculator again.

To pay yourself for your time, you will need to know how much time you spend running the operation. If others, such as family members, also work as unpaid employees, then their time should also be included. Next, you must determine what wage rate you feel is appropriate. In setting the wage rate, you might think about what it would cost to hire someone to do the work that you do, if you hired someone to replace you. The Ha-

waii Agricultural Statistics reported that in 2002 the average wage rate for farms is \$11.07 per hour.

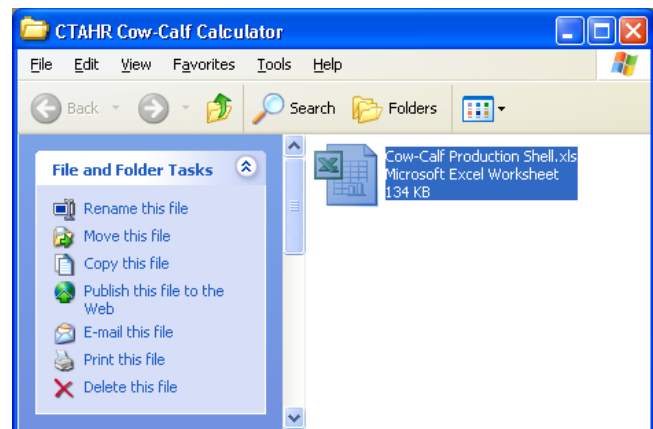
Once you have identified your costs, you are ready to start entering the information into the cost-of-production calculator. The next section explains how to use the calculator.

### Using the calculator

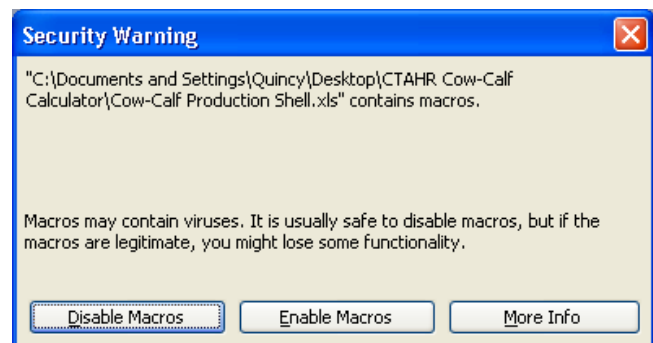
The Excel cow-calf cost of production calculator is set up as a spreadsheet program so it can do all the calculations for you. You will need to be familiar with the basic concepts of Excel or a similar spreadsheet program in order to use it. The first thing you should be aware of is the difference between a *worksheet* and a *workbook*.

- **Worksheet:** The primary document that you use in Excel to store and work with data. A worksheet consists of cells that are organized into columns and rows.
- **Workbook:** A workbook is used to store two or more worksheets.

To open the calculator workbook, double-click on the icon labeled "Cow-Calf Production Shell.xls" :



Excel will ask you to enable macros with the following dialog box. Please click *Enable Macros*.



The Cow-Calf Production Shell consists of six worksheets that must be followed in a specific order. The six worksheets, in order, are:

1. Ranch Information
2. Ranch Costs
3. Cow Herd Information
4. Operator Labor and Capital Investment
5. Returns
6. Cost of Production

In the next section of this publication, each worksheet is provided, along with a line-by-line explanation. At the bottom of the workbook, the names of each worksheet are labeled in consecutive order (i.e., Ranch Information, Ranch Costs, etc.). These worksheet tabs help you move between the worksheets.

Some of the cells do not require that you enter information, because the information is optional. The optional information is useful and important, but it is detailed, so you will have to spend more time to collect that information. Other cells have default values, based on previous information, and this value will appear in the cell. If you do not want to use the default value, you can change it. Again, more detailed information will produced a better estimate for you.

After adding the required information to the first worksheet, go on to the next worksheet. You can go to the next worksheet by either (1) clicking the black arrow at the bottom of the page or (2) single-clicking on the worksheet tab.

Of the six worksheets, only the first four require data from you. Worksheets five and six, titled *Returns* and *Cost of Production*, summarize and analyze the information you have submitted. Please remember that the analysis is only as good as the information you have entered. If you forget something or want to change something, you can go back to the worksheet and change the information. The summary information will help you check your entries for accuracy.

### Acknowledgment

This work was supported by a USDA CSREES Special Grant, Hawaii Agricultural Diversification 2003—New Crop/Product Development and Marketing, no. 2003-34172-12400.

## Ranch Information Worksheet

### Livestock information from the beginning of last year:

Number of cows: Enter the number of mature breeding cows in your herd.

Average cow weight: Enter the average weight of your mature breeding cows.

Number of breeding bulls: Enter the number of breeding bulls in your herd.

Number of other bulls: Enter the number of other bulls in your herd.

Number of horses: Enter the number of horses you owned and used in your cow-calf operation last year.

Value of horses (\$/head) (optional): Enter the value of the horses used in your operation last year.

Ranch Information	
<b><u>Livestock Information</u></b>	
Number of cows:	75
Average cow weight:	900
Number of breeding bulls:	4
Number of other bulls:	0
Number of horses:	2
Value of horses (\$/head):	\$ 2,350.00

### Calf information for calves raised last year:

#### Steer calves

Number of steer calves marketed: Enter the number sold last year.

Average sale weight of steer calves (lb): Enter the average calf weight at point of sale.

Sale price of steer calves (\$/lb): Enter the average price you receive last year.

Steer calf return is calculated for you.

Number of steer calves retained: Enter the number you kept as replacements last year.

Average weaning weight (lb): Enter the average weight for the replacements you kept last year. If you retained steer calves and you do not enter a number here, the sale weight you entered for your steer calves will be used.

Average value of steer calves (\$/lb): Enter the average weight for the replacement you kept last year. If you retained steer calves and you do not enter a number

here, the sale price you entered for your steer calves will be used.

Value of retained steer calves is calculated for you.

### Heifer calves

Number of heifer calves marketed: Enter the number sold last year.

Average sale weight of heifer calves (lb): Enter the average calf weight at point of sale.

Sale price of heifer calves (\$/lb): Enter the average price you receive last year.

Heifer calf return is calculated for you.

Number of heifer calves retained: Enter the number you kept as replacements or stockers last year.

Average weaning weight (lb): Enter the average weight for the replacement heifers you kept last year. If you retained heifer calves and you do not enter a number here, the sale weight you entered for your heifer calves will be used.

Average value of heifer calf (\$/lb): Enter the price at which you could sell a calf at weaning or what it would cost you to buy a weaned calf. If you retained heifer calves and you do not enter a number here, the sale price you entered for your heifer calves will be used.

Value of retained heifer calves is calculated for you.

### Herd replacements

Number of cows purchased: Enter the number of breeding cows you purchased last year.

Cow cost (\$/head): Enter the average purchase price for one cow.

Number raised: Enter the number of heifers you raised that joined the breeding cow herd at the beginning of last year's breeding cycle.

Value of raised replacement: Enter what you think one of your replacement heifers would be worth if you were to sell one. If you do not enter a number here, the number value of retained heifer calves will be used from above

Number of bulls purchased: Enter the number of bulls you purchased last year.

Bull cost (\$/head): Enter the average purchase price for one bull

### Calf Information

#### Steer calves

Number of steer calves marketed: 14

Average sale weight of steer calves (lbs): 475

Sale price of steer calves (\$/lbs): \$ 0.98

Steer calf return: \$ 6,517.00

Number of steer calves retained: 25

Average weaning weight (lbs): 450

Average value of steer calf (\$/lbs): \$ 1.00

Value of retained steer calves: \$ 11,250.00

#### Heifer calves

Number of heifer calves marketed: 10

Average sale weight of heifer calves (lbs): 475

Sale price of heifer calves (\$/lbs): \$ 0.98

Heifer calf return: \$ 4,655.00

Number of heifer calves retained: 13

Average weaning weight (lbs): 450

Average value of heifer calf (\$/lbs): \$ 1.00

Total value of retained heifer calves: \$ 5,850.00

#### Percent calf crop

Number of calves weaned: 38

Number of cows in breeding herd  
(previous year): 47

Percent net calf crop: 80.85%

#### Summary

Calf return: \$ 11,172.00

Total value of retained calves: \$ 17,100.00

### Herd Replacements

Number of cows purchased: 0

Cow cost (\$/head): \$ -

Number raised: 38

Value of Raised Replacement: \$ 450.00

Number of bulls purchased: 0

Bull cost (\$/head): \$ -

## Ranch Costs Worksheet

### Land

Pasture acreage: Enter the total usable pasture acreage in production for your operation last year.

All per-cow and per-acre calculations will be made automatically for you based on the information you enter for herd costs.

Average forage production per acre (dry-matter basis) (optional): Enter an estimate of the average production of forage for all the pastures in your operation last year.

Ranch Costs		
	Herd	Per cow
<b>Land</b>		
Pasture acreage:	400	5.33
Average forage production per acre (DMB):	2000	lbs/acre

### Operating costs

#### Pasture and feed

Pasture rent or lease: Enter your total lease cost for last year on any leased pasture, which is found on Form 1040 Schedule F line 26b Other (land, animals, etc.).

Salt and minerals (optional): Enter how much you spent on salt and minerals last year.

Hay or haycubes (optional): Enter how much you spent on hay or other such products for your operation last year.

Energy supplements (optional): Enter how much you spent on energy supplements such as molasses, Anapro, or Valpro last year.

Total feed costs excluding water: Enter your total feed costs for last year, which can be found on Form 1040 Schedule F line 18, Feed purchased. If you broke this category down using the three optional subcategories of purchased feed, then this line should be calculated for you.

#### Utilities

Water (optional): Enter how much you spent on water just for consumption and irrigation for pasture for your operation last year.

Other utilities (optional): Enter how much you spent last year on phones, electricity, Internet access, and other utility expenses.

Total utilities: Enter your total utilities costs for last year, which is on your 1040 Schedule F line 32, Utilities. If you broke down your utilities cost into the two sub-categories, then this line will be calculated for you.

#### Taxes

Property taxes on pasture land (optional): Enter your total property tax payment for last year on fee-simple pasture acreage.

Employee taxes (optional): Enter social security and Medicare taxes you paid last year to match what you are required to withhold from employees' wages and any federal unemployment tax paid.

Other taxes (optional): Enter other taxes you paid last year such as personal property taxes on farm business assets

Total taxes paid: Enter the total taxes you paid last year, which is on your 1040 Schedule F line 31, Taxes. If you broke down your tax payment into the three optional categories, then this line will be calculated for you.

#### Labor

Labor hired: Enter how much you paid last year for ranch labor, which is on your 1040 Schedule F line 24, Labor hired. Do not include amounts paid to yourself, unless your operation is incorporated and you are an employee.

Pension and profit-sharing plans: Enter how much you spent last year for contributions to employee pension, profit-sharing, or annuity plans, which is on your 1040 Schedule F line 25. Do not include any contributions for you as a self-employed person.

Other employee benefits: Enter how much you spent last year for all employee benefit programs that are not part of a pension or profit-sharing plan, such as accident and health plans, group-term life insurance, and dependent-care assistance programs. This is on your 1040 Schedule F line 17.

Total paid employee cost, excluding taxes, is calculated for you based on your previous entries.

#### Fencing, water system, pasture maintenance

Chemicals: Enter the cost for all the pesticides, such as herbicide, that you used last year, which is found on your 1040 Schedule F line 13, Chemicals.



Fertilizer and lime: Enter the cost for all fertilizer and lime that you used last year, which is found on your 1040 Schedule F line 19, Fertilizer and lime.

Conservation expenses: Enter the cost of the soil and water conservation measures, including leveling, grading and terracing, drainage ditches, brush eradication, and planting windbreaks. This is on your 1040 Schedule F line 14, Conservation expenses.

Seeds and plants purchased: Enter the cost of the seed you used last year, which is on your 1040 Schedule F line 28, Seeds and plants purchased.

Repairs and maintenance: Enter the cost of repairs and maintenance of buildings, machinery, equipment, fencing, and irrigation systems for last year. You can also include the cost of inexpensive tools that have a short life, such as shovels and rakes. This is on your 1040 Schedule F line 27, Repairs and maintenance.

Total maintenance/improvement is calculated for you.

### ***Other operating costs***

Veterinary breeding and medicine: Enter how much you paid last year, which is found on your 1040 Schedule F line 33, Veterinary, breeding and medicine.

Freight and trucking: Enter the total cost for moving the calves to market, assuming you paid a company to provide this service, or if you rented a vehicle for this purpose. This information is on your 1040 Schedule F line 20, Freight and trucking.

Gasoline fuel and oil: Enter the total cost for gas, fuel, and oil you paid last year, found on your 1040 Schedule F line 21, Gasoline fuel and oil. If you used the actual expenses for your car and truck expenses on Schedule F line 12, instead of the standard mileage rate, then do not include the gas and oil costs for those

<b><u>Operating Costs</u></b>		<b><u>Herd Cost</u></b>	<b><u>\$/Cow</u></b>	<b><u>\$/Acre</u></b>
<b><u>Pasture and Feed</u></b>				
Pasture rent or lease:	\$ 1,558.00	\$	20.77	\$ 3.90
Salt and minerals:	\$ -			
Hay/cubes:	\$ -			
Energy supplements:	\$ -			
Total feed purchased (excluding water):	\$ 441.00	\$	5.88	\$ 1.10
<b><u>Utilities</u></b>				
Water:	\$ 310.00			
Other utilities:	\$ 185.00			
Total utilities:	\$ 495.00	\$	6.60	\$ 1.24
<b><u>Taxes</u></b>				
Property taxes on pasture land:	\$ 1,732.00			
Employee taxes:	\$ -			
Other taxes:	\$ 71.00			
Total taxes:	\$ 1,803.00	\$	24.04	\$ 4.51
<b><u>Labor</u></b>				
Labor hired:	\$ 4,680.00			
Pension and profit sharing:	\$ -			
Other employee benefits:	\$ -			
Total paid employee costs excluding taxes:	\$ 4,680.00	\$	62.40	\$ 11.70
<b><u>Fencing, water system, and pasture maintenance/improvements</u></b>				
Chemicals:	\$ -			
Fertilizer and lime:	\$ -			
Conservation expenses:	\$ -			
Seeds and plants purchased:	\$ -			
Repairs and maintenance:	\$ 343.00			
Total maintenance/improvements:	\$ 343.00	\$	4.57	\$ 0.86

expenses here. If you use the standard mileage deduction on Schedule F line 12, you can include you gas and oil costs here.

**Car and truck expenses:** Enter the actual cost of running your vehicle(s), such as insurance, repairs, tires, and registration fees, or the cost calculated using the standard mileage rate. This is found on your 1040 Schedule F line 12, Car and truck expenses.

**Insurance:** Enter the cost of the premiums paid last year for farm business insurance, which is found on your 1040 Schedule F line 22, Insurance.

**Mortgage interest:** Enter the interest for a mortgage on real property (other than your main home) used in your operation. This information is on your 1040 Schedule F line 23a, Mortgage.

**Other interest:** Enter other interest you paid on funds borrowed for your operation last year. This information is on your 1040 Schedule F line 23b, Other.

**Total interest:** This line is calculated for you based on previous information. Or, you can enter the total amount of interest you paid on funds borrowed for your operation.

**Supplies purchased:** Enter the cost of office supplies that you bought last year, which is on your 1040 Schedule F line 30.

**Custom hire:** Enter the cost of custom hire or machine

work last year, which is on your 1040 Schedule F line 15, Custom hire.

**Rent or lease of vehicles, machinery, and equipment:** Enter the cost of vehicles, machinery, and equipment you rented last year, which is on your 1040 Schedule F line 23b, Rent or lease of vehicles, machinery and equipment.

**Storage and warehousing:** Enter the cost of any storage or warehousing that you used last year, which is on your 1040 Schedule F line 29, Storage and warehousing.

**Legal and professional fees:** Enter the cost of tax advice, accounting, and legal services for your operation last year. This could be listed on your 1040 Schedule F line 34, Other expenses.

**Travel, meals, and entertainment:** Enter the cost of business travel and 50 percent of your business meals and entertainment expenses for your operation last year. This could be listed on your 1040 Schedule F line 34, Other expenses.

**Other:** Enter any other costs you had for your operation last year that you listed on your 1040 Schedule F line 34, Other expenses.

**Heifer replacement cost (\$/heifer/year) (optional):** Enter an estimate for the cost of raising a weaned calf to the age of a replacement heifer. If you do not enter a number, the information you have provided earlier will be used to calculate this cost.

<u>Other operating costs</u>			
Veterinary, breeding and medicine:	\$ 433.00	\$ 5.77	\$ 1.08
Freight and trucking:	\$ -	\$ -	\$ -
Gasoline fuel and oil:	\$ 865.00	\$ 11.53	\$ 2.16
Car and truck expenses:	\$ 980.00	\$ 13.07	\$ 2.45
Insurance:	\$ 1,537.00	\$ 20.49	\$ 3.84
Mortgage interest:	\$ 1,565.00		
Other interest:	\$ 300.00		
Total interest:	\$ 1,865.00	\$ 24.87	\$ 4.66
Supplies purchased:	\$ 806.00	\$ 10.75	\$ 2.02
Custom hire:	\$ 135.00	\$ 1.80	\$ 0.34
Rent or lease of vehicles, machinery and equipment:	\$ -	\$ -	\$ -
Storage and warehousing:	\$ -	\$ -	\$ -
Legal and professional fees:	\$ -	\$ -	\$ -
Travel, meals and entertainment:	\$ 450.00	\$ 6.00	\$ 1.13
Other:	\$ 105.00	\$ 1.40	\$ 0.26
Herd replacement costs (bulls, cows, heifers):	\$ 17,100.00	\$ 228.00	\$ 42.75

## Cow Herd Information Worksheet

### Livestock sales

#### **Cows**

Number of cull cows: Enter number of cows culled from the herd last year.

Value of cull cows (\$ per head): Enter the average price you received for one cull cow last year.

Number of breeding cows sold: Enter the number sold last year.

Value of breeding cows sold (\$ per head): Enter the average price received for breeding cows last year.

Number of breeding heifers sold: Enter the number sold last year.

Value of animals of breeding heifers sold (\$ per head): Enter the average price received for breeding heifers last year.

#### **Bulls**

Number of cull bulls: Enter the number of bulls culled from the herd last year.

Value of cull bulls (\$ per head): Enter the average price received for cull bulls last year.

Number of breeding bulls sold: Enter the number sold last year.

Value of animals of breeding bulls sold (\$ per head): Enter the average price received for breeding bulls last year.

#### **Income from livestock**

All income will be calculated for you.

Cow Herd Information		
<b><u>Livestock Sales</u></b>		
<i>Cows</i>		
Number of cull cows:	3	
Value of cull cows (\$/head):	\$ 250.00	
Number of breeding cows sold:		
Value of breeding cows sold (\$/head):	\$ -	
Number of breeding heifers sold:		
Value of breeding heifers sold (\$/head):	\$ -	
<i>Bulls</i>		
Number of cull bulls:	1.00	
Value of cull bulls (\$/head):	\$ 500.00	
Number of breeding bulls sold:		
Value of breeding bulls sold (\$/head):	\$ -	
<b><u>Income from livestock</u></b>		
	<u>Herd Income</u>	<u>\$/Animal</u>
Steer and heifer calves sold:	\$ 11,172.00	\$ 148.96
Cull cows sold:	\$ 750.00	\$ 10.00
Breeding cows sold:	\$ -	\$ -
Breeding heifers sold:	\$ -	\$ -
Cull bulls sold:	\$ 500.00	\$ 6.67
Breeding bulls sold:	\$ -	\$ -
Total cash income from livestock sales:	<u>\$ 12,422.00</u>	<u>\$ 165.63</u>



## Operator Labor and Capital Investment Worksheet

### Labor

Average number of hours worked each week by you:

Enter how much, on average, you worked each week in your operation.

Your wage rate: Enter an hourly wage rate for your unpaid labor.

Estimated annual labor contribution by rancher is calculated for you.

Average number of hours worked each week by others:

Enter how much others who are not paid employees, such as your spouse or other family members, worked on average each week in your operation.

Others wage rate: Enter an hourly wage rate for others' unpaid labor.

Estimated annual labor contribution by family is calculated for you

### Capital investment and depreciation

Buildings and water system: Enter the net value of buildings, the land the buildings are on, and the water system at the end of last year. Net value is equal to purchase price minus accumulated depreciation.

Pasture land pasture conservation practices, roads and fencing: Enter the net value of pasture land and fencing at the end of last year. Net value is equal to purchase price minus accumulated depreciation.

Machinery and equipment: Enter the net value of machinery and equipment at the end of last year (net equals purchase price minus accumulated depreciation).

Livestock (optional): Enter the value of your livestock, or this will be calculated for you based on other information you have given.

Total capital investment is calculated for you.

Annual opportunity cost of capital: Enter the percentage rate that you would like your investment to earn in your operation

Annual estimated cost of capital is calculated for you.

Total depreciation: Enter the total depreciation you claim for last year. Information about depreciation can be found on your Form 4562. The lines on which you will find the information vary depending on your situation.

Operator Labor and Capital Investment	
<b>Labor</b>	
<u>Rancher</u>	
Average number of hours worked each week:	8.0
Your wage rate per hour:	\$ 22.00
Estimated annual labor contribution by rancher:	\$ 9,152.00
<u>Family</u>	
Average number of hours worked each week by family:	4.0
Wage rate per hour:	\$ 11.07
Estimated annual labor contribution by family:	\$ 2,302.56
Total annual labor contribution:	\$ 11,454.56
<b>Capital investment and depreciation</b>	
<u>Capital Investment</u>	
Buildings and water system:	\$ 412,000.00
Pasture land conservation, roads, and fencing:	\$ 15,000.00
Machinery and equipment:	\$ 54,000.00
Livestock:	\$ 38,900.00
Total Capital Investment:	\$ 519,900.00
<u>Annual cost of capital</u>	
Annual opportunity cost of capital:	5.75%
Annual estimated cost of capital:	\$ 29,894.25
<u>Depreciation</u>	
Total depreciation:	\$ 17,250.00

## Returns Worksheet

The Returns Worksheet presents breakdowns of your costs and returns per calf, per cow per acre, and for the herd. The cash returns differ from the economic returns in that the economic returns the opportunity cost of la-

bor and capital from the include the Operator Labor and Capital Investment Worksheet. The estimated annual labor contribution by you and other family members, plus the estimated cost of capital, are calculated on that worksheet.

Cash Returns		
	Calves Produced	Calves Sold
Cost to produce a pound of calf:	\$ 1.18	\$ 2.95
Return per pound of calf:	\$ 1.04	\$ 1.09
Profit (Loss) per lb of calf:	\$ (0.14)	\$ (1.86)
Profit (Loss) per cow:	\$ (54.32)	\$ (281.28)
Profit (Loss) for the herd:	\$ (4,074.00)	\$ (21,095.97)
Cash Returns including Depreciation		
	Calves Produced	Calves Sold
Cost to produce a pound of calf:	\$ 1.78	\$ 4.46
Return per pound of calf:	\$ 1.04	\$ 1.09
Profit (Loss) per lb of calf:	\$ (0.75)	\$ (3.37)
Profit (Loss) per cow:	\$ (284.32)	\$ (511.28)
Profit (Loss) for the herd:	\$ (21,324.00)	\$ (38,345.97)
Economic Returns		
	Calves Produced	Calves Sold
Cost to produce a pound of calf:	\$ 3.23	\$ 8.09
Return per pound of calf:	\$ 1.04	\$ 1.09
Profit (Loss) per lb of calf:	\$ (2.20)	\$ (7.00)
Profit (Loss) per cow:	\$ (835.64)	\$ (1,062.60)
Profit (Loss) for the herd:	\$ (62,672.81)	\$ (79,694.78)

## Cost-of-Production Worksheet

The cost-of-production worksheet details the cost of producing a cow and the per-pound cost. The cost per

pound will vary depending on the information you have supplied on the worksheets.

Cost of Production		
<u>Expenditures</u>	<u>\$/Cow</u>	<u>\$/Acre</u>
Feed:	\$ 5.88	\$ 1.10
Utilities:	\$ 6.60	\$ 1.24
Taxes:	\$ 24.04	\$ 4.51
Labor:	\$ 62.40	\$ 11.70
Ranch maintenance and improvement:	\$ 4.57	\$ 0.86
Other operating costs:	\$ 323.68	\$ 60.69
<u>Cost of production</u>		
Estimated cost of production is	\$ 447.95	per cow.
Based on a percent calf crop of 80.85% the estimated cost of production is	\$ 554.04	per cow.
Given an average wean weight of 450.00 lbs./calf.		
Cost of production is estimated to be	\$ 1.23	lb.
Cost of production is estimated to be	\$ 83.99	per acre.
<u>Breakeven price analysis</u>		
The breakeven price equals	\$ 118.54	/ cwt.

## Appendix. Cow-Calf Production Information Summary

Before making entries in the calculator, organize your data using the information summary in this appendix. The summary matches the data needed by the calculator, line-by-line.

To fill out each line, you will need your

- ☐ Form 1040, Schedule F
- ☐ Form 4562 (used for depreciation)
- ☐ Balance sheet or similar statement to determine what your operation's assets, such as livestock, equipment and buildings, are and what they are worth.

Please remember that the calculator uses the cost information that you supply, and its calculations will only be as good as the information. We have designed it based on your Form 1040 Schedule F to make it easier for you to find and enter the data. However, you can get your information from any sources you choose.

If you find that including the cost of your time and/or the cost of your investment results in losses rather than profits, you have important information. Your operation is a major part of your lifestyle, so you may not want to cost your time at the average farm wage rate of \$11.07 per hour or cost your investment at the average return of 10 percent for a stock fund. You may feel that your lifestyle is priceless, making the cost of your time and investment in this lifestyle near zero. However, if

you have an opportunity to get paid for your time, you may find it useful to know how much your operation can profitably pay you. The same goes for investing in your operation. This gives you more information to help you make your lifestyle choices.

If you prefer to work with a UH-CTAHR representative to enter your summarized information in the calculator, be assured that your individual information will remain confidential. We are only interested in collecting individual information in order to determine industry benchmarks. Any industry benchmarks we present will be averaged across producers and will not reflect any one producer's operation. At the same time, the benchmarks will relate to accounting costs only, not to economic profits that include your opportunity costs. Please share your summarized information with us so we may provide this valuable service to the industry.

If you have any questions, please call or e-mail your UH-CTAHR Cooperative Extension Service agent or any of the following:

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(808) 956-7602 lcox@hawaii.edu

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(808) 887-6183 thornem@hawaii.edu

## Ranch Information

### PART I: LIVESTOCK INFORMATION

a. Number of cows.....	
b. Average cow weight .....	
c. Number of breeding bulls .....	
d. Number of other bulls .....	
e. Number of horses .....	
f. Value of horses (\$/head) .....	\$

### PART II: CALF INFORMATION

#### STEER CALVES:

a. Number of steer calves marketed.....	
b. Average sale weight of steer calves (lbs.) .....	
c. Sale price of steer calves (\$/lb.) .....	\$
d. Number of steer calves retained.....	
e. Average weaning weight (lbs.) .....	
f. Average value of steer calf (\$/lb.) .....	\$

#### HEIFER CALVES:

g. Number of heifer calves marketed.....	
h. Average sale weight of heifer calves (lbs.) .....	
i. Sale price of heifer calves (\$/lb.) .....	\$
j. Number of heifer calves retained.....	
k. Average weaning weight (lbs.) .....	
l. Average value of heifer calf (\$/lb.) .....	\$

#### PERCENT CALF CROP:

m. Number of calves weaned .....	
n. Number of cows in breeding herd (previous year) .....	

### PART III: HERD REPLACEMENTS

a. Number of cows purchased.....	
b. Cow cost (\$/head) .....	\$
c. Number raised .....	
d. Value of raised replacement.....	\$
e. Number of bulls purchased.....	
f. Bull cost (\$/head) .....	\$

## Ranch Costs

### PART I: LAND

#### 01. Herd

a. Pasture acreage .....	
b. Average forage production per acre (DMB) ..... (optional)	



**PART II: OPERATING COSTS (HERD COST)****01. Pasture & Feed**

a. Pasture rent or lease .....	(Form 1040, Schedule F, Line 26b)	\$
b. Salt and minerals.....	\$	
c. Hay/cubes .....	\$	
d. Energy supplements.....	\$	
<b>Total feed purchased (excluding water).</b> (Add lines b, c, and d.) (Form 1040, F, Line 18)		\$

**02. Utilities**

a. Water .....	\$	
b. Other utilities .....	\$	
<b>Total utilities.</b> (Add lines a and b.) ..... (Form 1040, Schedule F, Line 32)		\$

**03. Taxes**

a. Property taxes on pasture land.....	\$	
b. Employee taxes.....	\$	
c. Other taxes.....	\$	
<b>Total taxes.</b> (Add lines a, b, and c.) ..... (Form 1040, Schedule F, Line 31)		\$

**04. Labor**

a. Labor hired .....	(Form 1040, Schedule F, Line 24)	\$
b. Pension and profit sharing...	(Form 1040, F, Line 25)	\$
c. Other employee benefits .....	(Form 1040, F, Line 17)	\$
<b>Total paid employee costs excluding taxes.</b> (Add lines a, b, and c.) .....		\$

**05. Fencing, water system, and pasture maintenance/improvements**

a. Chemicals.....	(Form 1040, Schedule F, Line 13)	\$
b. Fertilizer and lime .....	(Form 1040, F, Line 19)	\$
c. Conservation expenses .....	(Form 1040, F, Line 14)	\$
d. Seeds and plants purchased .	(Form 1040, F, Line 28)	\$
e. Repairs and maintenance .....	(Form 1040, F, Line 27)	\$
<b>Total maintenance/improvements.</b> (Add lines a, b, c, d, and e.) .....		\$

**06. Other operating costs**

a. Veterinary, breeding and medicine.....	(Form 1040, Schedule F, Line 33)	\$
b. Freight and trucking.....	(Form 1040, Schedule F, Line 20)	\$
c. Gasoline, fuel and oil.....	(Form 1040, Schedule F, Line 21)	\$
d. Car and truck expenses.....	(Form 1040, Schedule F, Line 12)	\$
e. Insurance.....	(Form 1040, Schedule F, Line 22)	\$
f. Mortgage interest.....	(Form 1040, F, Line 23a)	\$
g. Other interest.....	(Form 1040, F, Line 23b)	\$
<b>Total interest.</b> (Add lines f and g.) .....		\$
h. Supplies purchased .....	(Form 1040, Schedule F, Line 30)	\$
i. Custom hire .....	(Form 1040, Schedule F, Line 15)	\$

j. Rent or lease of vehicles, machinery and equipment (Form 1040, F, Line 26a)	\$
k. Storage and warehousing.....(Form 1040, Schedule F, Line 29)	\$
l. Legal and professional fees.....(Form 1040, Schedule F, Line 34)	\$
m. Travel, meals and entertainment.....(Form 1040, Schedule F, Line 34)	
n. Other expenses.....(Form 1040, Schedule F, Line 34)	

### PART III: HEIFER DEVELOPMENT COST

01. Heifer Development Cost (\$/heifer/year) ..... (optional)	\$
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## Cow Herd Information

### PART I: LIVESTOCK SALES:

#### COWS

a. Number of cull cows .....	
b. Value of cull cows (\$/head) .....	\$
c. Number of breeding cows sold .....	
d. Value of breeding cows sold (\$/head) .....	\$
e. Number of breeding cows sold .....	
f. Value of breeding heifers sold (\$/head) .....	\$

#### BULLS

g. Number of cull bulls .....	
h. Value of cull bulls (\$/head) .....	\$
i. Number of breeding bulls sold .....	
j. Value of breeding bulls sold (\$/head) .....	\$

## Operator Labor & Capital Investment

### PART I: LABOR

#### RANCHER

a. Average number of hours worked each week .....	
b. Your wage rate per hour.....	\$
<b>Estimated annual labor contribution by ranger. (Add lines a and b.) ....</b>	<b>\$</b>

#### FAMILY

a. Average number of hours worked each week by family .....	
b. Wage rate per hour.....	\$
<b>Estimated annual labor contribution by family. (Add lines a and b.) .....</b>	<b>\$</b>

### PART II: CAPITAL INVESTMENT & DEPRECIATION

#### CAPITAL INVESTMENT

a. Buildings and water system.....	\$
b. Pasture land conservation, roads, and fencing.....	\$
c. Machinery and equipment .....	\$
<b>Total capital investment (excluding livestock). (Add lines a, b, and c.)</b>	<b>\$</b>

#### DEPRECIATION

<b>Total depreciation.....(See your Form 4562 for this information))</b>	<b>\$</b>
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