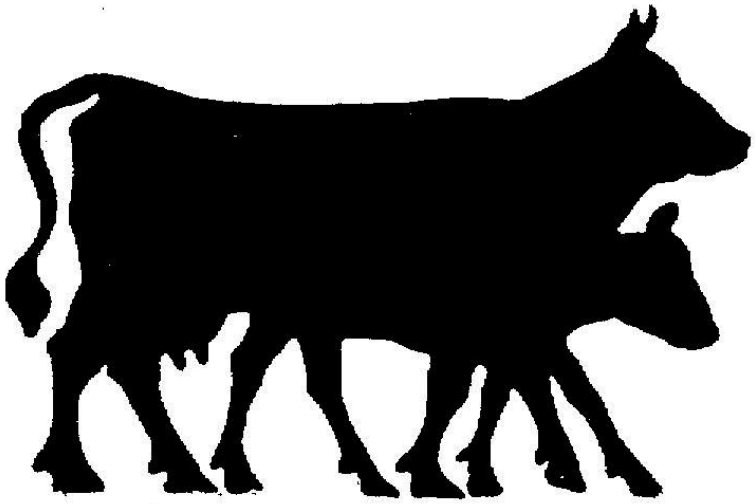
UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

2004

SAMPLE COSTS FOR A

COW-CALF/GRASS-FED

BEEF OPERATION



200 Head Cowherd with 30 Grass-Fed Cattle in the North Coast Region, Marin and Sonoma Counties

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INTRODUCTION

The sample costs to raise beef cattle on grass or pasture in Marin and Sonoma Counties, California are presented in this study. The ranch used in this study is for a 200 cow-calf herd with a 30 head Grass-fed beef operation that starts to pay back to the ranch in the second year. This study is intended as a guide only, and can be used to make production decisions, determine potential returns, prepare budgets and evaluate production loans. Practices described are based on those production procedures considered typical for this crop and area, but will not apply to every situation. Sample costs for labor, materials, equipment, and custom services are based on current figures. Some costs and practices presented in this study may not be applicable to your situation. A blank column, "*Your Costs*", is provided in Table 1 to enter your costs.

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For an explanation of calculations used for the study refer to the attached Assumptions. For more information call the Department of Agricultural and Resource Economics, Cooperative Extension, University of California, Davis, California, 530-752-2414 or call U.C. Cooperative Extension Sonoma County Farm Advisor Stepanie Larson, 707-565-2621.

Sample Cost of Production studies for many commodities are available and can be requested through the Department of Agricultural and Resource Economics, UC Davis, 530-752-4424. Current studies, those produced during the last five years, can be obtained from selected county UC Cooperative Extension offices or downloaded from the department website http://coststudies.ucdavis.edu.

ASSUMPTIONS

The following assumptions pertain to sample costs to raise beef cattle on grass pasture in Marin and Sonoma Counties, California. Practices described are not necessarily recommendations by the University of California, but represent husbandry and production practices and materials considered typical of a well managed herd. Some costs, practices, and materials may not be applicable to your situation nor used during every year. Additional ones not indicated may be needed. Husbandry practices vary by ranchers and region and variations can be significant. These costs are on an annual, per acre basis. *The use of trade names in this report does not constitute an endorsement or recommendation by the University of California nor is any criticism implied by omission of other similar products.*

Land. The hypothetical ranch consists of 2,000 acres of land. Property rents in this region range from $30-$50 per acre. In this study the rent is $30 per acre.

Labor. Labor rates of $22.05 per hour for machine operators and $14.70 for general labor includes payroll overhead of 47%. The basic hourly wages are $15.00 for skilled labor and $10.00 for general labor. The overhead includes the employers' share of federal and California state payroll taxes, workers' compensation insurance for a stock operation (code 0038), and a percentage for other possible benefits. Workers' compensation insurance costs will vary among ranchers, but for this study the cost is based upon the average industry final rate as of January 1, 2004 (California Department of Insurance).

COW-CALF HUSBANDRY PRACTICES AND MATERIAL INPUTS

Cattle Herd. The herd consists of 200 cows, 4 bulls, and 171 calves. During part of the year heifer and steer calves are sold except for 50 replacement heifers that take the place of 20 cows in the breeding herd. From the heifers, 20 are kept as replacements and 30 heifers are fed grass only and sold under the claim of Grass-fed beef in the second year.

This is a fall calving operation. Cows and replacement heifers are bred in fall (November through December). A 92 percent conception rate is used and 95 percent of the pregnant cows give birth (September to November). There is a 2 percent death loss of heifers and bulls calves. Ten percent of the cows will be culled from the herd for various health reasons.

The regular cow-calf herd operates on a yearly basis. Steers and culled heifers are normally sold through commercial markets until a time that the entire operation goes Grass-fed beef. The 50 heifer calves are kept until 14 months of age at which time 20 heifers are selected to be used for replacement cows and bred. The remaining heifers are placed into the Grass-fed beef program. Approximate dates for ranching operations are shown in Table A.

Table A. Months of operations.

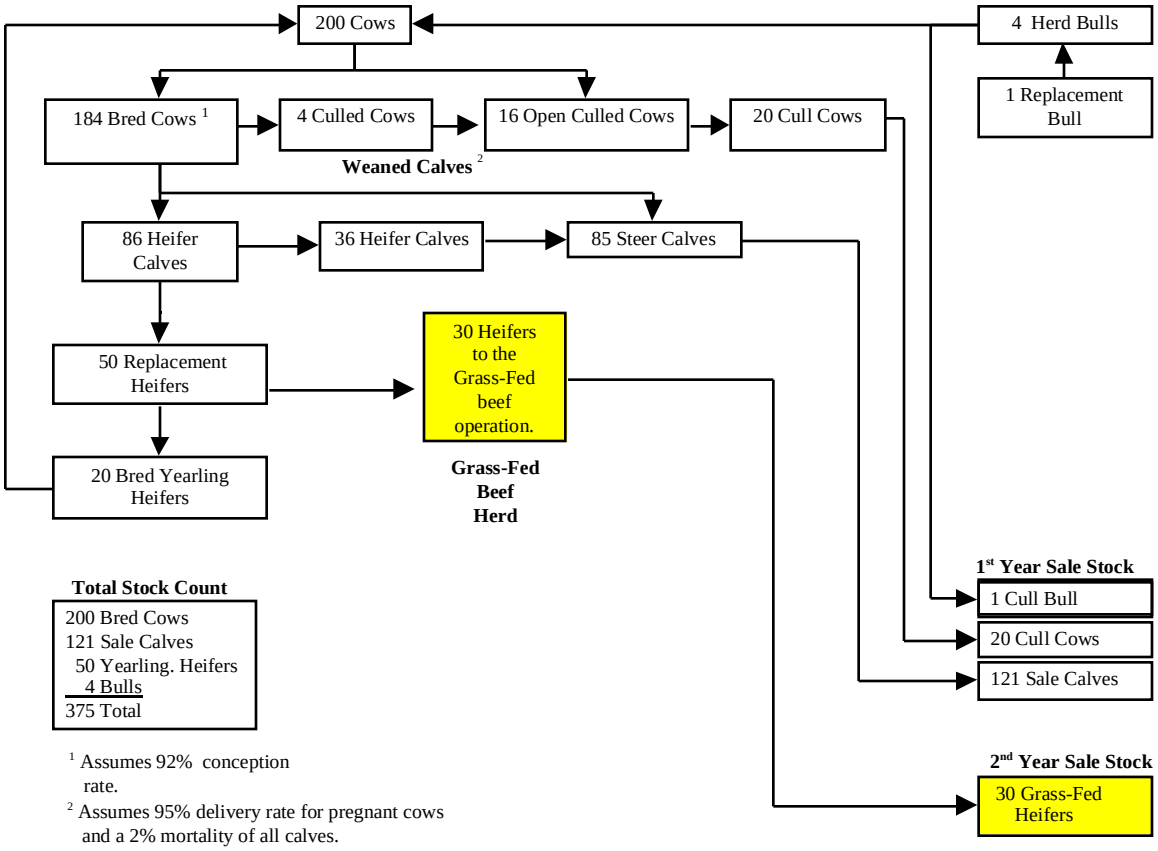
Operation	Month	To	Month
Winter Feeding	September	-	February
Pasture Feeding	March	-	August
Calving	September	-	November
Breeding	November	-	December
Weaning	June	-	July
Cattle Sales [1]			

[1] For cattle sale dates see Table B.

Grass-fed Beef Herd. For commercial operators moving into a grass-fed system the assumptions presented here are for a base 200 cow-calf herd with 30 heifers going into the Grass-fed beef program. To move to a grass-fed operation a rancher may need to (1) increase available grazing land, (2) increase amount of forage fed, or (3) decrease the cowherd numbers. Pasture can be the limiting factor for herd size in this operation. Grass-fed beef claims and labeling will be governed at the federal level by the United States Department of Agriculture's (USDA) applicable standards, when adopted, and at the county level if a county ordinance exists.

At the beginning of the Grass-fed beef operation 30 heifers are selected from the herd to go onto pasture and approved grass substitutes. The process of getting these cattle to marketable weights takes well over a year. During the last several months of feeding another 30 heifers are selected from the main cow-calf herd to go into the Grass-fed beef program. Unless there is an expansion of the herd size, the number of cattle will fluctuate between 20-40 animals annually. A yearly cycle of the 200 cow-calf herd with the Grass-fed beef component is shown in Chart 1.

Chart 1. A 200 Cow-calf breeding cycle with a Grass-fed beef program.



[1] Assumes 92% conception rate.

[2] Assumes 95% delivery rate for pregnant cows and a 2% mortality of all calves.

Adapted with permission from a flow chart developed by Larry Forero, University of California, Cooperative Extension, Shasta and Trinity Counties.

Feed. The pasture or range acreage needed for each cow is 10 to 12 acres per year. Pasture costs will vary, depending on the location. Pastures range in rent for Sonoma and Marin Counties from $30-50 per acre per year. The herd is mainly pasture fed for most of the year. During these months the whole cow herd is placed in the same pasture when feeding occurs. Animals will be fed an additional forage-based feed at a rate 1/2 to 3/4 tons per head annually.

The largest amount of labor hours expended is for feeding cows September through February. Feeding is required because of the lack of pasture forage or potential damage that cattle may cause pasture in wet conditions. It is assumed that during these wet months approximately 30 minutes per day or 15 hours of labor per month is required for feeding hay.

Animals are also fed a mineral supplement/salt mixture to ensure they receive proper nutrition. It is assumed that cows need 2 ounces of mineral supplement per head per day.

Fencing. The ranch has permanent and temporary fencing. The permanent fences are assumed to be in place on the rented pasture land. Maintenance of permanent fences on the leased land is included in the lease fee. Fences on the owned land are an improvement to the property and landowners can depreciate this item. The cow-calf herd is left to graze the range while the grass fed beef herd is moved into paddocks with temporary fencing.

Temporary fences are electric fences and are moved as needed. This helps to lower costs and the need for permanent fencing. The temporary fence is an investment and a capital recovery cost is shown in various tables to account for its value. Moving the fence to create a temporary paddock takes 2 hours per move. Paddocks are kept in place over a three day period. Cattle are moved into the new paddocks every three to four days requiring an estimated one hour of labor to accomplish. The herd is moved from paddock to paddock over a six month window.

The costs for fencing and labor to move cows will depend on the pasture design. More materials and labor will be required to rotate pastures more frequently. Pastures will be rotated during the active growing season: March, April, May, June, and, July. In order to maintain healthy pastures a rotational plan to move the herd into different paddocks every two to three days is used.

Vaccination/Veterinarian Care. Replacement and herd animals are treated for internal parasites twice per year at a cost of $4-5 per dose. This occurs during branding, weaning, and at anytime that animals are gathered. Animals are given routine vaccinations at a cost of $4.50 per animal. Two hours of ranch labor is needed to help with the vaccinations and any other veterinarian care.

Transportation Cost. Transportation costs are paid by the rancher and are included in the price paid by the buyer. The amount of the hauling cost will depend on where the animal is marketed. Animals will need to be transported to a USDA inspected processing plant and possibly to a USDA inspected cut and wrap facility depending on the end sale point.

Labeling Regulations and Claims. Specific requirements must be met for cattle raised on grass or pasture in order to label the resulting packaged meat as Grass-fed under applicable laws. At the federal

level, the USDA Agricultural Marketing Service (AMS) is presently soliciting comments to help rewrite the labeling requirements and standards for Grass-fed beef. Current AMS proposed language for Grass-fed meat standards for producing and processing livestock can be found in the Federal Register, Volume 67, Number 250, Docket Number LS-02-02 and on the internet at http://www.ams.usda.gov/lsg/stand/ls0202.pdf. Information on development of marketing labels can be found at http://www.csuchico.edu/agr/grsfdbef/.

Marin and Sonoma Counties currently have local ordinances requiring that 100% of the animals life energy comes from grass, green or range pasture, forage, or supplemental hay if the animal is to sold with a grass-fed claim and if the animals are raised or sold in those jurisdictions. Because of the standards, cattle are grazing on pasture as much as possible. Ranchers wishing to produce Grass-fed beef in these regions should check with the Marin County's Agricultural Commissioner's office to determine compliance requirements.

Sales and Returns. Because of culling and replacement to the herd, various categories of animals are sold at different times and prices. Table B shows this information based on the assumptions in this cost study.

Commercially produced heifer and steer calves are sold at 10-11 months of age at 650 to 750 pounds, depending on grass production for the year. Both male and female calves are sold at one shipping. It is assumed to take roughly 3 hours of labor per week to roundup and prepare the animals for sale.

Heifers that are not used to replace culled cows are placed into the grass-fed program and are eventually sold. Grass fed beef is sold over a 10-week period. Approximately three heifers are sold weekly once the desired weight is reached. Grass-fed beef cattle are approximately 18 to 24 months of age when sold. An average time of 20 months from calving to market is used in this study. They weigh about 1,150 to 1,300 for each heifer with a frame size 6.

Prices are quite variable depending on factors such as the type of animal sold timing, markets, or animal weight. Prices used in this study are an estimate and meant only to give an idea of potential returns, positive or negative.

Table B. Sale prices for animals marketed.

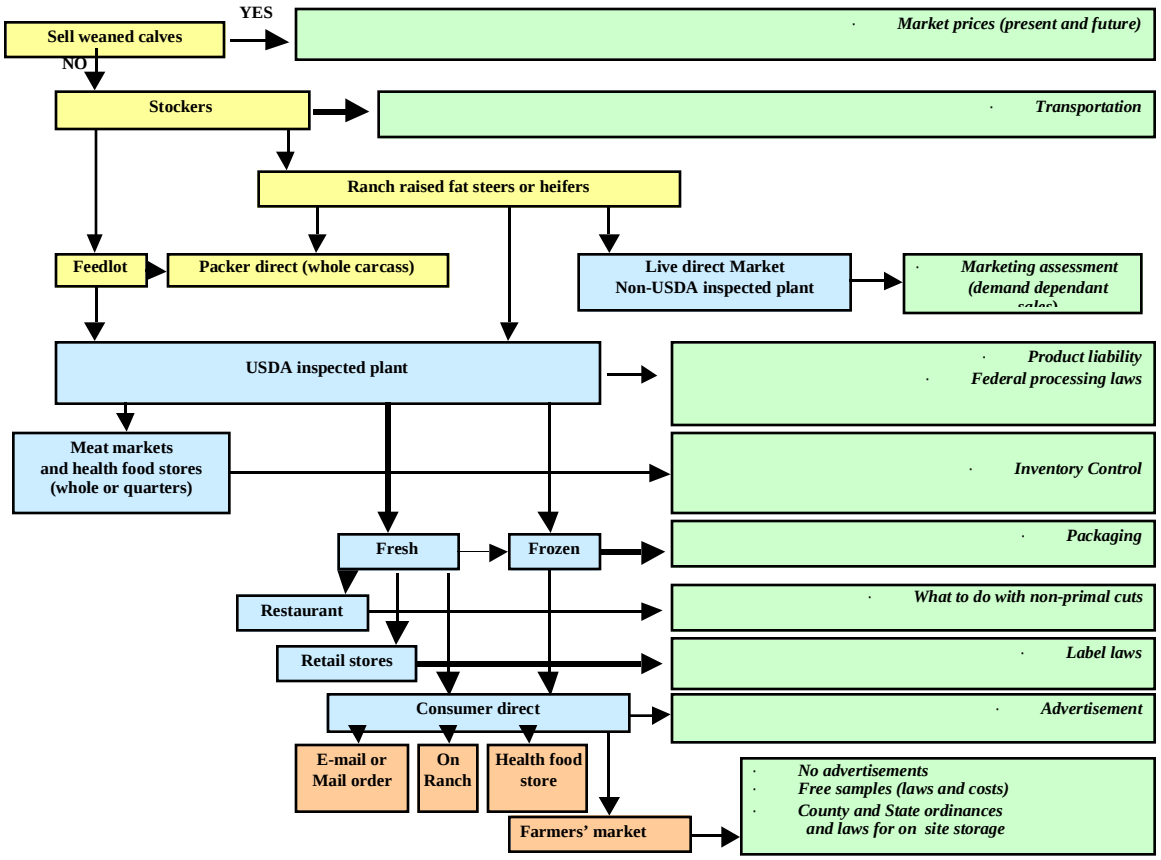
Unit Name	Sale Date	# of Units	Sale Weight	Price/Unit	Price/LB
1st Year Sales					
Heifer Calf	June-August	36	650	$559	$0.86
Steer Calf	June-August	85	700	$637	$0.91
Cull Cow	June-August	20	1,150	$403	$0.35
Cull Bull	June-August	1	1,800	$810	$0.45
2nd Year Sales					
Grass-Fed Cattle	May-June	30	1,100	$858	$0.78

Tables 1-4 are for the regular 200 cow-calf herd during the first year while tables 5-8 are for the Grass-fed beef operation in the second year. All equipment, buildings, vehicles, and overhead are prorated in the second year for the 30 head of Grass-fed cattle and only those costs are shown in tables 5-8.

MARKETING

Marketing. Because markets for Grass-fed beef are still developing and do not have a standard or normal channel this cost study does not include processing, promotion, and sales costs related to cattle. In a Grass-fed beef operation marketing costs must be taken into consideration as part of doing business, unless the cattle are sold at the farm gate to a processor. Ranchers need to explore markets and sales to find the best practice for their operation. This may mean using several sales techniques to be profitable. Chart 2 shows the potential flow of beef through market channels and various marketing situations are detailed in the Case Scenario section below.

Chart 2. A Grass-Fed Beef marketing flowchart



Case Scenarios

The three scenarios described below are not necessarily the only ways to market Grass-fed or other niche meats. Producers may need to consider marketing channel alternatives. The three examples used

in this cost study are only meant to indicate other means for selling a product than through the regular distribution channels. Producers should not regard these examples as the only options available to sell niche meats.

Internet Sales:
Harvest. The cattle in this program are normally harvested from pasture in June. The beef is processed in a USDA inspected plant then dry-aged for fourteen days cut into individual cuts, wrapped, and frozen.

Ordering. Customers ordering Grass-fed beef by the internet obtain an order form which is mailed or faxed back to the seller. The carcass is either sold as a half of a beef or a quarter (also known as split-half). Most customer have opted for the quarter beef order. With quarter orders the meat is sliced by prescribed cutting instructions and weighs approximately 80 pounds. Larger orders normally can have custom cutting instructions to meet the customer's needs.

Costs. The price of the beef is based on per pound dressed or hanging weight. Because of animal carcass uniqueness and different cutting instructions final weight can vary. One internet seller charges $2.38 per pound and the butcher charges an additional $0.65 per pound for cutting and wrapping. A buyer of a quarter of beef, weighing about 85 pounds, can estimate a cost of $400-$425 for their order. Organ meats, tongues, and bones are usually considered extra and should be requested on the order form, if desired. Orders are usually paid in full by the buyer at the butcher shop on pickup.

Marketing Expenses. Additional costs include web site development and maintenance. Advertising, utilities, postage, and internet connection need to be added to the expense of marketing this way. Rental freezer space will be needed at times to hold product during peak processing periods. The rental costs will vary depending on the locker operator and area.

Individual Sales:
Harvest. The Grass-fed beef marketed individually are normally born in the early spring and harvested 14 – 18 months later depending on demand. The beef is processed in a USDA inspected plant, processed into individual cuts, wrapped, and frozen.

Ordering. The beef is offered to customers sold as a whole, half, or quarter. A typical quarter section of beef may weigh up to 100 pounds. A quarter order includes prime cuts, lean ground sirloin, porterhouse, and soup bones. Animals are purchased via phone or fax. A deposit is required and a delivery date is set.

Costs. The price of the beef is based on per pound dressed or hanging weight. Because of animal carcass uniqueness and different cutting instructions final weight can vary. In the case of one individual seller a quarter of beef costs $250, plus butchering costs. Butchering includes hanging, trimming, and cut to individual specifications, and may cost between $70 - $80 depending on the final hanging weight. A final cost would be around $330 for a quarter of beef.

Marketing Expenses. Marketing expenses include web site development and maintenance of the site. Advertising in local newspapers, utilities, postage, and internet connectivity need to be included. Rental

freezer space will be needed on occasions to hold product during peak processing times. The rental costs will vary depending on the locker operator and area.

Retail Sales:
Harvest. Harvest normally occurs in May, June, and July with the cattle weighing approximately 1,050 pounds. Animals are raised on the ranch or purchased through other producers under the grass-fed protocols. The beef is processed in a USDA inspected plant into individual cuts, wrapped, and frozen.

Ordering. Grass-fed beef are ordered several ways including through the internet, and by standard or bulk orders. Other marketing channels include direct sales at farmers' markets and retail outlets. One rancher sells meat in 10, 15, 20, 25, 50 pound packages as well as various quarter, half, or whole beef lots.

Costs. The cost of the product will depend on the type and quantity of purchased beef. Typically, prices in this scenario range between $4.00 - $4.50 per pound wholesale and about $5.50 per pound at the retail level based on the final gross hanging weight. Differences in prices can be attributed to costs of marketing, transportation to farmers' markets and rentals at retail stores.

Marketing Expenses. Web site development and maintenance of the site must be included in the marketing costs. Advertising at farmers' markets, in local newspapers, and for retail stores are essential. Business expense such as utilities, postage, and internet connectivity need to be included. Rental freezer space will be needed on occasions to hold product during peak processing times. The rental costs will vary depending on the locker operator and area.

Risk. The risks associated with a 200-head cow-calf operation and producing and marketing Grass-fed beef are significant. While this study makes every effort to model a production system based on typical, real world practices, it cannot fully represent financial, agronomic and market risks which affect the profitability and economic viability of a cow-calf or Grass-fed beef operation. A market channel should be determined before starting either a cow-calf operation or a Grass-fed beef program.

CASH OVERHEAD COSTS

Cash Overhead. Cash overhead consists of various cash expenses paid out during the year that are assigned to the whole farm and not to a particular operation. These costs include property taxes, interest on operating capital, office expense, liability and property insurance, management services, and equipment repairs.

Property Taxes. Counties charge a base property tax rate of 1% on the assessed value of the property. In some counties special assessment districts exist and charge additional taxes on property including equipment, buildings, and improvements. For this study, county taxes are calculated as 1% of the average value of the property. Average value equals new cost plus salvage value divided by 2 on a per acre basis.

Interest On Operating Capital. Interest on operating capital is based on cash operating costs and is

calculated monthly until harvest at a nominal rate of 6.89% per year. A nominal interest rate is the typical rate for borrowed funds.

Management. Wages for management are not included in this study. Any return above total costs is considered a return to management.

Insurance. Insurance for farm investments vary depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss and is charged at 0.676% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs $516 for the farm.

Office Expense. Office and business expenses are estimated at $5,000 annually. These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, etc.

Equipment Costs. Equipment costs are composed of three parts: non-cash overhead, cash overhead, and operating costs. Both of the overhead factors have been discussed in previous sections. The operating costs consist of fuel, lubrication, and repairs.

Repairs, Fuel and Lube. Repair costs are based on purchase price, annual hours of use, total hours of life, and repair coefficients formulated by the American Society of Agricultural Engineers (ASAE). Fuel and lubrication costs are also determined by ASAE equations based on maximum PTO hp, and type of fuel used. Prices for on-farm delivery of diesel and gasoline are $1.45 and $1.88 per gallon, respectively.

NON-CASH OVERHEAD COSTS

The cost calculations are based on economic principles that include all cash costs. This analysis has used a rental value of the acres as a cost of operation. For this reason land taxes, fence and building depreciation, and land value are not considered in the costs.

Capital Recovery Costs. Although farm equipment on a stock farm in the region might be purchased new or used, this study shows the current purchase price for new equipment. The new purchase price is adjusted to 60% to indicate a mix of new and used equipment. Annual ownership costs for equipment and other investments are shown in the various tables. They represent the capital recovery cost for investments on an annual per acre basis.

Capital recovery cost is the amount of money required each year to recover the difference between the purchase price and salvage value (unrecovered capital). Put another way, it is equivalent to the annual payment on a loan for the investment with the down payment equal to the discounted salvage value. This is a more complex method of calculating ownership costs than straight-line depreciation and opportunity costs, but accurately represents annual costs of ownership because it takes the time value of money into account (Boehlje and Eidman). Annual capital recovery costs is calculated as follows:

$$\left(\text{Purchase Price} - \text{Salvage Value}\right) \times \text{Capital Recovery Factor} + \text{Salvage Value} \times \text{Interest Rate}$$

Salvage Value. Salvage value is an estimate of the remaining value of an investment at the end of its useful life. For farm machinery (e.g., tractors and implements) the remaining value is a percentage of the new cost of the investment (Boehlje and Eidman). The percent remaining value is calculated from equations developed by the American Society of Agricultural Engineers (ASAE) based on equipment type and years of life. The life in years is estimated by dividing the wearout life, as given by ASAE by the annual hours of use in this operation. For other investments including irrigation systems, buildings, and miscellaneous equipment, the value at the end of its useful life is zero.

Capital Recovery Factor. Capital recovery factor is the amortization factor or annual payment whose present value at compound interest is 1. The amortization factor is a table value that corresponds to the interest rate and the life of the equipment.

Interest Rate. The interest rate of 6.23% used to calculate capital recovery cost is the USDA-ERS's ten-year average of California's agricultural sector long-run rate of return to production assets from current income. It is used to reflect the long-term realized rate of return to these specialized resources that can only be used effectively in the agricultural sector. In other words, the next best alternative use for these resources is in another agricultural enterprise.

Table Values. Due to rounding, the totals may be slightly different from the sum of the components.

Acknowledgment. Assistance provided by local producers was greatly appreciated.

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For information concerning the above or other University of California publications, contact UC DANR Communications Services at 1-800-994-8849, online at www.ucop.edu, or your local county UC Cooperative Extension office.

Table 1.

UC COOPERATIVE EXTENSION
COSTS PER HEAD TO MAINTAIN A 200 COW-CALF OPERATION
MARIN AND SONOMA COUNTIES
FIRST YEAR OPERATIONS

	Weight Each	Unit	Total Number of Head or Units	Price or Cost/Unit	Total Value	Value or Cost/Head	Your Value
GROSS RECEIPTS							
Heifer Calves	650	Lbs	36	0.86	20,124	101	
Steer Calves	700	Lbs	85	0.91	54,145	271	
Cull Cows	1150	Lbs	20	0.35	8,050	40	
Cull Bull	1800	Lbs	1	0.45	810	4	
Total Receipts					**83,129**	**416**	
OPERATING COSTS:							
Mineral Supplement/Salt		Lbs	10,305	0.30	3,092	15	
Alfalfa hay		Lbs	276,060	0.05	13,803	69	
Pasture		Acre	1,862	30.00	55,845	279	
Miscellaneous		Head	171	5.00	855	4	
Checkoff/brand inspection		Head	171	3.50	599	3	
Hired Labor		Hour	107	14.70	1,573	8	
Owner Labor		Hour	1,320	22.05	29,106	146	
Veterinary Medicine		$	5,680	1.00	5,680	28	
Machinery (fuel, oil, lube, repair)		$	2,767	1.00	2,767	14	
Vehicles (fuel, lube, repair)		$	3,985	1.00	3,985	20	
Equipment (repair)		$	370	1.00	370	2	
Housing and Improvements (repair)		$	755	1.00	755	4	
Interest on Operating Capital		$	39,071	0.07	2,692	13	
Total Operating Costs					**121,121**	**606**	
Income Above Operating Costs					**-37,992**	**-190**	
OWNERSHIP COSTS:							
Capital Recovery					9,564	48	
Interest on Retained Livestock					5,290	26	
Taxes and Insurance					3,279	16	
Overhead					5,000	25	
Total Ownership Cost					**23,133**	**116**	
Total Costs					**144,255**	**721**	
Returns to Risk and Management					**-61,126**	**-306**	

Table 2. UC COOPERATIVE EXTENSION
MONTHLY SUMMARY OF CASH RETURNS AND EXPENSES TO MAINTAIN A 200 COW-CALF OPERATION
MARIN AND SONOMA COUNTIES
FIRST YEAR OPERATIONS

Beginning September 03	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
Ending August 04	03	03	03	03	04	04	04	04	04	04	04	04	
PRODUCTION:													
Heifer Calves	0	0	0	0	0	0	0	0	0	20,124	0	0	20,124
Steer Calves	0	0	0	0	0	0	0	0	0	54,145	0	0	54,145
Cull Cows	0	0	0	0	0	0	0	0	0	8,050	0	0	8,050
Cull Bull	0	0	0	0	0	0	0	0	0	810	0	0	810
Total Receipts	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**83,129**	**0**	**0**	**83,129**
CULTURAL INPUTS													
Mineral Supplement/Salt	286	286	286	230	230	230	230	230	230	286	286	286	3,092
Alfalfa hay	2,516	2,516	2,193	2,193	2,193	2,193	0	0	0	0	0	0	13,803
Pasture	0	0	0	0	0	0	9,120	9,120	9,120	9,345	9,495	9,645	55,845
Miscellaneous	0	0	0	0	0	0	0	0	0	0	855	0	855
Checkoff/brand inspection	0	0	0	0	0	0	0	0	0	0	599	0	599
Veterinary Medicine	0	2,870	0	1,170	0	0	0	0	0	0	1,640	0	5,680
Machinery (Fuel, Oil, Lube, Repair)	852	228	228	228	228	228	30	30	15	15	30	654	2,767
Vehicles (Fuel and Repair)	845	844	230	230	230	230	230	230	230	230	230	230	3,985
Equipment (Repair)	0	0	0	0	185	185	0	0	0	0	0	0	370
Housing, Improvements (Repair)	0	0	0	0	378	0	0	0	378	0	0	0	755
Taxes and Insurance	0	0	0	150	0	0	0	0	0	150	222	0	522
Hired Labor	74	59	235	250	235	235	29	29	162	162	103	29	1,602
Total Cash Costs	**4,572**	**6,802**	**3,171**	**4,450**	**3,678**	**3,300**	**9,639**	**9,639**	**10,134**	**10,187**	**13,460**	**10,844**	**89,875**
Net Returns Above Cultural Costs	**-4,572**	**-6,802**	**-3,171**	**-4,450**	**-3,678**	**-3,300**	**-9,639**	**-9,639**	**-10,134**	**72,942**	**-13,460**	**-10,844**	**-6,746**
OPERATING INTEREST													
Cumulative Operating Cost	4,572	11,373	14,545	18,994	22,672	25,973	35,612	45,251	55,384	65,571	79,031	89,875	
Interest on Operating Expenses	26	65	84	109	130	149	204	260	318	376	454	516	2,692

Table 3. UC COOPERATIVE EXTENSION
INVESTMENT SUMMARY OF MAINTAINING A 200 COW-CALF OPERATION
MARIN AND SONOMA COUNTIES
FIRST YEAR OPERATIONS

	Purchase Price [1]	Salvage/Cull Value [2]	Livestock Share (%)	Useful Life (yr)	Annual Taxes and Insurance	Annual Capital Recovery
BUILDINGS, IMPROVEMENTS AND EQUIPMENT						
Fencing	12,000	2,000	100	30	108	802
Corral	16,050	2,675	100	30	152	1,072
Barn	7,500	1,250	100	30	71	501
Water system	3,540	590	100	20	34	275
Veterinary Equipment	390	65	100	15	2	38
Gooseneck trailer	6,930	1,155	100	20	27	586
Squeeze	1,080	180	100	10	4	135
Total Buildings, Improvements & Equipment	**47,490**				**398**	**3,409**
PURCHASED LIVESTOCK:						
Bulls	1,500	630	100	4		265
Total Purchased Livestock	**1,500**					**265**
RETAINED LIVESTOCK:	(Beginning Value)					(Int. on investment)
Cows	144,000	90,000	100			4,680
Replacement Heifers	12,000	10,000	100			440
Bulls	6,000	2,520	100			170
Total Retained Livestock	**162,000**					**5,290**
MACHINERY AND VEHICLES						
ATV	3,600	600	75	5	324	566
Tractor and Loader	31,200	5,250	100	26	124	2,370
Pickup 4x4 3/4 ton	19,800	3,300	75	5	2,432	2,954
Total Machinery & Vehicles	**54,600**				**2,880**	**5,890**

[1] The purchase price for buildings, improvements, equipment. machinery, and vehicles is 60% of new cost.
[2] Salvage value is 10% of new cost.

Table 4.

UC COOPERATIVE EXTENSION
RANGING ANALYSIS FOR A 200 COW-CALF OPERATION
MARIN AND SONOMA COUNTIES
FIRST YEAR OPERATIONS

	Total Head	Weight Lbs	Market Prices $ per Lb									
Heifer Calves	36	650	0.74	0.77	0.80	0.83	0.86	0.89	0.92	0.95	0.98	1.01
Steer Calves	85	700	0.79	0.82	0.85	0.88	0.91	0.94	0.97	1.00	1.03	1.06
Cull Cows	20	1,150	0.23	0.26	0.29	0.32	0.35	0.38	0.41	0.44	0.47	0.50
Cull Bulls	1	1,800	0.33	0.36	0.39	0.42	0.45	0.48	0.51	0.54	0.57	0.60
Gross Income			70,205	73,436	76,667	79,898	83,129	86,360	89,591	92,822	96,053	99,284
Total Operating Costs			121,121	121,121	121,121	121,121	121,121	121,121	121,121	121,121	121,121	121,121
Net Income			-50,916	-47,685	-44,454	-41,223	-37,992	-34,761	-31,530	-28,299	-25,068	-21,837
Net Income per Cow Head	200		-254.58	-238.43	-222.27	-206.12	-189.96	-173.81	-157.65	-141.50	-125.34	-109.19

Table 5. UC COOPERATIVE EXTENSION
COSTS PER HEAD TO PRODUCE 30 HEAD OF GRASS-FED BEEF
MARIN AND SONOMA COUNTIES
SECOND YEAR OPERATIONS

	Weight Each	Unit	Total Number of Head or Units	Price or Cost/Unit	Total Value	Value or Cost/Head	Your Value
GROSS RECEIPTS:							
Grass-Fed Heifers	1,100	Pound	30	0.78	25,740	858	
Total Receipts					**25,740**	**858**	
OPERATING COSTS:							
Mineral Supplement/Salt		Lbs	900	0.30	270	9	
Alfalfa hay		Lbs	25,740	0.05	1,287	43	
Pasture		Acre	28	3.54	97	3	
Miscellaneous		Head	30	5.00	150	5	
Checkoff/Brand Inspection		Head	30	3.50	105	4	
Transportation		Head	30	40.00	1,200	40	
Cow Hands		Hour	82	14.70	1,205	40	
Owner Labor		Hour	282	22.05	6,218	207	
Veterinary Medicine		$	480	1.00	480	16	
Machinery (fuel, oil, lube, repair)		$	185	1.00	185	6	
Vehicles (fuel, lube, repair)		$	394	1.00	394	13	
Equipment (repair)		$	5	1.00	5	0	
Housing and Improvements (repair)		$	11	1.00	11	0	
Interest on Operating Capital		$	3,511	0.07	251	8	
Total Operating Costs					**11,860**	**395**	
Income Above Operating Costs					**13,880**	**463**	
OWNERSHIP COSTS:							
Capital Recovery					62	2	
Interest on Retained Livestock					515	17	
Taxes and Insurance					418	14	
Overhead					600	20	
Total Ownership Costs					**1,595**	**53**	
Total Costs					**13,455**	**448**	
Returns to Risk and Management					**12,285**	**410**	

Table 6. UC COOPERATIVE EXTENSION
MONTHLY SUMMARY OF CASH RETURNS AND EXPENSES TO PRODUCE 30 HEAD OF GRASS-FED BEEF
MARIN AND SONOMA COUNTIES
SECOND YEAR OPERATIONS

Beginning September 04 Ending August 05	Sep 04	Oct 04	Nov 04	Dec 04	Jan 05	Feb 05	Mar 05	Apr 05	May 05	Jun 05	Jul 05	Aug 05	Total
PRODUCTION:													
Grass-Fed Heifers	0	0	0	0	0	0	0	0	12,870	12,870	0	0	25,740
Total Receipts	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12,870**	**12,870**	**0**	**0**	**25,740**
OPERATING INPUTS													
Mineral Supplement/Salt	34	34	34	34	34	34	34	34	0	0	0	0	270
Alfalfa hay	215	215	215	215	215	215	0	0	0	0	0	0	1,287
Pasture	0	0	0	0	0	0	35	35	27	0	0	0	97
Miscellaneous	0	0	0	0	0	0	75	75	0	0	0	0	150
Checkoff/Brand Inspection	0	0	0	0	0	0	53	53	0	0	0	0	105
Transportation	0	0	0	0	0	0	600	600	0	0	0	0	1,200
Veterinary Medicine	0	210	0	150	0	0	0	0	0	0	120	0	480
Machinery (Fuel, Oil, Lube, Repair)	36	19	19	19	19	19	19	36	0	0	0	0	185
Vehicles (Fuel and Repair)	43	43	31	31	31	31	31	31	31	31	31	31	394
Equipment (Repair)	0	0	0	0	3	3	0	0	0	0	0	0	5
Housing, Improvements (Repair)	0	0	0	0	6	0	0	0	6	0	0	0	11
Taxes and Insurance	0	0	0	4	39	0	0	2	0	2	0	0	47
Hired Labor	74	59	250	265	250	250	29	29	0	0	0	0	1,205
Total Operating Inputs	**400**	**579**	**548**	**717**	**595**	**551**	**876**	**895**	**63**	**33**	**151**	**31**	**5,438**
Net Returns	**-400**	**-579**	**-548**	**-717**	**-595**	**-551**	**-876**	**-895**	**12,807**	**12,837**	**-151**	**-31**	**20,302**
OPERATING INTEREST:													
Cumulative Operating Cost	400	979	1,527	2,244	2,839	3,390	4,266	5,161	5,224	5,256	5,407	5,438	
Interest on Operating Expenses	2	6	9	13	17	20	25	31	31	31	32	32	251

UC COOPERATIVE EXTENSION

Table 7. INVESTMENT SUMMARY TO PRODUCE 30 HEAD OF GRASS-FED BEEF
MARIN AND SONOMA COUNTIES
SECOND YEAR OPERATIONS

	Purchase Price [1]	Salvage/Cull Value [2]	Livestock Share (%)	Useful Life (yr)	Annual Taxes and Insurance	Annual Capital Recovery
BUILDINGS, IMPROVEMENTS AND EQUIPMENT:						
Fencing	1,200	200	12	30	1	10
Corral	1,926	2,675	12	30	25	13
Barn	900	1,250	12	30	12	6
Water System	360	500	12	20	5	2
Veterinary Equipment	47	65	12	15	0	0
Gooseneck Trailer	832	1,155	12	20	1	5
Squeeze	130	180	12	10	0	1
Total Buildings, Improvements & Equipment	5,395				44	38
RETAINED LIVESTOCK:	(Beginning Value)					(Int. on investment)
Replacement Heifers	15,000	12,500	100			550
Total Retained Livestock	**15,000**					**550**
MACHINERY AND VEHICLES:						
Tractor Loader	3,744	5,200	12	24	4	25
ATV	432	600	12	5	44	0
Pickup 4x4 3/4 Ton	2,376	3,300	12	5	327	0
Total Machinery & Vehicles	**6,552**				**374**	**24**

[1] The purchase price for buildings, improvements, equipment. machinery, and vehicles is 60% of new cost.
[2] Salvage value is 10% of new cost.

Table 8. UC COOPERATIVE EXTENSION
RANGING ANALYSIS TO PRODUCE 30 HEAD OF GRASS-FED BEEF
MARIN AND SONOMA COUNTIES
SECOND YEAR OPERATIONS

	Total Head	Weight Lbs	Market Prices $ per Lb									
Grass-Fed Beef	30	1,100	0.66	0.69	0.72	0.75	0.78	0.81	0.84	0.87	0.90	0.93
Gross Income			21,780	22,770	23,760	24,750	25,740	26,730	27,720	28,710	29,700	30,690
Total Operating Costs			11,860	11,860	11,860	11,860	11,860	11,860	11,860	11,860	11,860	11,860
Net Income			9,920	10,910	11,900	12,890	13,880	14,870	15,860	16,850	17,840	18,830
Net Income per GFB Head	30		330.67	363.67	396.67	429.67	462.67	495.67	528.67	561.67	594.67	627.67