

Rangeland Conservation Requires Profitable Ranching Operations

Thank you photographers!

Central Coast Rangeland Coalition

April 18, 2019 Morgan Hill, CA

Devii R. Rao, Donald Stewart, and Daniel A. Sumner

Native Grasses



Native Wildflowers



California Red-Legged Frog



Photo © 1998 Joyce Gross

Grassland Songbird Species



Grasshopper Sparrow



Savannah Sparrow



Western Meadowlark



Horned Lark

Data presented here are draft numbers.

UNIVERSITY OF CALIFORNIA AGRICULTURE AND NATURAL RESOURCES
COOPERATIVE EXTENSION
AGRICULTURAL ISSUES CENTER
UC DAVIS DEPARTMENT OF AGRICULTURAL AND RESOURCE ECONOMICS
2018
SAMPLE COSTS FOR BEEF CATTLE



COW – CALF PRODUCTION
CENTRAL COAST
300 Head Operation
Amended April – 2019

Devii R. Rao	UC Cooperative Extension Farm Advisor, San Benito, Monterey and Santa Cruz Counties
Donald Stewart	Staff Research Associate, UC Agricultural Issues Center and Department of Agricultural and Resource Economics, UC Davis

Daniel A. Sumner	Director, UC Agricultural Issues Center, Frank H. Buck Jr. Professor, Department of Agricultural and Resource Economics, UC Davis
------------------	---

All costs in this presentation are estimates based on conversations with many ranchers and do not represent any one ranching operation.



Annual Lease ~ \$98,000 at \$23.00 / AUM

- Includes 300 cows, 60 replacement heifers and 15 bulls

Table A. Operations Calendar. The Operations Calendar is for a beef breeding herd which shows approximate dates for the operations. Operations will vary according to seasonal weather.

Date		Operation
15-Nov	29-Feb	Breeding – bulls turned in (stay in for 3 months)
1-Dec	31-Jan	Branding & vaccinating all calves, castrating bull calves
1-May	1-July	Preg check, vaccinate, and deworm heifers & cows
1-May	1-July	Bangs vaccinate heifers (when you preg check)
1-May	31-July	Sell open heifers, cows, and cull bulls
1-May	1-July	Ship/sell calves (some operations give booster vaccinations and deworm calves 2-10 weeks before shipping)
1-Aug	1-Nov	Pre-breeding vaccinations – cows & heifers (although some operations vaccinate cows & heifers only once at preg check)
1-Aug	1-Nov	Bulls: breeding soundness check, **Trich test, vaccinate, and deworm; sell any additional cull bulls after breeding soundness check (bulls may be vaccinated and dewormed a second time if they are brought in for something else)
15-Aug	1-Nov	Calving
1-Sept	1-Nov	Bulls purchased

**Tritrichomonas foetus: "Trich" is a venereal disease of cattle.



- 1 bull for 20 cows
- Bulls stay in with cows for 3 months
- 15 bulls - bulls replaced in 3-6 years
- 5 bulls each year for ~\$6,000/ea.

Photo credit: Allan Renz

Table A. Operations Calendar. The Operations Calendar is for a beef breeding herd which shows approximate dates for the operations. Operations will vary according to seasonal weather.

Date		Operation
15-Nov	29-Feb	Breeding – bulls turned in (stay in for 3 months)
1-Dec	31-Jan	Branding & vaccinating all calves, castrating bull calves
1-May	1-July	Preg check, vaccinate, and deworm heifers & cows
1-May	1-July	Bangs vaccinate heifers (when you preg check)
1-May	31-July	Sell open heifers, cows, and cull bulls
1-May	1-July	Ship/sell calves (some operations give booster vaccinations and deworm calves 2-10 weeks before shipping)
1-Aug	1-Nov	Pre-breeding vaccinations – cows & heifers (although some operations vaccinate cows & heifers only once at preg check)
1-Aug	1-Nov	Bulls: breeding soundness check, **Trich test, vaccinate, and deworm; sell any additional cull bulls after breeding soundness check (bulls may be vaccinated and dewormed a second time if they are brought in for something else)
15-Aug	1-Nov	Calving
1-Sept	1-Nov	Bulls purchased

**Tritrichomonas foetus: "Trich" is a venereal disease of cattle.

- Branding is December through January
- Before branding cattle need to be gathered



Horses are used to gather cattle



Photo credit: Swanton Pacific Ranch

ATVs are often used to gather cattle as well



Photo credit: Larry Ford

Fence lines helpful to gather cattle



Photo credit: Allan Renz

- Cattle are brought to the corrals
- Calves separated from cows



Ranchers rope calves from horseback

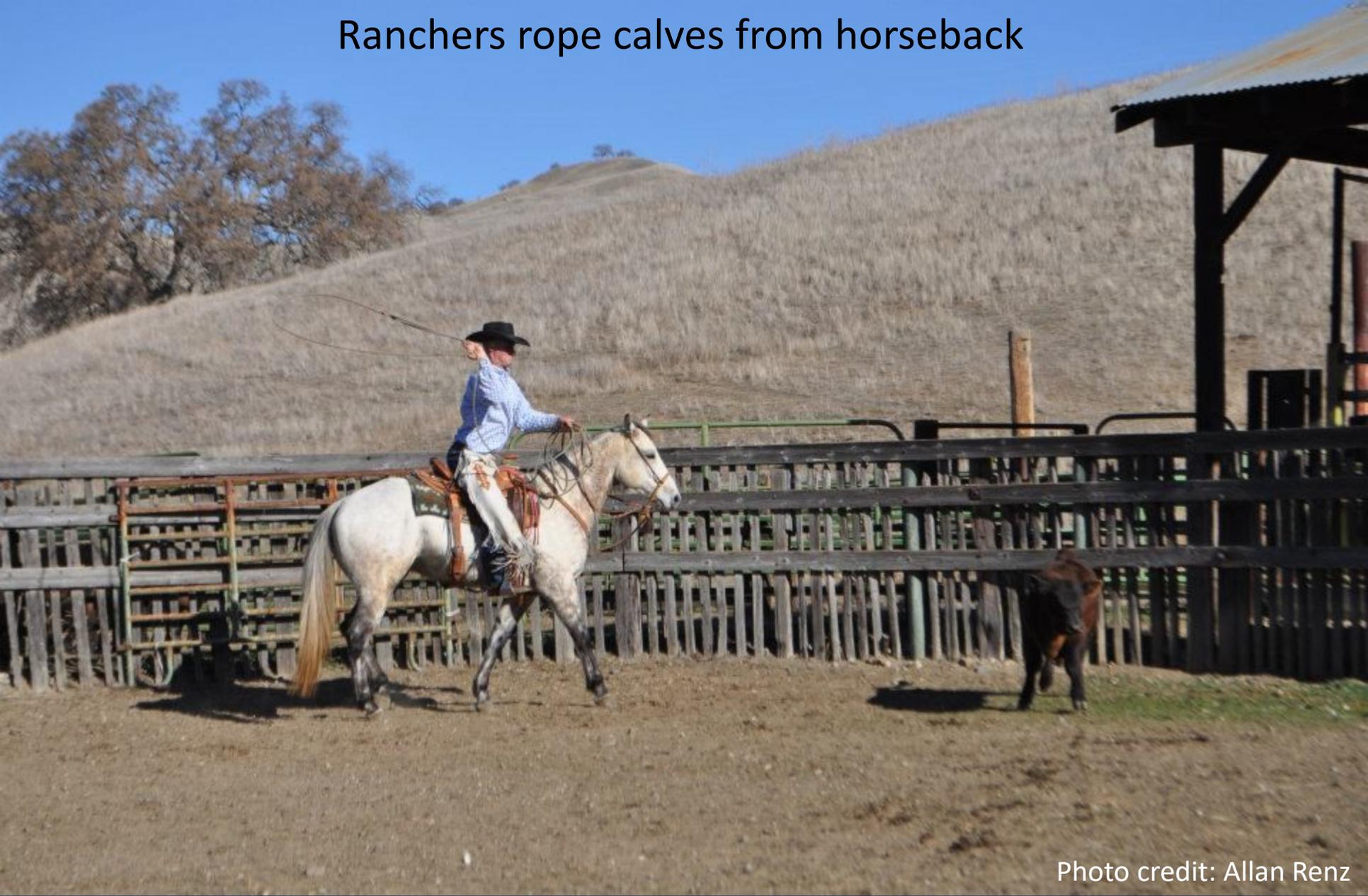


Photo credit: Allan Renz



Photo credit: Larry Ford

- One person ropes front two feet.
- Second person gets back feet.
- Third person uses a traditional branding iron heated with coals.



Castrate & vaccinate calves at branding



Photo credit: Larry Ford

Sometimes people use electric branding irons.



Photo credit: Swanton Pacific Ranch

Table A. Operations Calendar. The Operations Calendar is for a beef breeding herd which shows approximate dates for the operations. Operations will vary according to seasonal weather.

Date		Operation
15-Nov	29-Feb	Breeding – bulls turned in (stay in for 3 months)
1-Dec	31-Jan	Branding & vaccinating all calves, castrating bull calves
1-May	1-July	Preg check, vaccinate, and deworm heifers & cows
1-May	1-July	Bangs vaccinate heifers (when you preg check)
1-May	31-July	Sell open heifers, cows, and cull bulls
1-May	1-July	Ship/sell calves (some operations give booster vaccinations and deworm calves 2-10 weeks before shipping)
1-Aug	1-Nov	Pre-breeding vaccinations – cows & heifers (although some operations vaccinate cows & heifers only once at preg check)
1-Aug	1-Nov	Bulls: breeding soundness check, <u>**Trich</u> test, vaccinate, and deworm; sell any additional cull bulls after breeding soundness check (bulls may be vaccinated and dewormed a second time if they are brought in for something else)
15-Aug	1-Nov	Calving
1-Sept	1-Nov	Bulls purchased

**Tritrichomonas foetus; "Trich" is a venereal disease of cattle.

Veterinary Services ~ \$3,000

- Preg check cows & BANGS vaccinate heifers against Brucellosis - June
- Bull breeding soundness & tich test – Sept/Oct



Photo credit: Swanton Pacific Ranch

Vaccinations / deworming for all animals ~\$11,700

- Calves – at branding
- Cows – at preg check
- Bulls - breeding soundness/trich testing
- 1x, some operations will do 2x/yr



Photo credit: Rebecca Ozeran

Table A. Operations Calendar. The Operations Calendar is for a beef breeding herd which shows approximate dates for the operations. Operations will vary according to seasonal weather.

Date		Operation
15-Nov	29-Feb	Breeding – bulls turned in (stay in for 3 months)
1-Dec	31-Jan	Branding & vaccinating all calves, castrating bull calves
1-May	1-July	Preg check, vaccinate, and deworm heifers & cows
1-May	1-July	Bangs vaccinate heifers (when you preg check)
1-May	31-July	Sell open heifers, cows, and cull bulls
1-May	1-July	Ship/sell calves (some operations give booster vaccinations and deworm calves 2-10 weeks before shipping)
1-Aug	1-Nov	Pre-breeding vaccinations – cows & heifers (although some operations vaccinate cows & heifers only once at preg check)
1-Aug	1-Nov	Bulls: breeding soundness check, <u>**Trich</u> test, vaccinate, and deworm; sell any additional cull bulls after breeding soundness check (bulls may be vaccinated and dewormed a second time if they are brought in for something else)
15-Aug	1-Nov	Calving
1-Sept	1-Nov	Bulls purchased

**Tritrichomonas foetus; "Trich" is a venereal disease of cattle.

- Ship calves in June
- Freight / Trucking ~ \$5,400



Table A. Operations Calendar. The Operations Calendar is for a beef breeding herd which shows approximate dates for the operations. Operations will vary according to seasonal weather.

Date		Operation
15-Nov	29-Feb	Breeding – bulls turned in (stay in for 3 months)
1-Dec	31-Jan	Branding & vaccinating all calves, castrating bull calves
1-May	1-July	<u>Preg</u> check, vaccinate, and deworm heifers & cows
1-May	1-July	Bangs vaccinate heifers (when you <u>preg</u> check)
1-May	31-July	Sell open heifers, cows, and cull bulls
1-May	1-July	Ship/sell calves (some operations give booster vaccinations and deworm calves 2-10 weeks before shipping)
1-Aug	1-Nov	Pre-breeding vaccinations – cows & heifers (although some operations vaccinate cows & heifers only once at <u>preg</u> check)
1-Aug	1-Nov	Bulls: breeding soundness check, <u>**Trich</u> test, vaccinate, and deworm; sell any additional cull bulls after breeding soundness check (bulls may be vaccinated and dewormed a second time if they are brought in for for something else)
15-Aug	1-Nov	Calving
1-Sept	1-Nov	Bulls purchased

**Tritrichomonas foetus; "Trich" is a venereal disease of cattle.

Calving: Sept., Oct., Nov.



Photo credit: Swanton Pacific Ranch

Alfalfa Hay ~ \$9,000

- Many ranchers don't buy hay at all, except during drought
- Others feed hay during calving (pre- & post- partum) & mostly heifers
- 1 load of hay is 25 tons: Most years 1 load, drought years 2 loads
- \$180 - \$220/ton – delivered = \$0.11 per pound
- 2% of body weight (1,000 - 1,200 lbs) ~20-24 lbs/hd/day
- ~\$2.20 / hd/ day





Photo credit: Allan Renz

- Supplements (mineral, salt, protein) ~ \$8,000
- Mineral (copper, selenium, zinc, etc.): Year-round
- Protein: May through October when grass is dry



Photo credit: Larry Ford

Fencing Material ~ \$5,000



Photo credit: Larry Ford



Photo credit: Allan Renz



Photo credit: Swanton Pacific Ranch

Pickup Truck ~ \$13,400 in mileage



Photo credit: Allan Renz

Stock Trailer ~ \$2,000 in mileage



Photo credit: Larry Ford

ATV ~ \$3,700 in mileage



Day Labor ~ \$9,000 (~\$30/hd)



Photo credit: Larry Ford

Liability Insurance ~ \$2,700

Labor / Employee Insurance ~ \$5,000



Photo credit: Allan Renz

Office Expenses ~ \$2,700



Photo credit: Allan Renz

OPERATING INPUTS	Units		Amounts/Unit		Cost/Unit	Total Costs	‡Cost/Cow
Alfalfa Hay	50	tons	1	year	\$180.00	\$9,000	\$30.00
Supplements-(Combined)	20	tons	1	year	\$405.00	\$8,100	\$27.00
Range-(Cows@ 1.2/AUM)	267	cows	3	months	\$23.00	\$18,423	\$61.41
Range-(Cows@ 1.2/AUM)	300	cows	9	months	\$23.00	\$62,100	\$207.00
Range-(Yearling Heifers@ 0.7/AUM)	60	heifers	6	months	\$16.10	\$5,796	\$19.32
Range-(Bred Heifers@ 0.7/AUM)	33	heifers	4	months	\$16.10	\$2,125	\$7.08
Range-(Bred Heifers@ 0.7/AUM)	60	heifers	6	months	\$16.10	\$5,796	\$19.32
Range-(Bulls@ 1.3/AUM)	10	bulls	4	month	\$23.00	\$920	\$3.07
Range-(Bulls@ 1.3/AUM)	15	bulls	8	month	\$23.00	\$2,760	\$9.20
Veterinary Service-cows	300	cows	1	each	\$5.00	\$1,500	\$5.00
Veterinary Service -heifers	60	heifers	1	each	\$3.00	\$180	\$3.00
Veterinary Service-bulls	15	bulls	1	each	\$93.00	\$1,395	\$4.65
Vaccine/Wormer/Etc.-cows	300	cows	1	each	\$25.00	\$7,500	\$25.00
Vaccine/Wormer/Etc.-heifers	60	heifers	1	each	\$8.00	\$480	\$8.00
Vaccine/Wormer/Etc.-calves	219	calves	1	each	\$16.00	\$3,504	\$16.00
Vaccine/Wormer/Etc.-bulls	15	bulls	1	each	\$17.00	\$255	\$0.85
Brand Inspection	281	head	1	inspection	\$1.50	\$422	\$1.50
Marketing Order Promo (checkoff)	281	head	1	checkoff	\$1.00	\$281	\$1.00
Freight/trucking	300	head	1	each	\$18.00	\$5,400	\$18.00
Bulls Purchased	5	bulls	1	each	\$6,000.00	\$30,000	\$100.00
Pickup Truck 1-Ton 4WD-5th Wheel	1	pickup	25,000	miles	\$0.54	\$13,375	\$44.58
Stock Trailer-5th Wheel	1	trailer	10,000	miles	\$0.20	\$2,000	\$6.67
ATV's	3	ATV	3,500	miles	\$0.35	\$3,675	\$12.25
Fencing Materials-Maint/Repair		n/a		\$/year	\$5,000.00	\$5,000	\$16.67
Equipment (maintenance and repair)		n/a		\$/year	\$2,000.00	\$2,000	\$6.67
Ranch Labor	1	cowboy	300	cow	\$30.00	\$9,000	\$30.00
OPERATING COSTS						\$200,987	\$683.23
Interest on Operating Capital @ 6.5%	(Table 2)					\$3,060	\$10.20
TOTAL OPERATING COSTS						\$204,047	\$693.43
CASH OVERHEAD COSTS							
Liability Insurance						\$2,680	\$8.93
Labor/Employee Insurance	7,500					\$5,025	\$16.75
Office Expenses						\$2,680	\$8.93
TOTAL CASH OVERHEAD						\$10,385	\$34.62
TOTAL CASH COSTS						\$214,432	\$714.77

Table 1. COSTS AND RETURNS FOR BEEF COW – CALF PRODUCTION
 Cow-Calf Operation (300 head) Central Coast 2019

PRODUCTION/REVENUE	Head	Units/Head	Unit	Price/Unit	Total Value	†Value/Head	Your Costs
Steer Calves	140	6.50	cwt	\$152.00	\$138,320	\$988.00	
Heifer Calves	79	5.50	cwt	\$137.00	\$59,527	\$753.50	
Yearling Heifers	27	8.00	cwt	\$115.00	\$24,840	\$920.00	
Cull Cows	30	12.00	cwt	\$69.00	\$24,840	\$828.00	
Cull Bulls	5	18.00	cwt	\$80.00	\$7,200	\$1,440.00	
TOTAL REVENUE	281				\$254,727		

OPERATING INPUTS	Units		Amounts/Unit		Cost/Unit	Total Costs	±Cost/Cow
Alfalfa Hay	50	tons	1	year	\$180.00	\$9,000	\$30.00
Supplements-(Combined)	20	tons	1	year	\$405.00	\$8,100	\$27.00
Range-(Cows@ 1.2/AUM)	267	cows	3	months	\$23.00	\$18,423	\$61.41
Range-(Cows@ 1.2/AUM)	300	cows	9	months	\$23.00	\$62,100	\$207.00
Range-(Yearling Heifers@ 0.7/AUM)	60	heifers	6	months	\$16.10	\$5,796	\$19.32
Range-(Bred Heifers@ 0.7/AUM)	33	heifers	4	months	\$16.10	\$2,125	\$7.08
Range-(Bred Heifers@ 0.7/AUM)	60	heifers	6	months	\$16.10	\$5,796	\$19.32
Range-(Bulls@ 1.3/AUM)	10	bulls	4	month	\$23.00	\$920	\$3.07
Range-(Bulls@ 1.3/AUM)	15	bulls	8	month	\$23.00	\$2,760	\$9.20
Veterinary Service-cows	300	cows	1	each	\$5.00	\$1,500	\$5.00
Veterinary Service -heifers	60	heifers	1	each	\$3.00	\$180	\$3.00
Veterinary Service-bulls	15	bulls	1	each	\$93.00	\$1,395	\$4.65
Vaccine/Wormer/Etc -cows	300	cows	1	each	\$25.00	\$7,500	\$25.00
Vaccine/Wormer/Etc -heifers	60	heifers	1	each	\$8.00	\$480	\$8.00
Vaccine/Wormer/Etc-calves	219	calves	1	each	\$16.00	\$3,504	\$16.00
Vaccine/Wormer/Etc -bulls	15	bulls	1	each	\$17.00	\$255	\$0.85
Brand Inspection	281	head	1	inspection	\$1.50	\$422	\$1.50
Marketing Order Promo (checkoff)	281	head	1	checkoff	\$1.00	\$281	\$1.00
Freight/trucking	300	head	1	each	\$18.00	\$5,400	\$18.00
Bulls Purchased	5	bulls	1	each	\$6,000.00	\$30,000	\$100.00
Pickup Truck 1-Ton 4WD-5th Wheel	1	pickup	25,000	miles	\$0.54	\$13,375	\$44.58
Stock Trailer-5th Wheel	1	trailer	10,000	miles	\$0.20	\$2,000	\$6.67
ATVs	3	ATV	3,500	miles	\$0.35	\$3,675	\$12.25
Fencing Materials-Maint/Repair		n/a		\$/year	\$5,000.00	\$5,000	\$16.67
Equipment (maintenance and repair)		n/a		\$/year	\$2,000.00	\$2,000	\$6.67
Ranch Labor	1	cowboy	300	cow	\$30.00	\$9,000	\$30.00
OPERATING COSTS						\$200,987	\$683.23
Interest on Operating Capital @ 6.5%	(Table 2)					\$3,060	\$10.20
TOTAL OPERATING COSTS						\$204,047	\$693.43
CASH OVERHEAD COSTS							
Liability Insurance						\$2,680	\$8.93
Labor/Employee Insurance	7,500					\$5,025	\$16.75
Office Expenses						\$2,680	\$8.93
TOTAL CASH OVERHEAD						\$10,385	\$34.62
TOTAL CASH COSTS						\$214,432	\$714.77
REVENUE ABOVE CASH COSTS						\$40,295	\$134.32

Revenue above cash costs is \$40,295

This does not account for the following:

- Salary for the rancher
- Capital recovery costs (equipment, investment, overhead, and depreciation costs)

When accounting for capital recovery cost, revenue above total costs is
-\$7,417.



Market fluctuations are important as well.

PRODUCTION/REVENUE	Head	Units/Head	Unit	Price/Unit 2019	Total Value 2019	Price/Unit 2018	Total Value 2018
Steer Calves	140	6.5	cwt	\$152.00	\$138,320	134.31	\$122,222
Heifer Calves	79	5.5	cwt	\$137.00	\$59,527	126.41	\$54,925
Yearling Heifers	27	8	cwt	\$115.00	\$24,840	115.44	\$24,935
Cull Cows	30	12	cwt	\$69.00	\$24,840	69.36	\$24,970
Cull Bulls	5	18	cwt	\$80.00	\$7,200	80.16	\$7,214
Total Revenue					\$254,727		\$234,266

Using 2018 instead of 2019 prices for cattle sold, total revenue would have been \$20,460 less.

REVENUE ABOVE CASH COSTS	
2019	2018
\$40,295	\$19,834

How can a rancher afford to make \$20,000 - \$40,000/yr. in the Bay Area or Central Coast?

- Other profitable ag operations
- Off-ranch job
- Many say they do it because they love the life style.



Grazing on public lands has additional costs beyond what we've talked about.



Photo credit: Denise Defreese

If we want happy rangelands, happy conservationists, & happy cows....



Photo credit: A. Fateman

- We probably shouldn't expect ranchers to provide all these conservation services long-term for \$20,000 - \$40,000 per year. It's just not economically sustainable.
- I know I wouldn't be able to afford do to it!



Instead, we should strive for

- Robust livestock industry so agencies continue to have great lessees.
- Profitable ranch operations so rancher can stay in business and afford to take on extra costs associated with conservation grazing.
 - Offer grazing leases ranchers can afford - time & money.



And with that hopefully we'll have a new generation of ranchers who can afford to work with agencies to achieve their conservation goals!



Photo credit: Allan Renz

Thank You



Photo credit: Allan Renz