

BF-SV-69-1

*ad Reed*

# BEEF RANCH ANALYSIS

## BUTTE COUNTY

by

Alva W. Mitchell, Farm Advisor

&

A. Doyle Reed, Extension Economist



Agricultural Extension Service  
University of California  
Oroville, California  
February 1969

UC Cooperative Extension

## BEEF RANCH ANALYSIS

This study analyzes the net income potential of two types of beef cattle operations typical of Butte County -- one using natural winter range in the valley and summering in the mountains on irrigated meadow and Forest Service permit; the other staying in the valley the year around and using irrigated pasture for the main source of feed.

The analyses are based on 300 cow breeding herds, and we have tried to keep the operations as comparable as possible. The same amount of labor could probably operate 25 to 50% more cows with the range setup, and possibly 50 to 100% more cows on the irrigated pasture setup. With labor representing 28 and 33% of the cash costs on the two operations, this becomes an important item.

The irrigated pasture operation is assumed as all on owned land. Headquarters areas are the only owned land with the range operation.

The analyses give the income and expense for the entire ranch operation and then break these down into the various enterprises. The total cost of equipment and horses is charged to the appropriate enterprise. Feed is transferred to the beef at market value so a profit or loss is shown on each feed-producing enterprise.

In both operations, managers graft purchased day-old calves on cows having lost calves at calving or shortly after birth. This is necessary to obtain the high weaned calf percent.

In the valley operation, cows are put on dry land range at calf weaning time. They are left there to calve and are returned when calves are 2-3 weeks old. This has helped the scour problem in young calves, and has helped to eliminate too much milk at calving time.

Equipment costs are based on new prices. Under the present agriculture "cost-price squeeze" most producers would probably buy used equipment.

BEEF INCOME AND COSTS - RANGE OPERATION

Butte County - 1969

Based on 300 cow herd, 90% calf crop, 2% mortality, 20% replacement, selling weaners and yearlings.

	Total Value					
	Total Ranch	Valley Range	Mountain Pasture	Equip-ment	Horses	Cattle
<b>Investment</b>						
Valley range land, 160 acres @ \$200	32,000	32,000				
Mountain pasture land, 160 acres @ \$300	48,000		48,000			
Fences	3,200	1,600	1,600			
Buildings, corrals, etc.	18,000			18,000		
Irrigation system	4,000		4,000			
Equipment	22,000			22,000		
Horses and saddles - 6	1,700				1,700	
Cows, 300 @ \$200	60,000					60,000
Bulls, 15 @ \$400	6,000					6,000
Heifers, 70 @ \$144	10,080					10,080
Steers, 67 @ \$126	8,442					8,442
<b>TOTAL INVESTMENT</b>	<b>213,422</b>	<b>33,600</b>	<b>53,600</b>	<b>40,000</b>	<b>1,700</b>	<b>84,522</b>
<b>Income</b>						
Weaner steers, 68 @ 550 lb. - 37,400 lb. @ 28¢	10,472					10,472
Yearling steers, 66 @ 750 lb. - 49,500 lb. @ 26¢	12,870					12,870
Weaner heifers, 65 @ 475 lb. - 30,875 lb. @ 24¢	7,410					7,410
Yearling heifers, 9 @ 700 lb. - 6,300 lb. @ 23¢	1,449					1,449
Cows, 54 @ 1,000 lb. - 54,000 lb. @ 18¢	9,720					9,720
Bulls, 3 @ 1,500 lbs. - 4,500 lb. @ 23¢	1,035					1,035
Range transferred to beef @ \$5 AUM		750	3,000			
Transfers - other costs				7,236	612	
<b>TOTAL INCOME</b>	<b>42,956</b>					<b>42,956</b>
<b>Expense</b>						
Winter range purchase 1,965 AUM @ \$5	9,825					10,575
Summer pasture purchase 1,450 AUM @ \$5	7,250					10,250
Forest Service 450 AUM @ .69	310					310
Hay 150 ton @ \$26	3,900				360	3,900
Salt	150					150
Total feed	21,435					25,185
Labor, 2 men @ \$500/month plus 10%	13,200	500	3,000			9,700
Bull replacement, 3 @ \$400	1,200					1,200
Veterinary and medicine	225					225
Taxes	2,851	560	840	350	12	1,089
Horse	355				355	612
Equipment		150	400			6,686
Miscellaneous overhead and insurance	2,400					2,400
Shipping	2,260					2,260
Fuel and repairs	1,500			1,500		
Interest on operating capital	1,803	42	154	74	15	1,518
Cash cost	46,874	1,252	4,394	1,924	382	50,875
Depreciation	3,830			3,660	170	
Interest - investment	13,229	2,240	3,360	1,652	60	5,917
Management - 5% of \$42,956	2,148					2,148
<b>TOTAL EXPENSE</b>	<b>66,081</b>	<b>3,492</b>	<b>7,754</b>	<b>7,236</b>	<b>612</b>	<b>58,940</b>
<b>NET INCOME</b>	<b>-23,125</b>	<b>-2,742</b>	<b>-4,754</b>	<b>-0-</b>	<b>-0-</b>	<b>-15,984</b>

BEEF INCOME AND COSTS - IRRIGATED PASTURE

Butte County - 1969

Based on 300 cow herd, 93% calf crop, 1% mortality, 20% replacement, selling weaners.

	Total Value					
	Total Ranch	Winter Range	Irrigated Pasture	Equipment	Horses	Cattle
<b>Investment</b>						
Range land - 500 acres @ \$200	100,000	100,000				
Pasture land - 350 acres @ \$500	175,000		175,000			
Fences	9,000	3,000	6,000			
Buildings, corrals, etc.	10,000			10,000		
Irrigation system	35,000		35,000			
Pasture stand	17,500		17,500			
Equipment	26,000			26,000		
Horses and saddles	350				350	
Cows - 300 @ \$200	60,000					60,000
Bulls - 15 @ \$400	<del>6,000</del>	7500				<del>6,000</del> 7500
Heifers - 60 @ 600# @ 24¢	8,640					8,640
<b>TOTAL INVESTMENT</b>	<b>447,490</b>	<b>103,000</b>	<b>233,500</b>	<b>36,000</b>	<b>350</b>	<b><del>74,640</del> 76,140</b>
<b>Income</b>						
Steers - 135 @ 600#-81,000 lb. @ 28¢	22,680					
Heifers- 74 @ 575#-42,550 lb. @ 24¢	10,212					
Cows - 18 @1000#-18,000 lb. @ 18¢	3,240					
Bulls - 3 @1500#- 4,500 lb. @ 23¢	1,035					
Pairs - 39 @ \$240	9,360					
Transfers		10,947	28,000	6,152		
				5,526		
<b>TOTAL INCOME</b>	<b>46,527</b>					<b>46,527</b>
<b>Expense</b>						
Winter range - feeding area - 500 AUM						10,947
Pasture - 3000 AUM @ \$6						<del>9,101</del>
Hay - 400 ton @ \$25						18,000
Salt	150					10,000
Total feed						150
Labor - 2 men @ \$500 month plus 10%	13,200		4,950			37,251 39,097
Bull replacement - 3 @ \$400 500	1,500					8,250
Veterinary and medicine	225					1,500
Horse						225
Taxes	6,254	1,750	3,062	227	2	49
Fuel and repairs	1,500			1,500		1,213
Equipment			<del>3,028</del>			
Miscellaneous overhead	2,400		<del>2,448</del>			<del>3,028</del>
Haul hay - 400 ton @ \$4	1,600		1,600			<del>2,448</del>
Power for irrigation	3,500		3,500			2,400
Fertilizer - 110#P2O5 @12¢, 120# N @10¢	9,360	1,800	7,560			
Interest - operating capital	1,588	142	937	69		440
<b>Cash cost</b>	<b>41,277</b>	<b>3,692</b>	<b>24,057</b>	<b>1,796</b>	<b>2</b>	<b><del>53,727</del> 52,252</b>
Depreciation	7,085	150	3,800	3,100	35	
Interest - investment	<del>27,899</del>	7,105	14,297	1,260	12	5,225 5,330
Management \$50,019 @ 5%	2,326					2,326
<b>TOTAL EXPENSE</b>	<b>78,692</b>	<b>78,587</b>	<b>10,947</b>	<b>42,154</b>	<b>6,156</b>	<b>61,270 63,907</b>
<b>NET INCOME</b>	<b>32,165</b>	<b>-32,060</b>	<b>-0-</b>	<b>-14,154</b>	<b>-0-</b>	<b>-14,800 -17,381</b>

14,784

INVESTMENT SUMMARY

Range Operation		Irrigated Pasture
Land - Valley 160 acres @ \$200	\$32,000	
Mountain 160 a. @ \$300	48,000	
Total land	<u>\$80,000</u>	
Fences - in land value	3,200	
Buildings - 2 sets	10,000	
Corrals	2,000	
Scales - 2 sets	6,000	
Irrigation system (Mt. Meadow)	4,000	
Pasture stand	-	
Equipment - Crawler trac.	\$8,000	
Wheel "	2,600	7,600
Truck	5,000	5,000
Pickup - 2	5,000	5,000
Swather	-	2,700
Baler	-	2,800
Misc.	1,400	<u>2,900</u>
Total equipment	22,000	26,000
Horses and equipment	1,700	350
Cattle - Cows 300 @ \$200	60,000	60,000
Bulls 15 @ \$400	6,000	6,000
Rep. heifers		
70 @ \$144	10,080	
Steers 67 @ \$126	8,442	
Total Cattle	<u>84,522</u>	<u>74,700</u>
Total Investment	\$213,422	\$447,490

BEEF RANCH ANALYSIS - RANGE

Butte County 1969

Based on a 300 cow breeding herd, 15 bulls, 90% calf crop, 20% replacement, 2% mortality, sell weaners and yearlings.

Owned headquarters but rented range.

Calendar: November 15 to May 15 - Valley foothill range  
 December 1 to February 28 - Calve  
 March 15 to November 15 - Mountain Valley pasture and Forest Service  
 September - Sell weaners and yearlings

Investment:

Valley headquarters	160 acres @\$200	\$32,000	
	Corrals - portable	2,000	
	Scales	3,000	
	Buildings	5,000	
	Fences @ \$10 per A.	<u>1,600</u>	
	Total		43,600
Mountain headquarters	160 acres @ \$300	48,000	
	Scales	3,000	
	Buildings	5,000	
	Fences @ \$10 per A.	1,600	
	Irrigation system	4,000	
	Total		61,600
Equipment:	Crawler tractor	8,000	
	Wheel tractor	2,600	
	Truck	5,000	
	Pickup - 2	5,000	
	Miscellaneous	<u>1,400</u>	
	Total		22,000
Horses - 6 @ \$250		1,500	
Saddles - 2 @ \$100		<u>200</u>	
	Total		1,700
Cattle:	Cows - 300 @ \$200	60,000	
	Bulls - 15 @ \$400	6,000	
	70 Heifers - 600# @ 24¢ = \$144	10,080	
	67 Steers - 450# @ 28¢ = \$126	<u>8,442</u>	
	Total		\$84,522
	GRAND TOTAL		<u>\$213,422</u>

INCOME AND EXPENSE

INCOME - Based on 90% weaned calf crop - 2% cow mortality

Weaner steers	68 @ 550 lb.	- 37,400 lb.	@ 28¢	\$10,472
Weaner heifers	65 @ 475 lb.	- 30,875 lb.	@ 24¢	7,410
Yearling steers	66 @ 750 lb.	- 49,500 lb.	@ 26¢	12,870
Yearling heifers	9 @ 700 lb.	- 6,300 lb.	@ 23¢	1,449
Cull cows	54 @ 1000 lb.	- 54,000 lb.	@ 18¢	9,720
Cull bulls	3 @ 1500 lb.	- 4,500 lb.	@ 23¢	<u>1,035</u>
Total	267 head	185,050 lb.		\$42,956

EXPENSE

Feed:	Winter range	2,115 aum @ \$5 = \$10,575 - \$750 <sup>(1)</sup>	\$9,825
	Summer range	2,050 aum @ \$5 = \$10,250 - \$3000 <sup>(2)</sup>	7,250
	Forest Service	100 aum for 4½ months @ .69	310
	Hay	150 ton @ \$26	3,900
	Salt		<u>150</u>
	Total Feed		\$21,435

- (1) 150 aum of feed produced on valley headquarters  
 (2) 600 aum of feed produced on mountain headquarters

Labor:	2 men @ \$500 month each plus 10%	13,200
Replacement bulls	3 @ \$400	1,200
Veterinary and medicine		225
Equipment fuel and oil		1,500
Shipping		2,260
Taxes		
	Land \$20,000 assessed x \$7	1400
	Livestock - Cattle \$1089; Horses, 12*	1102
	Equipment & Buildings	<u>350</u>
	Total taxes . . . . .	2,852
Misc. overhead \$1500, Insurance \$900		<u>2,400</u>
	Subtotal	45,072
Interest on operating capital 8% for 6 months		<u>1,803</u>
	Total Cash Costs	\$46,875

\*Horses' feed \$355 - cost figured in feed costs

Depreciation		3,830
Interest on Investment		
	Land \$80,000 @ 7%	\$5600
	Equipment & Bldgs. \$47,200, dep. 1/2 \$23,600	1652
	Cattle \$84,522	5917
	Horses \$1700 - dep. 1/2 \$850	<u>60</u>
		\$13,229
Management Income 5% on gross		2,148
Total Expense		\$66,082
NET INCOME		\$23,126

INTEREST AND DEPRECIATION - RANGE

		<u>Dep.</u>	<u>Int. 7%</u>
<b>Valley Headquarters</b>			
Land	\$32,000		2,240
Corrals	2,000	200	70
Scales	3,000	200	105
Buildings	5,000	250	175
Fences	1,600	80	56
<b>Mountain Headquarters</b>			
Land	48,000		3,360
Scales	3,000	200	105
Buildings	5,000	250	175
Fences	1,600	80	56
Irrigation system	4,000	200	140
Equipment	22,000	2,200	770
Horses and saddles	1,700	170	60
Cattle	84,522		<u>5,917</u>
		<u>3,830</u>	<u>13,229</u>

		<u>Taxes</u>
Cows	300 @ \$140	\$42,000
Bulls	15 @ \$300	4,500
Steers	67 @ \$130	8,710
Heifers	70 @ \$100	<u>7,000</u>
		62,210
	Assessed value	<u>15,552</u>
	7% tax rate	\$ 1,089



BEEF RANCH ANALYSIS - SACRAMENTO VALLEY

BUTTE COUNTY - 1969

Based on a 300 cow breeding herd, 15 bulls, 93% calf crop, 20% replacements, 1% mortality, and sell weaners.

Calendar: December 1 to February 28 - feed hay on range.  
 March 1 to August 1 - irrigated pasture.  
 May - cut surplus pasture for hay.  
 August 1 - select replacement heifers  
                     sell weaners  
 August 1 to September 30 - improved dry land clover range to calve.  
 September 1 - 15 - cut surplus pasture for hay.  
 September 1 to November 30 - calve.  
 Move cows and calves to irrigated pasture, as calves reach two to three weeks of age, to December 1.

Investment:

Rangeland 500A @ \$200		\$100,000
Fences		3,000
Irrigated ground 350A @ \$500		175,000
Irrigation system		35,000
<u>Fixed facilities:</u>		
Corrals	\$ 2,000	
Scales	3,000	
Buildings	5,000	
Fences	<u>6,000</u>	
		16,000
Pasture stand 350A @ \$50		17,500
<u>Equipment:</u>		
Tractor	\$ 7,600	
Truck	5,000	
Pickup - 2	5,000	
Swather	2,700	
Baler	2,800	
Miscellaneous	<u>2,900</u>	
		\$ 26,000
Horse 1 @ \$250		
Saddle 1 @ \$100		\$ 350
<u>Cattle:</u>		
Cows 300 @ \$200	\$60,000	
Bulls 15 @ \$400	6,000	
60 Replacement heifers - 600# @ 24¢	<u>8,640</u>	
		\$ 74,640
	<b>GRAND TOTAL</b>	<b>\$447,490</b>

INCOME - Based on 93% weaned calf crop - 1% cow mortality

Weaner steers	135 @ 600 lbs - 81,000 @ 28¢	\$22,680
Weaner heifers	74 @ 575 lbs - 42,550 @ 24¢	10,212
Dry cows	18 @ 1000 lbs - 18,000 @ 18¢	3,240
Cull cows - sold as pairs	- 39 @ \$240	9,360
Bulls	<u>3 @ 1500 - 4500 @ 23¢</u>	<u>1,035</u>
Total	269 head	\$46,527

Expense:

Fertilizer irrigated pasture	80# P <sub>2</sub> O <sub>5</sub> @ 12¢ = 9.60 x 350 = \$3,360	
	120# NC @ 10¢ = 12.00 x 350 = 4,200	
Range every other year	60# P <sub>2</sub> O <sub>5</sub> @ 12¢ = 3.60 x 500 = <u>1,800</u>	\$ 9,360
Salt		150
Labor - 2 men @ \$500/month each plus 10%		13,200
Haul hay - 400 ton @ \$4		1,600
Replacement bulls - 3 @ \$500		1,500
Vet and medicine		225
Equipment - \$1,500 fuel oil		1,500
Insurance		900
Taxes:		
Land Range \$1,750, Pasture \$3,062		\$4,812
Livestock Cattle \$1,213, Horse \$2		1,215
Equipment & Building		<u>227</u>
Total		\$ 6,254
Power for irrigation		3,500
Miscellaneous overhead		1,500
Interest on operating loan @ 8%		<u>1,588</u>
Total Cash Costs		\$41,277

Depreciation \$ 7,085

Interest on Investment:

Land	\$19,250
Equipment & Building & Fences, \$45,000-dep. $\frac{1}{2}$ -\$22,500	1,575
Irrigation system - \$35,000	1,225
Pasture stand	612
Cattle	5,225
Horse - \$350 dep. $\frac{1}{2}$	<u>12</u>

\$27,899  
2,326

Management Income 5% on gross

TOTAL EXPENSE \$73,250

NET INCOME -\$26,723

INTEREST & DEPRECIATION - VALLEY

	<u>Investment</u>	<u>Depreciation</u>	<u>Interest 7%</u>
Range	\$100,000		\$7,000
Fence	3,000	\$150	105
Irrigated pasture	175,000		12,250
Irrigation system	35,000	1750	1,225
Irrigated pasture stand	17,500	1750	612
Fence	6,000	300	210
Buildings and corrals	10,000	500	350
Equipment	26,000	2600	910
Horse and saddle	350	35	12
Cattle	74,640		<u>5,225</u>
Totals		<u>\$7085</u>	<u>\$27,899</u>

Taxes

Cows - 300 @ \$140	\$42,000
Calves 280 @ \$ 60	16,800
Bulls - 15 @ \$300	4,500
Replacement H. 60 @\$100	<u>6,000</u>
	\$69,300
25% = \$17,325 x 7 = \$1213	

Total Feed

Produced: (AUM's)		Needed:	(AUM's)
Pasture	3000	Cows 300 x 12	3600
Hay	1000	Bulls 15 x 12	180
Range	<u>500</u>	Heifers 60 x 9	540
	4500	Horse 1 x 12	<u>12</u>
			4332

**BEEF INCOME AND COSTS - IRRIGATED PASTURE  
Butte County - 1969**

Based on Leased Ranch, 400 acres, 200 cow breeding herd, 93% weaned calf crop, 1% mortality, 20% replacement, selling weaners and buying 400 light feeder heifers -- 425 lb. ave. -- selling off pasture and self-feeders, 1/2 almond hulls and 1/2 grain @ 850 lbs. grading high standard through low choice.

INVESTMENT - Buying Used Equipment

50 H.P. wheel tractor with front-end loader	\$3,000
Disc	800
Plow	150
Harrow 16'	100
Baler	1,500
Swather	2,000
4-wheel drive pick-up	2,000
Pick-up	2,500
Truck	3,500
Shop Equipment	1,500
Miscellaneous	1,400
	<u>\$18,450</u>

Cattle:	
Cows - 200 @\$200	40,000
Bulls - 9 @\$400	3,600
Replacement Heifers, yearlings • 50 @\$145	7,250
	<u>50,850</u>
	Total Cattle
Horses and equipment	350

<u>TOTAL INVESTMENT</u>	<u>\$69,650</u>
-------------------------	-----------------

<u>INCOME</u>	
Steer calves - 93 @600#, 55,800 @28¢	\$15,624
Heifer calves - 43 @540#, 23,220 @24¢	5,573
Cull cows - 15 @1050#, 15,750 @18¢	2,835
Cull bulls - 2 @1500#, 3000 @23¢	690
Cull cows - Pairs, 23 @230	5,290
8 open replacement heifers - 900#, 7200 @24.75	1,782
388 feeder heifers - 850#, 329,800 @24.75	81,625
<u>TOTAL INCOME</u>	<u>\$113,419</u>

<u>EXPENSES</u>	
Rent 400 Acres	\$8,000
Almond hulls, 300 tons @\$7	2,100
Barley or sorghum, 100 tons @\$46	4,600
Salt	200
Labor - Self \$500 per mo. plus 10%	6,600
Hired man \$400 per mo. plus 10%	5,280
Bull replacement - 2 @\$500	1,000
Veterinary, medicine and fly control	500
Taxes @ \$8 rate	1,710
Fuel and repairs	2,500
Miscellaneous overhead	2,500
Power for irrigation	3,500
Fertilizer - 75# P <sub>2</sub> O <sub>5</sub> @12¢ on 380 A.	3,420
100# N @10¢ on 350 A.	3,500
400 feeder heifers 425# @25¢ - \$106.25	42,500
Interest on operating capital @8½%	3,375
	UC Cooperative Extension
<u>CASH COSTS</u>	<u>\$91,285</u>

(over)

Depreciation - 6 yr. life

3,074

Interest on investment, equipment and breeding cattle (8%)

5,572

Management Income \$113,419 @5%

5,671

---

TOTAL EXPENSE

\$105,602

---

NET INCOME

\$ 7,812

---

UC Cooperative Extension