



Commercial Cow-Calf Management Decisions: Calculating Your Cost of Production with Calf-XL 2006

Linda J. Cox, Quincy A. Edwards, Mark S. Thorne, Glen K. Fukumoto, and Lincoln Y. T. Ching

SECTION ONE: Introduction

Cost of production is a key piece of information needed to make the best economic decisions in a cow-calf operation. The cost of production is the minimum price you, as the seller, 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 with many buyers, you will probably have the power to set your price higher than your cost of production. However, in the Hawaii and U.S. mainland markets for calves, there are generally more sellers than buyers. This situation often causes sellers to compete with one another on selling price, thus benefiting buyers by giving them a greater choice of which 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 controls a market and sets the price, it often incites competition. Sellers with a large share of the market should always expect new sellers to emerge or existing sellers to become more competitive. Unfortunately, "seller's markets" are seldom found in Hawaii's livestock industry today. Most cow-calf operations in Hawaii fail to attain a price 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* to keep your operation going, it is critically important to know your cost of production.

In order to cover your costs and before your calves are ready to sell, you need to compare (1) the price you are likely to be offered with (2)

your cost of production. This way, if your costs will not be covered, you will have time to make changes.

This publication describes Calf-XL 2006, a calculator that runs on Microsoft Excel and uses information you supply to determine your cost of producing a calf. The information needed by the calculator is clearly explained and blank worksheets are provided for you to make notes. An example is provided to illustrate how the results from Calf-XL may be used to help you make better decisions.

Calf-XL can be downloaded at www.ctahr.hawaii.edu/freepubs (look under Livestock Management), or a CD containing the file and the user guide can be obtained via the order form at the end of this publication.

If you download Calf-XL, either (1) enter your information yourself, or (2) ask a Cooperative Extension Service agent to assist you in entering your data. If you do not have Excel and do not wish to purchase it, either (1) request assistance from a Cooperative Extension Service agent (contact information available at www.ctahr.hawaii.edu/paniolo), or (2) complete the calculations yourself using the information and formulas on the worksheets.

Identifying your costs

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 in order to track your progress.

Contents		
Section		Page
1. Introduction		1
2. The worksheets		3
3. Example		11
4. Getting started on Calf-XL		18

In order to use Calf-XL, 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, and transportation and marketing efforts. Most of the information required may be obtained from last year's Form 1040 Schedule F. 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.

Two expenses 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 the 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 this information from a balance sheet prepared by your accountant or estimate it yourself. Then, you must decide how much your investment is expected to earn. If you had invested your money in a savings account rather than in your cow-calf operation, your money would have earned very little during the past year, maybe only two to three percent. If you had invested 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 15, 2004). 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. Calf-XL will tell you if you are earning that rate on your investment. If you find that

you are not making the amount you want, you can change the rate and run Calf-XL 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, think of what it would cost to hire an employee as a replacement to do the work you now do. The Hawaii Agricultural Statistics Service reported that as of January 2006 the average wage rate for all hired agricultural labor averaged \$11.95 per hour, with those engaged in field/livestock labor averaging \$10.27 per hour (Hawaii Agricultural Labor Report, March 17, 2006).

Another issue of concern for cow-calf operators is *risk*. Risk is the variation in your costs or revenues. For example, the weather is one source of production risk. While average rainfall would be enough for your operation, the actual rainfall varies and could be below average for a year or two. Drought is a major risk in ranching, as it can greatly reduce the amount of forage available on a per-animal basis and can cause dramatic increases in the overall cost of production. According to the agricultural price index for prices paid by farmers, costs have risen two percent a year, on average, from 1975 to 2005 (www.gpoaccess.gov/eop/index.html), so even if no major problems like drought occur, costs are expected to increase two percent each year. This increase in costs is a risk that is likely to be more predictable than events like drought.

Price, or *market risk*, is another source of risk. The market price of calves goes up and down over time. You make most production decisions before your calves go to market. The market price when you make these decisions may not be the same as the market price at the point of sale. A price that varies considerably is usually thought to be more risky than one with less variation. Calf-XL allows you to estimate the variation you expect in costs and prices and shows you the impact of these variations.

Once you have identified your costs, you are ready to start entering the information into Calf-XL. The next section explains how to use Calf-XL.

Using Calf -XL

Calf-XL is set up as a spreadsheet program so that 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*: A worksheet consists of cells that are organized into columns and rows. It is the primary document that you use in Excel to store and work with data. A workbook is used to store worksheets.

So let's begin...

SECTION TWO: Examining the Worksheets

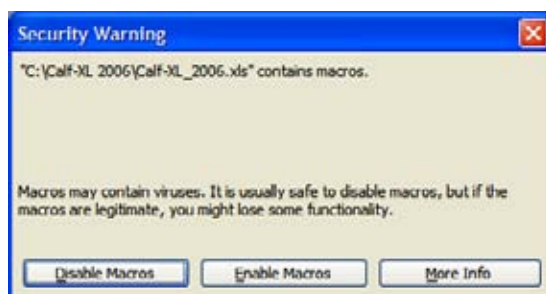
To open up Calf-XL, double-click on the Calf-XL 2006.xls icon as shown in Figure 1. (These illustrations are from the Excel 2003 version running on Windows XP; they may appear differently on other versions or operating systems.)

Figure 1. Calf-XL 2006.xls icon.



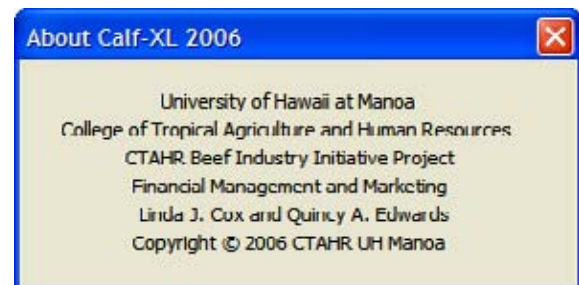
To enable macros in Calf-XL so that all formulas will work properly, click the "Enable Macros" box as shown in Figure 2.

Figure 2. Enable Macros.



Lastly, close the "About Calf-XL 2006" screen by clicking "X" in the upper right hand corner, as shown in Figure 3.

Figure 3. Close "About Calf-XL 2005" box.



Complete the Three Worksheets

Calf-XL contains a total of 12 worksheets, but only three require information from the user.

The first worksheet includes a *Disclaimer* to inform everyone that the Cooperative Extension Service is not responsible for the accuracy of the information you enter. The following three worksheets are the only ones that require you to enter your data:

- The second worksheet entitled *InfoSum, Pg.01* is designed to collect your ranch's livestock information.
- The worksheet *InfoSum, Pg.02* continues collecting information concerning your operating costs. Each cost has been cross-indexed with Schedule F of your income tax return to facilitate consistent and accurate information about your operation.
- The last worksheet, *InfoSum, Pg.03* solicits information concerning livestock sales, family labor, and capital investment and depreciation.

These are the only worksheets that require data from you, although you can enter information into the assumptions worksheet as you become more familiar with Calf-XL and want to customize some of the calculations. You can move between the three pages by clicking "Next" or "Back" at the bottom of each worksheet.

To print the entire 12-page Calf-XL 2006 analysis, click the printer icon at the bottom of Worksheet Three.

The remaining eight worksheets, in order, are:

- Worksheet 4. *Ranch Information*
- Worksheet 5. *Ranch Costs*
- Worksheet 6. *Cow Herd Information*
- Worksheet 7. *Labor and Capital*
- Worksheet 8. *Returns*
- Worksheet 9. *Cost of Production*
- Worksheet 10. *Summary*
- Worksheet 11. *Assumptions*

These eight worksheets analyze and summarize the information you submit. Please remember that the analysis is only as good as the information you enter. If you forget an entry or want to change an entry, simply click on “Next” or “Back” to access a specific worksheet and make your addition or correction. Alternatively, you may move between the worksheets by single-clicking on a worksheet tab located at the bottom of the workbook; the names of each worksheet are labeled in consecutive order (i.e., *InfoSum*, Pg. 01, *InfoSum*, Pg.02, etc.).

The next section of this publication provides a line-by-line explanation of the *InfoSum* worksheets and a description of the remaining eight worksheets. Some of the cells on these three pages do not require you to enter information because the information is optional. The optional information is useful and important, but it is detailed, and will require you to spend more time to collect it. 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 produce a better estimate.

Figure 4: Disclaimer and Information Summary (*InfoSum*) Worksheets.



Ranch Information

Part I. Livestock Information

- | | |
|--------------------------------------|--|
| a. Number of cows | Enter the number of mature breeding cows in your herd. |
| b. Value of breeding cows (\$/head) | Enter an average value for a breeding cow. |
| c. Average cow weight | Enter the average weight of your mature breeding cows. |
| d. Number of breeding bulls | Enter the number of breeding bulls in your herd. |
| e. Value of breeding bulls (\$/head) | Enter an average value for a breeding bull. |
| f. Number of other bulls | Enter the number of other bulls in your herd. |
| g. Number of horses | Enter the number of horses you own and use in your cow-calf operation. |
| h. Value of horses (\$/head) | Enter the average value of the horses you use in your operation. |

Part II. Calf Information

Steer Calves

- | | |
|--|---|
| a. Number of steer calves marketed | Enter the number sold. |
| b. Average sale weight of steer calves (lbs) | Enter the average calf weight at point of sale. |
| c. Sale price of steer calves (\$/lb) | Enter the average price you received. |
| d. Number of steer calves retained | Enter the number you kept as replacements. |
| e. Average weaning weight (lb) | Enter the average weight for the replacements you kept. 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. |
| f. Average value of steer calves (\$/lb) | Enter the price at which you could sell a steer calf or what it would cost you to buy a steer calf. 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. |

Heifer Calves

- | | |
|---|---|
| g. Number of heifer calves marketed | Enter the number sold last year. |
| h. Average sale weight of heifer calves (lbs) | Enter the average calf weight at point of sale. |
| i. Sale price of heifer calves (\$/lb) | Enter the average price you received last year. |
| j. Number of heifer calves retained | Enter the number you kept as replacements or stockers last year. |
| k. 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. |
| l. Average value of heifer calves (\$/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. |

Percent Calf Crop

- | | |
|---|--|
| m. Number of calves weaned | This is calculated for you. |
| n. No. of cows in breeding herd (previous year) | Enter the number of cows in the breeding herd for the previous year. |

Part III. Herd Replacements

- | | |
|--|--|
| a. Number of cows purchased | Enter the number of breeding cows you purchased. |
| b. Cow cost (\$/head) | Enter the average purchase price per cow. |
| c. Number of heifers raised | Enter the number of heifers you raised that joined the breeding cow herd at the beginning of last year's breeding cycle. |
| d. Value of raised replacement (\$/head) | 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 of retained heifer calves from item III j above will be used. |
| e. Number of bulls purchased | Enter the number of bulls you purchased. |
| f. Bull cost (\$/head) | Enter the average purchase price per bull. |
| g. Number of breeding bulls raised | Enter number of bull calves you raised that joined the breeding herd at the beginning of last year's breeding cycle. |

Ranch Costs**Part I. Land**

- | | |
|--|---|
| a. Pasture acreage | Enter the total usable pasture acreage in production for your operation. |
| b. Average available forage production per acre (dry-matter basis) | Enter an estimate of the average available forage produced (lbs/acre) for all pastures in your operation (available forage is generally 50% of total production). |

Part II. Operating costs**01. Pasture and feed**

- | | |
|----------------------------------|--|
| a. Pasture rent or lease | Enter your total lease cost for any leased pasture (Form 1040, Schedule F, Line 26b, Other (land, animals, etc.)). |
| b. Salt and minerals (optional) | Enter the amount you spent on salt and minerals. |
| c. Hay or haycubes (optional) | Enter the amount you spent on hay or other such products for your operation. |
| d. Energy supplements (optional) | Enter the amount you spent on energy supplements such as molasses, Anipro, or Valpro. |
| Total feed costs excluding water | Enter your total feed costs for last year (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 will be calculated for you. |

02. Utilities

- | | |
|--------------------|--|
| a. Water | Enter the amount you spent on water just for consumption and irrigation for pasture for your operation. |
| b. Other utilities | Enter the amount you spent on phones, electricity, Internet access, and other utility expenses. |
| Total utilities | Enter your total utilities costs (Form 1040, Schedule F, Line 32, Utilities). If you broke down your utilities cost into the two subcategories, then this line will be calculated for you. |

03. Taxes

- a. Property taxes on pasture land Enter your total property tax payment on fee-simple pasture acreage.
- b. Employee taxes Enter all taxes paid on behalf of employees, such as social security, Medicare, and federal unemployment tax.
- c. Other taxes Enter other taxes you paid such as personal property taxes on farm business assets.
- Total taxes paid Enter the total taxes you paid (Form 1040, Schedule F, Line 31, Taxes).

04. Labor

- a. Labor hired Enter how much you paid last year for ranch labor (Form 1040, Schedule F, Line 24, Labor hired). Do not include amounts paid to yourself unless your operation is incorporated and you are an employee.
- b. Pension and profit-sharing plans Enter how much you spent for contributions to employee pension, profit-sharing, or annuity plans (Form 1040, Schedule F, Line 25). Do not include any contributions for yourself as a self-employed person.
- c. Other employee benefits Enter the amount you spent 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 (Form 1040, Schedule F, Line 17).

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

- a. Chemicals Enter the cost for all the pesticides, such as herbicides, that you used (Form 1040, Schedule F, Line 13, Chemicals).
- b. Fertilizer and lime Enter the cost for all fertilizer and lime that you used (Form 1040, Schedule F, Line 19, Fertilizer and lime).
- c. Conservation expenses Enter the cost of soil and water conservation measures, including leveling, grading and terracing, drainage ditches, brush eradication, and planting windbreaks (Form 1040, Schedule F, Line 14, Conservation expenses).
- d. Seed and plants purchased Enter the cost of the seed you used (Form 1040, Schedule F, Line 28, Seeds and plants purchased).
- e. Repairs and maintenance Enter the cost of repairs and maintenance of buildings, machinery, equipment, fencing, and irrigation systems (Form 1040 Schedule F line 27, Repairs and maintenance). You may also include the cost of inexpensive tools that have a short life, such as shovels and rakes.

06. Other operating costs

- a. Veterinary breeding and medicine Enter how much you paid (Form 1040, Schedule F, Line 33, Veterinary, breeding and medicine).
- b. Freight and trucking Enter your total cost for moving calves to market, assuming you paid a company to provide this service, or if you rented a vehicle for this purpose (Form 1040, Schedule F, Line 20, Freight and trucking).
- c. Gasoline fuel and oil Enter your total cost for gas, fuel, and oil (Form 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 expenses here. If you use the standard mileage deduction on Schedule F, Line 12, you may include your gas and oil costs here.

d. 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 (Form 1040, Schedule F, Line 12, Car and truck expenses).
e. Insurance	Enter the cost of the premium paid for farm business insurance (Form 1040, Schedule F, Line 22, Insurance).
f. Mortgage interest	Enter the interest for a mortgage on real property (other than your main home) used in your operation (Form 1040, Schedule F, Line 23a, Mortgage).
g. Other interest	Enter other interest you paid on funds borrowed for your operation (Form 1040, Schedule F, Line 23b, Other).
h. Supplies purchased	Enter the cost of office supplies purchased (Form 1040, Schedule F, Line 30).
i. Custom hire	Enter the cost of custom hire or machine work (Form 1040, Schedule F, Line 15, Custom hire).
j. Rent or lease of vehicles, machinery, and equipment	Enter the cost of vehicles, machinery, and equipment you rented (Form 1040, Schedule F, Line 23b, Rent or lease of vehicles, machinery and equipment).
k. Storage and warehousing	Enter the cost of any storage or warehousing that you used (Form 1040, Schedule F, Line 29, Storage and warehousing).
l. Legal and professional fees	Enter the cost of tax advice, accounting, and legal services for your operation (Form 1040, Schedule F, Line 34, Other expenses).
m. 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 (Form 1040, Schedule F, Line 34, Other expenses).
n. Other	Enter any other costs you had for your operation (Form 1040, Schedule F, Line 34, Other expenses).

Part III. Heifer Development Costs

01. Heifer Development Cost (\$/heifer/year)	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 provided earlier will be used to calculate this cost.
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Cow Herd Information

Part I. Livestock Sales

Cows

a. Number of cull cows	Enter number of cows culled from the herd.
b. Value of cull cows (\$/head)	Enter the average price you received for one cull cow.
c. Number of breeding cows sold	Enter the number sold.
d. Value of breeding cows sold (\$/head)	Enter the average price received for breeding cows.
e. Number of breeding heifers sold	Enter the number sold.
f. Value of breeding heifers sold (\$/head)	Enter the average price received for breeding heifers.

Bulls

- g. Number of cull bulls Enter the number of bulls culled from the herd last year.
- h. Value of cull bulls (\$/head) Enter the average price received for cull bulls last year.
- i. Number of breeding bulls sold Enter the number sold last year.
- j. Value of breeding bulls sold (\$/head) Enter the average price received for breeding bulls last year.

Operator Labor and Capital Investment***Part I: Labor*****Rancher**

- a. Average number of hours worked each week Enter how much, on average, you worked each week in your operation.
- b. Your wage rate per hour Enter an hourly wage rate for your unpaid labor.

Family

- c. Average number of hours worked each week by family 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.
- d. Wage rate per hour Enter an hourly wage rate for others' unpaid labor.

Part II: Capital Investment and Depreciation**Capital investment**

- a. 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.
- b. Pasture land conservation, roads, fencing Enter the net value of pasture land and fencing. Net value is equal to purchase price minus accumulated depreciation.
- c. Machinery and equipment Enter the net value of machinery and equipment (net equals purchase price minus accumulated depreciation).

Depreciation

- Total depreciation Enter the total depreciation you claimed on your Form 4562. The lines on which you will find this information vary depending on your situation.

Ranch Information Analysis (page 4 of 11)

The Ranch Information Analysis provides you with four summary tables:

- Table 1. *Calf return* summarizes your total gross revenue from marketing your calves for the year.
- Table 2. *Retained calves* summarizes the value of the calves you kept for breeding purposes.
- Table 3. *Herd replacements* summarizes the value of animals that enter the herd during the year as replacements.
- Table 4. *Breeding estimates* summarizes calving percentage and your cow-to-bull ratio.

Ranch Costs Analysis (page 5 of 11)

The Ranch Costs Analysis provides you with one figure and three tables:

- Figure 1. *Operating expenditures* is a pie chart showing the percentage for each cost category of the total cost of keeping a cow in your herd for the year.
- Table 5. *Operating expenditures* details total costs for the herd, per cow, and per AUM*.
- Table 6. *Pasture, feed, and water* details just these costs.
- Table 7. *Total forage production* estimates the annual carrying capacity (AU*) of your ranch.

Cow Herd Income Analysis (page 6 of 11)

The Cow Herd Income Analysis contains one figure and two tables:

- Figure 2. *Income from livestock sold* is a pie chart showing the percentage for each source of gross income for your operation.
- Table 8. *Value of livestock and quantity sold summary* details sales from your breeding herd.
- Table 9. *Income from livestock sold* details all livestock sales.

*AUM = animal unit month, the amount of feed or forage required to maintain one animal unit for one month. AU = animal unit, a generalized unit for describing stocking density, stocking rate, and carry capacity. Usually accepted to be a 1000-lb cow with a calf or 1.4 yearling cattle.

Taylor, Robert E., and Thomas G. Field. 1999. Beef production and management decisions. 3rd ed. Prentice Hall, NJ.

Labor and Capital Analysis (page 7 of 11)

The Labor and Capital Analysis presents one figure and three tables:

- Figure 3. *Estimated Capital Investment* is a pie chart that details your investments in your operation.
- Table 10. *Estimated annual operator labor contribution* summarizes the value of labor contributed to your operation by people who are not paid employees.
- Table 11. *Estimated capital investment* summarizes your total investment in the operation that is illustrated in Figure 3.
- Table 12. *Risk analysis based on primary risk variables* estimates what your cost of production and sale price will be based on how your cost of production and sale price vary. The information on the variations comes from information entered into the Assumptions Worksheet.

Returns Worksheet (page 8 of 11)

The Returns Analysis provides you with one figure and four tables:

- Figure 4. *Production of marketed and retained calves* details your calf production.
- Table 13. *Calf production in pounds* details pounds produced and sold.
- Table 14. *Calf returns* details the returns from this production.
- Table 15. *Cash returns including depreciation* includes the non-cash cost of depreciation.
- Table 16. *Economic returns* includes all labor and investment opportunity costs.

Cost of Production Analysis (page 9 of 11)

The Cost of Production Analysis contains five tables:

- Table 17. *Estimated cost of production* provides per-cow and per-AUM estimates of cost of production.
- Table 18. *Estimated cost of production based on calf crop percentage* adjusts the estimate in Table 17 to account for cows that did not produce a weaned calf.
- Table 19. *Estimated cost of production given the average wean weight* estimates a per-pound cost of producing a weaned calf.

Table 20. *Estimated cost of production per acre* provides an estimate of the per-acre cost of production.

Table 21. *Breakeven price analysis* estimates the breakeven market price (in \$/cwt) that will allow you to cover all costs.

Economic Summary (page 10 of 11)

The One-Page Economic Summary details costs and returns. This analysis is designed to give you a quick overview of your operation's cost and revenues. For more detailed information, return to the previous worksheets.

Calf-XL Assumptions Worksheet (page 11 of 11)

This worksheet allows you to enter information pertaining to your specific situation by overriding the default values used in Calf-XL calculations.

The value of bulls other than those that are part of the breeding herd can be valued in your total operation investment, if you enter a number.

You can enter the information used to calculate the forage consumption of the livestock in your operation. The total AUMs that you will need to feed your livestock will be calculated for you. If you want to override the formula Calf-XL uses to calculate forage consumption, you can check the box and enter your information. Your estimate, based on the information you entered, will be used for all calculations involving AUMs in Calf-XL, including Table 7. You can compare your estimate to Calf XL's estimate since the Calf-XL estimate will appear just above your estimate.

You can enter your opportunity cost of capital, which is used to determine economic costs and returns.

To help you analyze your risk position, you can indicate how much the average price of calves and the average per-pound cost of producing a calf varies over the year.

If you are unsure how to calculate the extent to which a price or cost varies over the year, you may use the following formula:

$$\text{Percentage of fluctuation} = \frac{[\text{new value} - \text{old value}] / \text{old value}}{1} \times 100$$

$$\text{For example: } \frac{[12 - 10] / 10}{1} \times 100 = (2/10) \times 100 = 20\% \text{ change}$$

SECTION THREE: Example

To help you understand how you might use Calf-XL, this section presents an example. The fictional beef cattle rancher's name is Kimo Smith. Kimo wants to market his cattle at a profit and understands that the first step in becoming successful is knowing his operating costs.

Kimo is married to Pua and has two children who also contribute part-time labor to this enterprise. Kimo's ranch is 1140 acres, and he has calculated that on average his pastures provide 2500 lbs/acre of useable forage (50% of total forage production) on a dry-matter basis (DMB). Kimo runs 250 head of breeding cows and other animals that are part of his cow-calf operation. His cows average 1200 lbs.

Using his 2005 federal tax Form 1040, Schedule F, and Form 4562, and Calf-XL User Guide, Kimo completes the three *InfoSum* worksheets and gives them to his CES agent to enter into Calf-XL. Kimo carefully examines his costs so that only the portion that can be justified is included. Basically, if he used a tool 25 percent of the time for operation, he includes only 25 percent of its cost in Calf -XL.

The CES agent calls Kimo to ask him for the amounts he wants to enter for Annual Cost of Capital and Risk Analysis on his Assumptions Worksheet. After reading his Calf-XL User's Guide, Kimo is able to decide on a Cost of Capital but he is not certain what Risk Analysis means. He calls Linda, a UH-Manoa economist, for recommendations. She asks him if his costs change much from year to year. In addition to inflation, Kimo mentions that the price of gasoline has been fluctuating recently, more than in previous years, and he finds it difficult to predict. Linda suggests that he assume his costs fluctuate approximately 3.5 percent a year, which is approximately the amount the cost of production index for agriculture rises every year. For price risk, she suggests looking at how much the calf price he received varied over the year and that he enter this amount based on the formula in the Calf-XL User's Guide (see page ???). Kimo calculates that his prices increased about 6.5 percent over the past year.

Kimo examines the figures in the Calf-XL reports. He finds *Figure 1. Operating Expenses* on the Ranch Costs Worksheet interesting and notes that herd replacement costs account for nearly 50 percent of his operating costs.

Looking at *Table 22, One-Page Economic Summary*, he sees his cost of production is almost \$198 per cow, and after adjusting for the calving percentage, it is \$228 per cow. He also sees in *Table 21* that his breakeven point is nearly \$65.20 per cwt.

Kimo's CES agent looks over the reports and notices something that Kimo did not. *Table 7* indicates that Kimo has 3,653.85 AUMs available (see *Figure 5*) and *Appendix A* indicates that he needs 4,218.00 AUMs to feed all his livestock. Therefore, his needs are much larger than what he has available, and his pastures will not support his current stocking rate.

Kimo and his CES agent talk over some of the options, such as reducing his herd size and reducing the size of his cows. Kimo is not really sure what to do and is feeling overwhelmed. Fortunately, his CES agent points out that Calf-XL can quickly help him examine the options and see what makes the most sense. Kimo and his agent agree to investigate two options. The first is to reduce his herd size from 250 cows to 210 cows, keeping cow weight at 1200 lbs, and the second is to keep herd size at 250 and reduce the average cow weight from 1200 lbs to 1000 lbs. Both of these options reduce the total AUMs required, bringing his forage demand in balance with his forage availability.

Kimo looks at *Table 9* for each option and sees that herd income for the two options differ. Option one, reducing herd size, generated a total income of \$57,283 (see *Figure 7*), while option two, reducing cow size, generated a herd income of \$68,463.40 (see *Figure 8*). Kimo now knows that option two is the better choice and decides to reduce his average cow weight to 1000 lbs.

A few months go by, and Kimo's wife Pua gets an offer for a job in town. However, if Pua accepts the job, their children will need to spend more time helping around the house and so will not be helping as much on the ranch. At the same time, Pua will not be helping as much with the ranch either. Kimo would probably have to hire a worker. Kimo and Pua are finding it difficult to make a decision. Kimo considers using Calf-XL, but his CES agent is not available for the next few weeks. Then Kimo gets a flyer from Linda saying a Calf-XL workshop is scheduled nearby, and Kimo and Pua decide that Calf-XL could help them decide what to do.

When they show up at the workshop, they are assigned a computer. Linda guides them in entering their information in Calf-XL and they are able to achieve the same *Table 22* as they received from their CES agent.

They mention to Linda that they need advice on how to use Calf-XL to make a decision on Pua's job offer. Kimo knows that by entering the new costs incurred if Pua accepts the job into Calf-XL, they can compare their options and make a better decision. If Pua takes the job, the family labor will drop to near zero. At the same time, Kimo will have to hire a worker willing to work for \$11.25 an hour. Pua figures at \$11.25 an hour, 40 hours a week, 52 weeks a year, direct wages would equal \$23,920. Payroll taxes of 21.4 percent and other employee benefits must also be considered. Linda shows them how this information is entered into *InfoSum, Pg.02, Part II, .03 Taxes, b. Employee taxes* and *.04 Labor, a. Labor hired*. She reminds them to remove the 40 hours a week she entered in *Operator Labor and Capital Investment, Part I. c. Average number of hours worked each week by family* so family labor is valued at zero. Then, Kimo and Pua look at the updated *Figure 1* and *Table 22* to compare results (see next two pages).

Kimo and Pua compare the two figures and note that hired labor will comprise 34 percent of their operating expenditures. Hiring one employee makes Kimo's labor costs the largest operating cost for his ranch.

Looking at *Table 22*, Kimo and Pua see that the ranch will have a cash loss if they hire an employee. They compare this to the *Table 22* they had before the change in which they received a cash profit but incurred an economic loss when using family labor. Now they understand why the Calf-XL User's Guide discusses opportunity cost.

Kimo and Pua also ask Linda about the risk analysis on *Page 7, Table 12*. She tells them that by adjusting the market price and cost of production expectations, they can see how sensitive their net returns are to these fluctuations. For example, if market price goes up 6.5 percent and costs go down 3.25 percent, the net return from calves produced increases to \$0.49 per pound. Conversely, if market price goes down by 6.5 percent and costs go up 3.25 percent, the net return from calves produced decreases to \$0.33 per pound.

Figure 5. Kimo's Operating Expenses (Page 5 of Calf-XL).

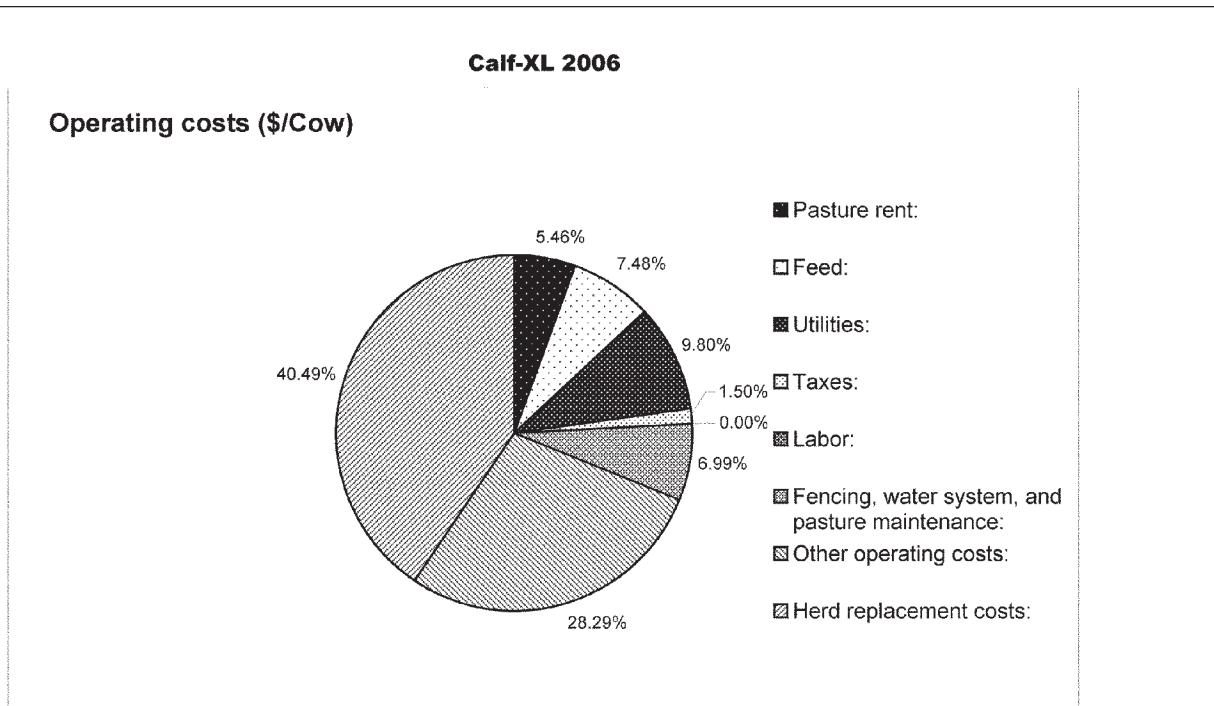


Figure 1: Operating expenditures.

Table 5: Operating expenditures.

	Herd Cost	\$/Cow	\$/AUM
Pasture rent:	\$ 2,696.00	\$ 10.78	\$ 0.65
Feed:	\$ 3,697.10	\$ 14.79	\$ 0.90
Utilities:	\$ 4,839.19	\$ 19.36	\$ 1.17
Taxes:	\$ 741.00	\$ 2.96	\$ 0.18
Labor:	\$ -	\$ -	\$ -
Fencing, water system, and pasture maintenance:	\$ 3,451.17	\$ 13.80	\$ 0.84
Other operating costs:	\$ 13,974.27	\$ 55.90	\$ 3.39
Herd replacement costs:	\$ 20,000.00	\$ 80.00	\$ 4.84
Total:	\$ 49,398.73	\$ 197.59	\$ 11.97

Table 6: Pasture, feed, and water.

	Herd Cost	\$/Cow	\$/AUM
Pasture rent:	\$ 2,696.00	\$ 10.78	\$ 0.65
Feed:	\$ 3,697.10	\$ 14.79	\$ 0.90
Water:	\$ 2,079.19	\$ 8.32	\$ 0.50
Property taxes on pasture land:	\$ 741.00	\$ 2.96	\$ 0.18
Total:	\$ 9,213.29	\$ 36.85	\$ 2.23

Table 7: Total forage production.

	Acreage	Available forage (lb/acre)	AUM ¹
Forage production based on:	1140	2500 =	3,653.85

Based on 250 cow-calf pairs, 20 raised heifers, 11 breeding bulls, and 4 horses, an estimated total of 4128.00 AUMs may be required. Please consult your local CES agent for the exact requirements of your operation and the adaptation of best management grazing practices.

¹See CTAHR extension publication(s) in determining your optimum number of Animal Units (AU), the number of acres required to support your AU, and the number and size of paddocks.

Figure 6. Page 10 of Calf-XL Analysis, Kimos' Table 22.

Calf-XL 2006

Table 22: One-page economic summary.**Cost of production**

Given the information you provided, the estimated cost of production is \$197.59 per cow.

Given a calf-crop percentage of 86.80%, the cost of production has been adjusted to \$227.64 per cow.

Based on a total forage consumption of 4128.00 AUMs, total costs are estimated to be \$11.97 per AUM.

Breakeven price analysis

Given the information you provided, the breakeven price equals \$65.20 per hundredweight (cwt).

Ranch Information**Steer Calves**

Steer calf return:	\$	37,632.00
Value of retained steer calves:	\$	4,840.00

Heifer Calves

Heifer calf return:	\$	27,086.40
Total value of retained heifer calves:	\$	10,773.00

Percent Calf Crop

Percent net calf crop:	86.80%
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Summary

Calf return:	\$	64,718.40
Total value of retained calves:	\$	15,613.00

Ranch Costs**Herd Replacements**

	Herd Cost	\$/Cow	\$/AUM
Herd replacement costs (bulls, cows, heifers):	\$ 20,000.00	\$ 80.00	\$ 4.84

Pasture, Feed and Water

Pasture rent & taxes, feed, & water costs:	\$ 9,213.29	\$ 36.85	\$ 2.23
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Cow Expenditures

Total cow costs:	\$ 49,398.73	\$ 197.59	\$ 11.97
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Income from livestock

	Herd Income	\$/Animal
Total cash income from livestock sales:	\$ 68,493.40	\$ 45.66

Returns**Cash Returns**

	Calves Produced	Calves Sold
Cost to produce a pound of calf:	\$ 0.58	\$ 0.71
Return per pound of calf:	\$ 0.99	\$ 0.98
Profit (Loss) per lb of calf:	\$ 0.41	\$ 0.27
Profit (Loss) per cow:	\$ 138.83	\$ 116.57
Profit (Loss) for the herd:	\$ 34,707.67	\$ 29,142.77

Cash Returns Including Depreciation

Cost to produce a pound of calf:	\$ 0.67	\$ 0.82
Return per pound of calf:	\$ 0.99	\$ 0.98
Profit (Loss) per lb of calf:	\$ 0.32	\$ 0.16
Profit (Loss) per cow:	\$ 108.03	\$ 85.77
Profit (Loss) for the herd:	\$ 27,007.67	\$ 21,442.77

Economic Returns

Cost to produce a pound of calf:	\$ 1.86	\$ 2.26
Return per pound of calf:	\$ 0.99	\$ 0.98
Profit (Loss) per lb of calf:	\$ (0.87)	\$ (1.28)
Profit (Loss) per cow:	\$ (294.85)	\$ (317.11)
Profit (Loss) for the herd:	\$ (73,713.16)	\$ (79,278.06)

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

Figure 7. Kimo's new Table 1.

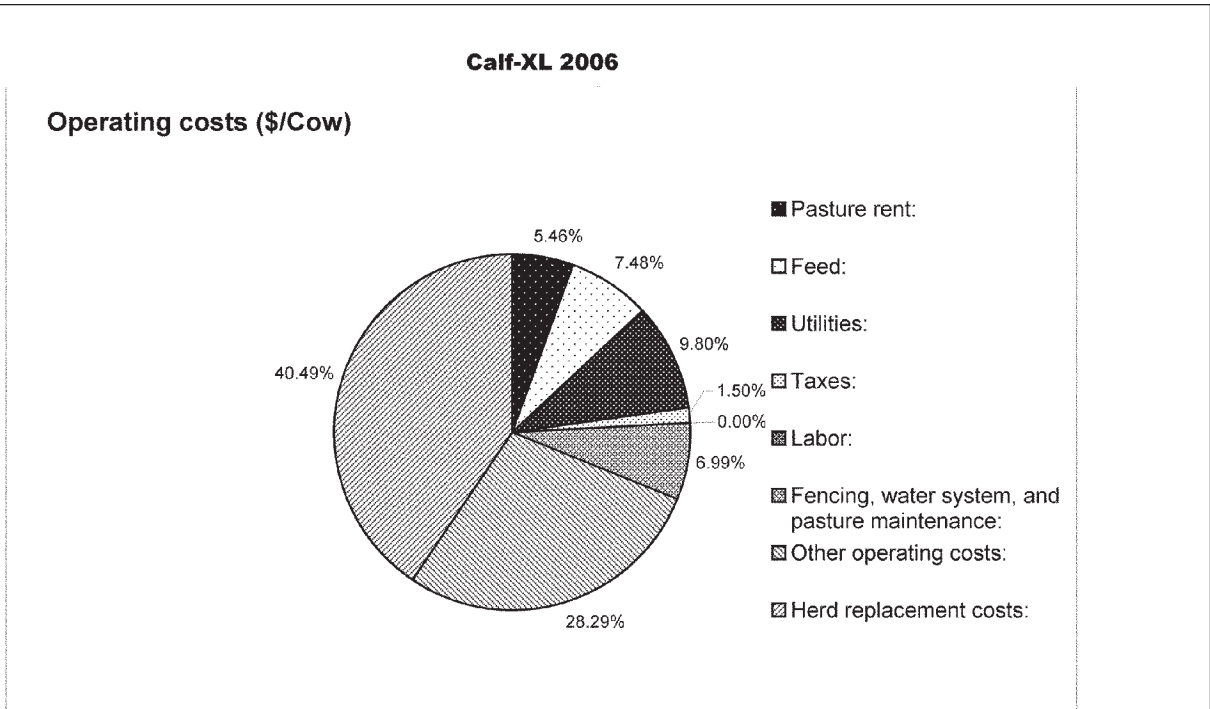


Figure 1: Operating expenditures.

Table 5: Operating expenditures.

	Herd Cost	\$/Cow	\$/AUM
Pasture rent:	\$ 2,696.00	\$ 12.84	\$ 0.76
Feed:	\$ 3,697.10	\$ 17.61	\$ 1.05
Utilities:	\$ 4,839.19	\$ 23.04	\$ 1.37
Taxes:	\$ 741.00	\$ 3.53	\$ 0.21
Labor:	\$ -	\$ -	\$ -
Fencing, water system, and pasture maintenance:	\$ 3,451.17	\$ 16.43	\$ 0.98
Other operating costs:	\$ 13,974.27	\$ 66.54	\$ 3.96
Herd replacement costs:	\$ 20,000.00	\$ 95.24	\$ 5.67
Total:	\$ 49,398.73	\$ 235.23	\$ 14.00

Table 6: Pasture, feed, and water.

	Herd Cost	\$/Cow	\$/AUM
Pasture rent:	\$ 2,696.00	\$ 12.84	\$ 0.76
Feed:	\$ 3,697.10	\$ 17.61	\$ 1.05
Water:	\$ 2,079.19	\$ 9.90	\$ 0.59
Property taxes on pasture land:	\$ 741.00	\$ 3.53	\$ 0.21
Total:	\$ 9,213.29	\$ 43.87	\$ 2.61

Table 7: Total forage production.

	Acreage	Available forage (lb/acre)	AUM ¹
Forage production based on:	1140	2500 =	3,653.85

Based on 210 cow-calf pairs, 20 raised heifers, 10 breeding bulls, and 4 horses, an estimated total of 3528.00 AUMs may be required. Please consult your local CES agent for the exact requirements of your operation and the adaptation of best management grazing practices.

¹See CTAHR extension publication(s) in determining your optimum number of Animal Units (AU), the number of acres required to support your AU, and the number and size of paddocks.

Figure 8. Kimo's new Table 22.

Calf-XL 2006									
Table 22: One-page economic summary.									
<u>Cost of production</u>									
Given the information you provided, the estimated cost of production is \$330.02 per cow.									
Given a calf-crop percentage of 86.80%, the cost of production has been adjusted to \$380.20 per cow.									
Based on a total forage consumption of 3528.00 AUMs, total costs are estimated to be \$23.39 per AUM.									
<u>Breakeven price analysis</u>									
Given the information you provided, the breakeven price equals \$112.50 per hundredweight (cwt).									
<u>Ranch Information</u>									
<u>Steer Calves</u>									
	Steer calf return:	\$	37,632.00						
	Value of retained steer calves:	\$	4,840.00						
<u>Heifer Calves</u>									
	Heifer calf return:	\$	27,086.40						
	Total value of retained heifer calves:	\$	10,773.00						
<u>Percent Calf Crop</u>									
	Percent net calf crop:		86.80%						
<u>Summary</u>									
	Calf return:	\$	64,718.40						
	Total value of retained calves:	\$	15,613.00						
<u>Ranch Costs</u>									
<u>Herd Replacements</u>									
	Herd replacement costs (bulls, cows, heifers):	\$	20,000.00	\$/Cow	\$	80.00	\$/AUM	\$	5.67
<u>Pasture, Feed and Water</u>									
	Pasture rent & taxes, feed, & water costs:	\$	9,213.29	\$	36.85	\$	2.61		
<u>Cow Expenditures</u>									
	Total cow costs:	\$	82,504.01	\$	330.02	\$	23.39		
<u>Income from livestock</u>									
	Total cash income from livestock sales:	\$	68,493.40	\$/Animal	\$	45.66			
<u>Returns</u>									
<u>Cash Returns</u>									
	Cost to produce a pound of calf:	\$	0.97	Calves Produced	\$	1.18	Calves Sold		
	Return per pound of calf:	\$	0.99		\$	0.98			
	Profit (Loss) per lb of calf:	\$	0.02		\$	(0.20)			
	Profit (Loss) per cow:	\$	6.41		\$	(26.44)			
	Profit (Loss) for the herd:	\$	1,602.39		\$	(6,610.93)			
<u>Cash Returns Including Depreciation</u>									
	Cost to produce a pound of calf:	\$	1.07		\$	1.29			
	Return per pound of calf:	\$	0.99		\$	0.98			
	Profit (Loss) per lb of calf:	\$	(0.07)		\$	(0.31)			
	Profit (Loss) per cow:	\$	(24.39)		\$	(57.24)			
	Profit (Loss) for the herd:	\$	(6,097.61)		\$	(14,310.93)			
<u>Economic Returns</u>									
	Cost to produce a pound of calf:	\$	2.12		\$	2.56			
	Return per pound of calf:	\$	0.99		\$	0.98			
	Profit (Loss) per lb of calf:	\$	(1.12)		\$	(1.58)			
	Profit (Loss) per cow:	\$	(380.47)		\$	(413.33)			
	Profit (Loss) for the herd:	\$	(95,118.44)		\$	(103,331.76)			
This work has been supported by a USDA CSREES Special Grant, Hawaii Agricultural Diversification 2003 - New Crop / Product Development and Marketing, no. 2003-34172-12400.									

Figure 9. Risk Analysis. Kimo's Table 12.

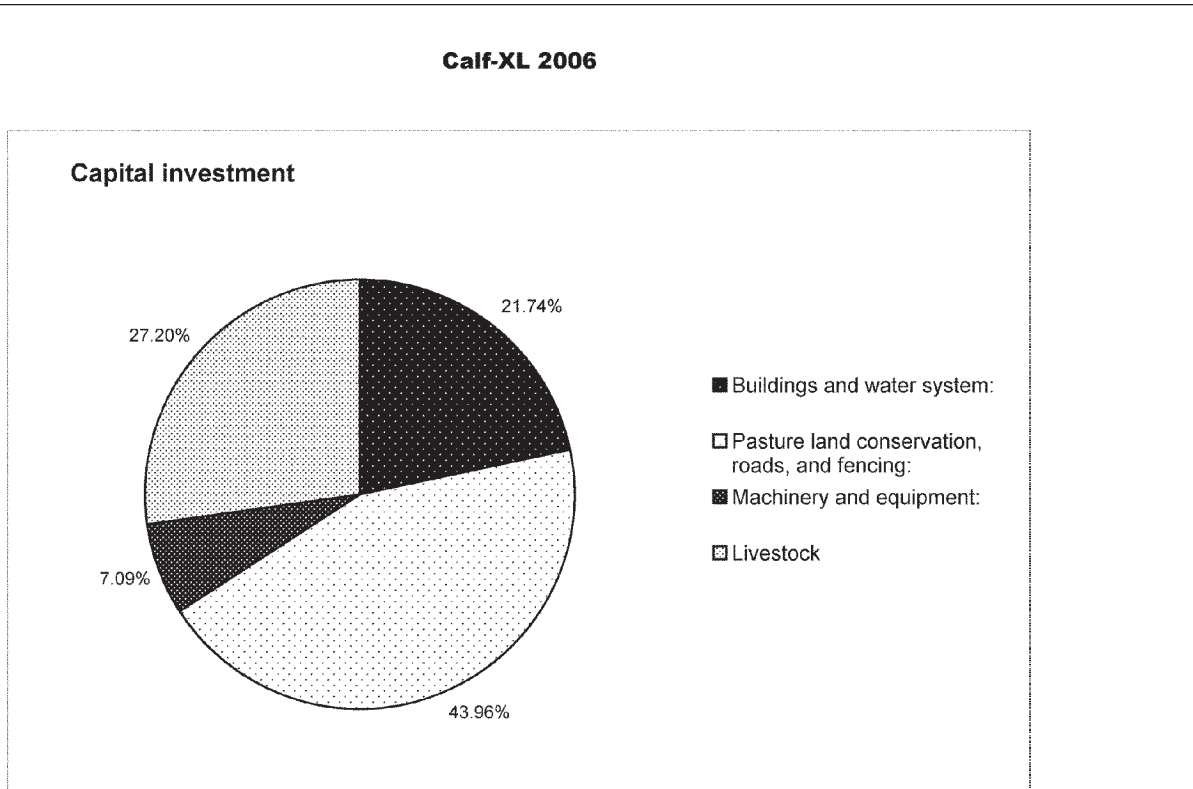


Figure 3: Estimated capital investment.

Table 10: Estimated annual operator labor contribution.

	Hours (#/week)	Wage (\$/hour)
Rancher: \$ 52,000.00 = 52 x	50.0	\$ 20.00
Family: \$ 11,700.00 = 52 x	20.0	\$ 11.25
Total: \$ 63,700.00		

Table 11: Estimated capital investment.

Item	Amount (\$)
Buildings and water system:	\$ 230,000.00
Pasture land conservation, roads, and fencing:	\$ 465,000.00
Machinery and equipment:	\$ 75,000.00
Livestock	\$ 287,738.00
Total:	\$ 1,057,738.00

Table 12: Risk analysis.

Variable	\$/pound		
Cost to produce a pound of calf:	\$	0.58	
Return per pound of calf:	\$	0.99	
Expected net return of calves produced:	\$	0.41	

Sale Price	Cost of production (\$/pound)		
	Below 3.25%	Expected	Above 3.25%
Above 6.50% :	0.49	0.47	0.46
Expected :	0.43	0.41	0.39
Below 6.50% :	0.36	0.35	0.33

SECTION FOUR: Getting Started on Calf-XL

Before making entries in Calf-XL, organize your data using the blank information summary (*InfoSum*) worksheets included in this publication. These worksheets match the data needed by Calf-XL, line-by-line.

To provide the required information, it is recommended that you gather the following:

- Form 1040, Schedule F
- Form 4562 (used for depreciation)
- Your 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 Calf-XL uses the cost information that you supply and its calculations will only be as good as the information you provide. Calf-XL's design utilizes the information from your previous year's Form 1040, Schedule F, in order to make it easier for you to locate and enter data that is consistent and reliable.

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.

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

Linda J. Cox, UH-Manoa

(808) 956-7602 lcox@hawaii.edu

Glen Fukumoto, Kealahou CES office

(808) 322-489 gfukumot@hawaii.edu

Mark Thorne, Kamuela CES office

(808) 887-6183 thornem@hawaii.edu

Lincoln Ching, Lihue CES office

(808) 274-3471 chingl@ctahr.hawaii.edu

Acknowledgment

This work was supported by a USDA CSREES Special Grant, Hawaii Agricultural Diversification 2003—New Crop/Product Development and Marketing, No. 20003-34172-12400.

CALF-XL 2006 INFORMATION SUMMARY

1

Ranch Information

PART I: LIVESTOCK INFORMATION

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

PART II: CALF INFORMATION

STEER CALVES:

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

HEIFER CALVES:

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

PERCENT CALF CROP:

m. 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 (\$/head)	\$
e. Number of bulls purchased.....	
f. Bull cost (\$/head)	
g. Number of breeding bulls raised.....	
h. Value of raised breeding bulls (\$/head)	\$

Ranch Costs

PART I: LAND

01. Herd

a. Pasture acreage	
b. Average forage production per acre (lb/acre)	

CALF - XL 2006 INFORMATION SUMMARY

2

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.....	\$	
Total feed purchased (excluding water). (Add lines b, c, and d.) (Form 1040, F, Line 18)		\$

02. Utilities

a. Water.....	\$	
b. Other utilities.....	\$	
Total utilities. (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.....	\$	
Total taxes. (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)	\$	
Total paid employee costs excluding taxes. (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)	\$	
Total maintenance/improvements. (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)	\$	
Total interest. (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)	\$	

CALF-XL 2006 INFORMATION SUMMARY

3

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 heifers 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.....	\$
Estimated annual labor contribution by rancher. (Multiply lines a and b.)	\$

FAMILY

c. Average number of hours worked each week by family	
d. Wage rate per hour.....	\$
Estimated annual labor contribution by family. (Multiply lines a and b.)	\$

PART II: CAPITAL INVESTMENT & DEPRECIATION

CAPITAL INVESTMENT

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

DEPRECIATION

Total depreciation..... (See your Form 4562 for this information)	\$
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Paniolo-XL Order Form

CTAHR's Beef Initiative team has produced numerous publications that are designed to assist members of Hawaii's beef industry with the economics of producing and marketing their cattle. A series of three Excel spreadsheet workbooks, Calf-XL, Beef-XL, and Ranch-XL, and an accompanying user manual for each, are among these publications. You can order this package, Paniolo-XL, on a CD that includes the Excel workbook files, all of the available publications in pdf format, *and* printed copies of the user manuals, as a bonus.

	Price	Quantity	Total
Paniolo XL	\$15	_____	_____

Shipping to addresses with a U.S. Zip code is included in the cost. For bulk orders or for information on shipping charges to foreign countries, call, write, or send e-mail to Dr. Cox at lcx@hawaii.edu.

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____

E-mail _____

Do not send cash. Make check or money order payable to: RCUH Account #1858

Mail to:

Dr. Linda Cox
1920 Edmonson Rd, FT 62
Honolulu, HI 96822-2279