

COST AND RETURNS WITH
IRRIGATED PASTURE
IN
TEHAMA COUNTY

UNIVERSITY OF CALIFORNIA
AGRICULTURAL EXTENSION SERVICE
TEHAMA COUNTY

COST AND RETURNS WITH IRRIGATED PASTURE IN TEHAMA COUNTY

The costs of producing irrigated pasture vary considerably from farm to farm. They vary primarily because of variations in the cost of the different factors making up the total. Costs of individual growers may also vary because people figure costs in different ways--depending on what they want to know.

The purpose of this leaflet is to illustrate a method anyone may use to arrive at cost to suit his own needs. The figures used for illustration should not be considered an average for Tehama County. They were developed with the assistance of farmers who are in the business.

Prepared by Leland S. Frey
Farm Advisor, Tehama County

With assistance of
A. D. Reed, Extension Farm Management Specialist
Jim Street, Extension Range Specialist
Larry Booher, Extension Irrigation Specialist

SAMPLE COSTS OF PRODUCING IRRIGATED PASTURE

Yield: 12 animal unit months per acre

Based on 150 acre operation

Annual Costs per Acre

Operation	Hours per Acre	Labor	Fuel and Repairs	Materials	Total
Cultural:					
Fertilize	.3	.53	.27	Fertilizer \$ 8.00	\$ 8.80
Irrigate (20x)	6.0	8.10		Electricity \$ 8.64	16.74
Mow (3x)	.9	1.58	.95		2.53
Harrow (2x)	.4	.70	.33		1.03
Fence Maintenance	.1	.18	.10		.28
Irrig. Syst. Maint.	.1	.18	2.00		2.18
	7.8 hrs.	\$11.27	\$3.65	\$16.64	\$31.56
Miscellaneous overhead @ 5% of cash and labor cost					\$ 1.58
Management @ 5% of gross income (12 AUM @ \$4.00)					2.40
					\$ 3.98

Investment:

Annual Investment Costs

	Per Acre	Depreciation	Interest	Taxes & Insurance	
Land	\$300.00	-0-	\$18.00	\$3.75	\$21.75
Well & Pump	70.00	2.80	4.20	1.05	8.05
Irrig. Pipelines	50.00	2.00	3.00	.75	5.75
Fences	25.00	1.25	1.50	.38	3.13
Tractor & Equipment	65.00	6.50	3.90	.98	11.38
Pickup truck	15.00	3.00	.90	.23	4.13
Stand (7 yr. life)	30.00	4.29	1.80	.45	6.54
	\$555.00	\$19.84	\$33.30	\$7.59	\$60.73

Total Annual Cost Per Acre

\$96.27

Cost Per Animal Unit Month @ 12 AUM Per Acre

\$ 8.03

COSTS OF ESTABLISHING A STAND OF IRRIGATED PASTURE

<u>Operation</u>	<u>Hours per Acre</u>	<u>Labor</u>	<u>Fuel and Repairs</u>	<u>Materials</u>	<u>Total</u>
Plow	1.3	2.28	1.33		\$3.61
Disc (2x)	1.3	2.28	1.29		3.57
Ridge	.2	.35	.18		.53
Float	.5	.88	.41		1.29
Harrow (2x)	.4	.70	.33		1.03
Fertilize	.3	.53	.27	Fertilizer 8.00	8.80
Plant	.3	.53	.33	Seed 2.00	8.36
Roll	.2	.35	.18		.53
	<u>4.5 hrs.</u>	<u>\$7.90</u>	<u>\$4.32</u>	<u>\$16.00</u>	<u>\$28.22</u>
Miscellaneous overhead					<u>1.78</u>
Total cash cost per acre of establishing stand					\$30.00

RETURNS FROM IRRIGATED PASTURE

Irrigated pastures may be rented out for cash or used at home to replace hay. Either way, the animal unit month is a handy tool for measuring pasture production.

One animal unit month is the amount of forage needed by a mature cow for good growth and production for one month.

If the pasture is rented out for cash the gross income per acre could vary from \$24 to \$80 per acre depending on yield and rental value as indicated in the following table.

Yield per Acre	Monthly Rent per AUM				
	\$3.00	\$3.50	\$4.00	\$4.50	\$5.00
8 AUM.....	\$24	\$28	\$32	\$36	\$40
10 AUM.....	30	35	40	45	50
12 AUM.....	36	42	48	54	60
14 AUM.....	42	49	56	63	70
16 AUM.....	48	56	64	72	80

One animal unit month is also considered to be equal to 400 pounds of total digestible nutrients (TDN). Since 0.4 tons of hay will also supply about 400 pounds of TDN, then: 1 AUM = 0.4 tons hay

Using these figures, a pasture that yields 12 AUM may be considered to produce 4.8 tons of hay equivalent. If hay is valued at \$20 per ton this pasture would replace \$96.00 worth of hay.

The following table shows the cost of replacing pastures of various yields with hay at different prices.

Yield per Acre	Equivalent in Hay	Hay Price per Ton				
		\$10	\$15	\$20	\$25	\$30
8 AUM	(3.2 tons)	\$32	\$48	\$64	\$80	\$96
10 AUM	(4.0 tons)	40	60	80	100	120
12 AUM	(4.8 tons)	48	72	96	120	144
14 AUM	(5.6 tons)	56	84	112	140	168
16 AUM	(6.4 tons)	64	96	128	160	192

BACKGROUND INFORMATION

To develop the sample costs of production certain assumptions and calculations were made. These are given as follows:

<u>Investment</u>	<u>Total Value</u>	<u>Value Per Acre</u>
150 Acres of leveled land	\$45,000.00	\$300.00
Irrigation system		
Well and pump	10,500.00	70.00
Concrete pipe lines	7,500.00	50.00
Fences	3,580.00	25.00
Tractor and equipment	9,450.00	65.00
Pickup truck	2,300.00	15.00
No allowance for buildings	-0-	-0-
No allowance for corrals	-0-	-0-
	<hr/>	<hr/>
	\$78,330.00	\$525.00

Irrigation System*

Well:

	<u>Total Cost</u>	<u>Cost Per Acre</u>
16 inch hole, 400 feet deep @ \$12.00 per foot	\$4800.00	
Casing and gravel pack @ \$5.00 per foot	2000.00	

Pump and Motor:

40 hp to provide 1600 GPM	3830.00	
	<hr/>	
	\$10683.00	\$70.00

Concrete Pipeline:

½ mile 18" pipe laid @ \$2.05 per foot	\$5412.00	
88 Alfalfa valves (30 foot checks) @ \$23.20	2042.00	
	<hr/>	
	\$7454.00	\$50.00

*Reference: Irrigation Installation Costs by A. D. Reed, 1961

Fences*

Boundary Fences:

1½ miles woven wire @ \$1140 per mile	\$1710.00	
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Cross Fence:

2 miles barbwire @ \$935 per mile	\$1870.00	
	<hr/>	
	\$3580.00	\$25.00

*Reference: Fence Specifications and Costs, by A. D. Reed

Labor Rates:

Unskilled @ \$1.35 per hour (includes fringe benefits)
 Skilled @ \$1.75 per hour (includes fringe benefits)

TRACTOR AND FIELD EQUIPMENT*

<u>Implement</u>	<u>Size</u>	<u>Cost</u>	<u>Years Life</u>	<u>Cash operation Cost per Hour</u>	<u>Hours per Acre</u>
Tractor, wheel	20 hp	\$3100	10	.80	--
Plow, moldboard	2-12	400.	10	.22	1.2
Disc, tandem	6 ft.	575.	10	.19	.6
Ridger	Single	325.	10	.12	.2
Harrow, spike	12 ft.	300.	10	.03	.2
Fertilizer spreader	12 ft.	450.	5	.11	.3
Grain drill	12 ft.	1000.	10	.30	.3
Roller	10 ft.	700.	10	.10	.2
Trailer	20 ft.	1400.	10	.20	---
Mower	7 ft.	500.	10	.25	.3
Rake	8 ft.	700.	10	.20	.3
Pickup truck	1/2 ton	2300.	5	3.9¢ mile	

* Reference: Machinery Costs and Performance, by A.D. Reed et al

ELECTRIC POWER REQUIRED*

Water Needed:

150 acres @ 4 acre-foot = 600 acre-feet

Power needed:

Pumping life.....80 ft.
Motor size.....40 hp
Pumping plant efficiency.....55 %

Formula:

$$\text{Kwh/acre-foot} = \frac{1.024 \times 80 \text{ feet}}{\text{overall plant efficiency}}$$
$$\frac{1.024 \times 80 \text{ feet}}{.55} = 148.9 \text{ Kwh per acre-foot}$$

Then:

600 acre-feet x 150 = 90,000

Service charge @ 6.73/hp x 40 = \$269.20

Energy: 40,000 Kwh @ .0149 = 596.00
 40,000 Kwh @ .0091 = 364.00
 10,000 @ .0065 = 65.00

Cost of power for 150 acres \$1,294.20

And:

$$\frac{\$1294.20}{600} = \$2.16 \text{ power cost per acre-foot}$$

*Estimating Electric Power Cost for Pumping Water
by A. Shults and L. J. Booher

Co-operative Extension work in Agriculture and Home Economics, California
Agriculture, University of California, and United States Department
of Agriculture co-operating. Distributed in furtherance of the Act
of Congress of May 8, and June 30, 1914. George A. Aiken, Director
California Agricultural Extension Service.

ELECTRIC POWER REQUIRED*

Water needed:

150 acres @ 4 acre-foot = 600 acre-foot

Power needed:

Pumping lift..... 80 ft.
 Water raise..... 40 hp
 Pumping plant efficiency..... 25 %

Formula:

$$\frac{1.024 \times 80 \text{ feet}}{\text{Water-raise} = \text{overall plant efficiency}}$$

$$\frac{1.024 \times 80 \text{ feet} = 148.9 \text{ kw per acre-foot}}{.25}$$

Then:

600 acre-foot x 148.9 = 89,340

Service charge @ 8.73¢/hp x 40 = \$289.20
 Energy: 40,000 kw-hr @ .0143 = 572.00
 40,000 kw-hr @ .0081 = 324.00
 10,000 @ .0022 = 22.00
 Cost of power for 150 acres \$1,207.20

And:

$$\frac{1207.20}{600} = \$2.01 \text{ per acre-foot}$$

*Estimating Electric Power Cost for Pumping Water
 by A. Shultz and L. J. Becker

Co-operative Extension work in Agriculture and Home Economics, College of Agriculture, University of California, and United States Department of Agriculture co-operating. Distributed in furtherance of the Acts of Congress of May 8, and June 30, 1914. George B. Alcorn, Director California Agricultural Extension Service.

SAMPLE PRODUCTION COSTS

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Telephone 885-4551

Memorial Building,
Grass Valley, California 95945
Telephone 273-4568

IRRIGATED PASTURE SPRINKLER IRRIGATION-SOLID SET

Production Data: 12 AUM Production, 40 acres irrigated pasture.

Irrigated pasture is grown in the foothills and valley area of Western Placer and Western Nevada County. Nearly 32,000 acres of irrigated pasture were in production in 1970.

SOILS: Irrigated pasture is grown on almost all of the soil series in the valley and foothills, and it is one of the few irrigated crops that can be grown on the shallower soils in the area.

VARIETIES: The most widely adapted varieties are Ladino clover, Salina Strawberry clover, Broadleaf Birdsfoot trefoil, Narrowleaf Birdsfoot trefoil, orchard grass, perennial and annual ryegrass.

PLANTING: Most successful plantings in this area are made in October.

WATER: Irrigated pasture requires 3 to 4 acre feet of water per acre during the season. The irrigation water is applied 13 to 20 times during the growing season in the area. Three acre inches of water applied every 7 to 10 days is a good rule of thumb.

FERTILIZATION: 80 lbs. P_2O_5 / Acre (35 P/acre) is recommended as an annual application of phosphorous. Sulfur is necessary to obtain maximum production and a material such as single superphosphate containing phosphorous and sulfur should be used. Nitrogen fertilization increases grass production in irrigated pastures but sustained nitrogen fertilization will reduce the amount of legumes in the pasture composition.

HARVESTING: Most irrigated pasture is grazed from April or May to November. During the spring many growers have surplus feed and a portion of the irrigated pasture acreage is cut for hay.

This Sample Cost of Production is based on a 200 acre farm with 40 acres of irrigated pasture producing 12 AUM of feed per season and 10 acres cut for hay in the spring. The average life of irrigated pasture is considered to be 7 years for the purpose of this study.

Labor is figured at \$2.75 per hour for skilled and \$2.25 for common labor and this includes Social Security and Workman's Compensation, as well as fringe benefits.

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SAMPLE COSTS TO PRODUCE IRRIGATED PASTURE

Operation	Hours Per Acre	Cash and labor cost per acre			
		Labor	Fuel & Repairs	Kind & Quantity	Cost Total
Cultural costs					
Irrigate 18X	1.8	4.05	-	Water $\frac{1}{2}$ M.I. plus 4.00 p/a water tax & standby 4.00 4 acre ft. @ 2.00	18.25 8.00 8.00 38.30
Clipping	0.5	1.38	.60	contract applic. 400# 0-20-0	1.98 12.00 12.00
TOTAL CULTURAL COSTS:	2.3	5.43	.60		46.25 52.28
Harvest costs					
Mow & Rake (contract)				$\frac{1}{4}$ acreage @ 3.50	.87
Bale (contract)				$1\frac{1}{2}$ ton/acre @ 4.50 per ton	1.68
Haul (contract)					.50
TOTAL HARVEST COSTS:					3.05
Cash overhead					
Misc., office, etc.					3.32
Taxes (Based on the Placer County rate under the Land Conservation Program)					5.25
TOTAL CASH OVERHEAD:					8.57
TOTAL CASH COST:					63.90
MANAGEMENT COST: 5% x 12 A.U.M. @ \$6.00					3.60
INVESTMENT	Per Acre	Annual Cost			
Land	500.00	Depreciation	Interest 7%		
Irrigation system (see Table I)	478.00	-	35.00		
Fences	35.00	29.38	16.74		
Equipment	45.00	1.40	1.23		
Stand establish- ment	30.00	4.50	1.58		
TOTAL:	1,088.00	4.29	1.05		
TOTAL COST PER ACRE		39.57	55.60		95.17
Cost per AUM @ 12 AUM yield		\$13.56 per AUM			\$162.67

Prepared by:

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Philip S. Parsons
Extension Economist

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TABLE I
INVESTMENT FOR SOLID SET UNDERGROUND IRRIGATION SYSTEM
USING PLASTIC PIPE
 (Based on 40, 80, 160 acre installations)

Item	Cost	Annual Use (Acres)	Cost Per Acre	Life (Yrs.)	Depreciation	Interest
<u>40 Acres</u>						
Booster Pump 15 HP, 300 GPM	\$ 2,600	40	\$ 65.00	15	\$ 4.33	\$ 2.28
Plastic pipe - mains, laterals, risers & fittings	9,000	"	225.00	20	11.25	7.88
Sprinkler heads 704 @ 5.00	3,520	"	88.00	10	8.80	3.08
Installation 18" ditches	4,000	"	100.00	20	5.00	3.50
Total	19,120		478.00		29.38	16.74
<u>80 Acres</u>						
Booster Pump 30 HP, 600 GPM	4,100	80	51.25	15	3.42	1.79
Plastic pipe - mains, laterals, risers & fittings	16,000	"	200.00	20	10.00	7.00
Sprinkler heads 1408 @ 5.00	7,040	"	88.00	10	8.80	3.08
Installation	8,000	"	100.00	20	5.00	3.50
Total	35,140		439.25		27.22	15.37
<u>160 Acres</u>						
Booster Pump 60 HP, 1200 GPM	6,000	160	37.50	15	2.50	1.31
Plastic pipe - mains, etc.	32,000	"	200.00	20	10.00	7.00
Sprinkler heads 2816 @ 5.00	14,080	"	88.00	10	8.80	3.08
Installation	16,000	"	100.00	20	5.00	3.50
Total	\$69,080		\$425.50		\$26.30	\$14.89

Prepared by:
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 Area Technologist

Philip S. Parsons
 Extension Economist

Adapted for use in Placer-Nevada Counties by
 William E. Mason, Farm Advisor

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IRRIGATED PASTURE COSTS

LAKE COUNTY

SURFACE vs. SPRINKLER IRRIGATION

REVISED: 1969

DALE CANNON, FARM ADVISOR - DOYLE REED, EXTENSION ECONOMIST

				PER ACRE	
				SURFACE	SPRINKLER
<u>INCOME:</u> 12 AUM @ \$5.00				\$60.00	\$60.00
<u>EXPENSE:</u>					
FERTILIZER: 85 LBS N @ \$0.13				10.90	10.90
IRRIGATE: 10x-5.7 HRS @ 1.80				10.30	10.30
POWER FOR 3 FT. WATER				4.50	13.50
Misc.				.80	.80
TOTAL CULTURAL COST				\$26.50	\$35.50
Misc. OVERHEAD				1.00	1.00
TAXES				8.80	8.80
TOTAL MISC. COST				\$ 9.80	\$ 9.80
<u>INVESTMENT:</u>					
		<u>INT.</u>	<u>DEP.</u>		
LAND	\$400 @ 7%	\$28.00		28.00	28.00
STAND	40 FOR 7 YRS.	1.50	\$ 5.70	7.20	7.20
LAND PREP.	100 @ 7%	7.00		7.00	
SPRINKLERS	150 FOR 10 YRS.	5.25	15.00		20.75
WELL & PUMP	50 FOR 25 YRS.	1.75	2.00	3.75	3.75
EQUIPMENT	20 FOR 10 YRS.	.70	2.00	2.70	2.70
FENCES	25 FOR 20 YRS.	.85	1.25	2.10	2.10
TOTAL INVESTMENT COST				\$50.75	\$64.00
TOTAL COST				\$87.05	\$109.30
COST PER AUM @ 12 AUM/ACRE				\$ 7.25	\$ 9.11

IRRIGATED PASTURE COSTS
LAKE COUNTY
SURFACE AND SPRINKLER IRRIGATION
Revised: 1953

DALE GANNON, Farm Advisor - Lyle Reed, Extension Economist

PER ACRE			
SURFACE	SPRINKLER		
160.00	160.00	INCOME: 12 AUM @ 22.00	
		EXPENSE:	
10.90	10.90	FERTILIZERS: 85 LBS N @ 12.15	
10.30	10.30	IRRIGATOR: 10x-2 1/2 hrs @ 1.80	
13.50	4.50	POWER FOR 3 FT. WATER	
.80	.80	Misc.	
35.50	26.50	TOTAL CULTURAL COST	
1.00	1.00	Misc. Overhead	
8.80	8.80	Taxes	
2.98	2.98	TOTAL MISC. COST	
		INT.	DEP.
		258.00	28.00
		1.50	2.50
		2.00	2.00
		2.52	12.00
		1.75	2.75
		1.70	2.70
		1.52	2.10
		250.25	24.00
		87.02	108.30
		2.52	2.71
		TOTAL COST	
		COST PER AUM @ 12 AUM/acre	

SAMPLE COSTS OF IRRIGATED PASTURE
in Glenn County

Operation	Hours per acre	Labor \$1.25/hr.	Tractor	Materials, misc.	Total	YOUR COSTS
Irrigate 15 times	4.5	\$5.65	\$2.00	Water - 4 acre ft. at \$1.50	\$ 6.00	\$13.65
Fertilize 2 times	.2	.50	.50		11.00	12.00
Clip and drag	.5	.65	.75			1.40
Taxes					3.00	3.00
Misc. - weed control, fence repair, etc.		.50	.45		1.00	1.95
TOTAL CASH AND LABOR	<u>5.2</u>	<u>\$7.30</u>	<u>\$3.70</u>		<u>\$21.00</u>	<u>\$32.00</u> \$32.00

Investment	Per Acre	Annual Cost		
		Interest at 6%	Depreciation	
Land	\$400.00	\$24.00		
Irrigation system	10.00	.30	\$.50	
Fences	20.00	.60	1.00	
7 yr. stand	25.00	.75	3.50	
Tractor & truck	25.00	.85	2.50	
Total	<u>\$480.00</u>	<u>\$26.50</u>	<u>\$7.50</u>	\$34.00
TOTAL COST PER ACRE				\$66.00
Cost per AUM* at 12 AUM yield per acre				5.50

Various levels of fertilizer application and cultural effort will effect yields and costs about as follows:

AUM* per acre	Cost per acre	Cost per AUM	Cost at 7 months or 210 day grazing season				per ton of standing hay
			per 80 lb. lamb per day	per ewe per day	per 800 lb. steer per day	per cow and calf per day	
6	\$54.00	\$9.00	\$.043	\$.060	\$.264	\$.360	\$22.50
8	56.00	7.00	.033	.047	.205	.280	17.50
10	61.00	6.10	.029	.041	.179	.244	15.25
12	66.00	5.50	.026	.037	.161	.220	13.75
14	70.00	5.00	.024	.033	.147	.200	12.50

*AUM means animal unit months or quantity of feed needed for normal growth or production by a mature head of cattle for one month. 1 AUM is equal to 400 lbs. of total digestible nutrients (TDN) or .04 tons of hay.

- | | | | | | | |
|---------------------------|---|-------|--|------------------------------|---|---------|
| 5 ewes, yearlings or rams | = | 1 AUM | | 1 cow and calf | = | 1.2 AUM |
| 7 feeder lambs, 40-80# | = | 1 AUM | | younger cattle - cwt x 1.1 | = | AUM |
| 1 mature cow or bull | = | 1 AUM | | (800# steer x 1.1 = .88 AUM) | | |

ARE YOU GETTING YOUR PASTURE MONEY'S WORTH?

A properly stocked and managed pasture, yielding 12 AUM per acre should produce about 500 pounds of gain per acre on young feeder animals.

A. PROPER IRRIGATION AND DRAINAGE depend upon a good leveling job and complete control of irrigation amount and frequency. A pasture uses about 0.3" water per day. One foot of sandy soil will hold about 1"; loam 1 1/2-2"; clay 2-3". Soil should be wet to a 2-foot depth.

B. ROTATE STOCK to fit the irrigation. Don't stock wet pastures; soil compaction is a major cause of low production. A 5-6 day rotation is adequate for meat animals. Dairy men often prefer daily strip grazing.

C. 24 DAY REGROWTH is possible with five pastures grazed six days each (see cover). This time is needed to recharge plant roots for a fast recovery after grazing and to lengthen the productive life of the stand.

D. FERTILIZE to increase production, palatability and keep a balance between legumes and grasses. Nitrogen stimulates grass and phosphorus stimulates legumes. Nitrogen leaches easily - several small applications (20-30 lbs. N/acre in February, May, July) are better than one large one. Phosphorus should be applied in large single doses (80 lbs. P₂O₅/acre February).

E. CLIP pastures several times a year after grazing for weed control and to keep grasses from "getting away."

SAMPLE PASTURE MIXES - For best results fall seed in a firm seed bed.

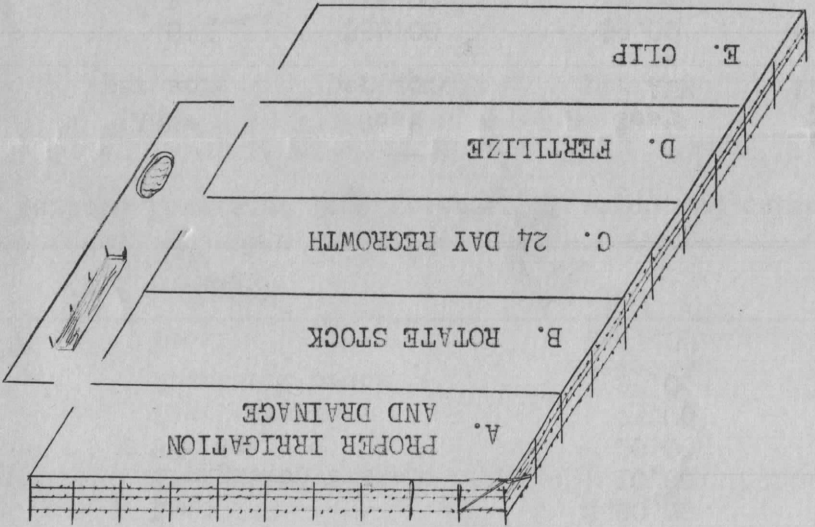
	Dairy	Beef	Sheep	Swine
Akaroa orchardgrass	5	5	3	5
Perennial ryegrass	3	2	2	2
Annual ryegrass	2	1	1	2
Ladino clover	2	2	2	2
Red clover	2	2	2	2
Narrowleaf trefoil	2	2	2	2

Pounds seed per acre

June 1958

500 Copies

Irrigated Pasture
Costs
in Glenn County



Monte Bell
Farm Advisor

A. D. Reed
Extension Economist

University of California
Agricultural Extension Service
Glenn County

SAMPLE COSTS AND COST ANALYSIS WORK SHEET FOR SPRINKLER IRRIGATED PERMANENT PASTURE 1/
Napa County, 1963

	Annual Cost Per Acre	
	Sample Cost (Better Soils)	Your Cost
Cash Costs:		
Land preparation, seed, plant, and extra first year costs: \$24.00 - 8 years life (1/8 of \$24)	\$ 3.00	
Mow, fertilize, drag, fence work, etc.: 2.8 man hours and 2 tractor hours	6.08	
Irrigation labor: 12 man hours (14 irrigations)	19.20	
Irrigation water: power for 2 1/2 acre feet @ \$6.50	16.25	
Fertilizer: Average per year 120 lbs N and 50 lbs P ₂ O ₅	19.00	
Miscellaneous materials	1.50	
County taxes	8.00	
Office, car, operating capital, etc.	3.50	
Repairs	3.00	
Total Cash Costs	\$ 79.53	
Depreciation:		
Irrigation system - (40 acre basis)		
Well and pump - original cost \$160 per acre	10.00	
Sprinkler system - original cost \$80 per acre	5.50	
Tractor: 2 1/2 hrs. including 1/8 first year hours @ 40¢	1.00	
Other equipment: cost \$20 per acre - 10 year life	2.00	
Fences: cost \$30 per acre - 12 year life	2.50	
Total Depreciation	\$ 21.00	
Total Cash and Depreciation Costs	\$100.53	
Interest on Investment (except land) @ 6%:		
Irrigation system: on 1/2 original cost (\$120 per acre)	7.20	
Tractor: 2 1/2 hrs including 1/8 of first yr hrs. (20¢/hr)	.50	
Other equipment: on 1/2 original cost (\$10 per acre)	.60	
Fences: on 1/2 original cost (\$15 per acre)	.90	
Total Interest on Investment (except land)	\$ 9.20	
Total Cost of Production (except interest on land)	\$109.73	

ANNUAL COST PER ANIMAL UNIT MONTH* AT VARYING PRODUCTION LEVELS

Production level - A.U.M. per acre	Claypan and Shallow Soils**			Deep Soils		
	6	8	10	12	14	16
Cash and depreciation cost only	\$14.09	\$10.57	\$8.45	\$8.38	\$7.18	\$6.28
Total cost per A.U.M.* (except interest on land) ***	15.62	11.72	9.37	9.14	7.84	6.86
Interest on land: each \$200 value per acre @ 6%	2.00	1.50	1.20	1.00	.86	.75
Total cost per A.U.M.*: assumed value of land \$600 per acre	\$21.62	\$16.22	\$12.97	\$12.14	\$10.42	\$9.11
Your total cost per A.U.M.*						

1/ }
* } See back page
** }

*** The first 3 values on this line calculated as follows: (\$109.73 - \$14.00) ÷ 6, 8, and 10 respectively. The last 3 values on this line calculated as follows: \$109.73 ÷ 12, 14, and 16 respectively.

SAMPLE COSTS FOR
SPRINKLER IRRIGATED PERMANENT PASTURE
IN NAPA COUNTY - 1963

PREPARED BY FARM ADVISOR IRVING GROVER
AND EXTENSION ECONOMIST B. B. BURLINGAME

This cost analysis sheet may be used as a guide in determining irrigated permanent pasture inputs and costs for two specific sets of conditions. It is designed to help growers analyze their practices with a view toward increasing efficiency of production. Along with similar sheets dealing with other agricultural enterprises, it can be used as a basis for making cost comparisons with the most profitable alternatives. The figures are not intended to represent average costs for irrigated permanent pasture in Napa County.

In this county irrigated pastures are planted on a variety of soil types, some of which may be adapted to the production of much more profitable crops. Costs and productivity will vary widely between individual locations. For instance, yield records collected on several irrigated pasture fertilizer tests show that productivity may be as low as 4 (or less) animal unit months of feed per year from unfertilized irrigated pasture on poor soil. These same tests show that irrigated pastures on better soils are capable of producing 15 or more animal unit months of feed per year, if a recommended fertilizer program is followed consistently, and if good irrigation and rotation grazing management methods are used.

The amount of feed obtained from a pasture is influenced greatly by grazing practices. Also, all types of stock do not utilize pasture to the same degree of efficiency. Milk-^{ing} cows may use only 3/4 of the available feed that growing stock might use. Also, sufficient stock must be on hand to fully utilize feed produced. Therefore, in determining the amount of feed which may be obtained from a pasture, one should consider whether it will be used to maximum capacity.

Man labor: \$1.60/hour, including Social Security and Compensation Insurance.
Tractor per hour: cash cost 80¢, depreciation 40¢, and interest 20¢.

* Animal Unit Month (A.U.M.) = 400 pounds of total digestible nutrients (TDN) or 0.4 tons hay. A.U.M. equivalents for different kinds and ages of livestock may be obtained from the Farm Advisor's office.

Cash costs on claypan and shallow soils figured at \$16 per acre less than on deep soils due to lower allowances for fertilizer and county taxes. Fertilizer tests indicate that on claypan and shallow soils the most profitable fertilizer program is the application of phosphorus (P_{2O_5}) and possibly sulfur.

Both of these plant nutrients are supplied by single superphosphate. On these soils, nitrogen fertilizers increase production but not enough to justify the cost. Also, on these phosphorus-deficient soils, nitrogen fertilization tends to eliminate the clover in the pasture even when phosphorus is included in the fertilization program.

SUGGESTED FERTILIZATION PROGRAM

Claypan and shallow soils: 250 pounds of single superphosphate per acre once a year applied in February or March.

Deeper, better grade soils: 250 pounds of 16-20 ammonium phosphate-sulfate in February or March followed by two applications of 200 pounds of ammonium sulfate per acre during the summer.

UNIVERSITY OF CALIFORNIA AGRICULTURAL EXTENSION SERVICE
Cooperative Extension work in Agriculture and Home Economics, College of Agriculture, University of California, and United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8, and June 30, 1914. George B. Alcorn, Director, California Agricultural Extension Service.

December, 1965
 Walter Spivey, Farm Advisor
 Phil Parsons, Ext. Economist

SAMPLE COSTS TO PRODUCE IRRIGATED PASTURE
 Agricultural Extension Service - Del Norte County

Based on:

1. 250 acres in total farm
2. 120 acres irrigated pasture (grazing only)
3. Skilled labor \$2.00/hr.; common labor \$1.65/hr.

Operation	Hours Per Acre	Cash and Labor Cost Per Acre			Total
		Labor	Fuel and repairs	Materials Kind and Quantity Cost	
Cultural costs					
Fertilize 2 times	.6	1.20	.66	60 lbs. N. @ .13 & 100 lbs. P ₂ O ₅ @.11 18.80	20.66
Irrigate 7 times	3.5	5.78	2.00	Power to pump 7.00	14.78
Clip 2 times	1.0	2.00	1.25		3.25
Drag	.3	.60	.32		.92
TOTAL CULTURAL COSTS		\$9.58	\$4.23	\$25.80	\$39.61
Cash overhead					
Misc., office, etc.				1.00	1.00
Taxes - \$280 x 25% x rate of 8				5.60	5.60
TOTAL CASH OVERHEAD				6.60	6.60
TOTAL CASH COST		\$9.58	\$4.23	\$32.40	\$46.21
INVESTMENT	Per Acre	Life (Years)	Annual Cost		
			Depreciation	Interest	
Land	\$280	---	---	\$16.80	
Fence	15	12	\$ 1.25	.45	
Irrigation well & pump	90	20	4.50	2.70	
Sprinkler pipe	60	15	4.00	1.80	
Equipment	34	10	3.40	1.02	
Stand	67	5	13.40	2.01	
Total	\$546		\$26.55	\$24.78	\$51.33
TOTAL COST PER ACRE					\$97.54
Cost per A.U.M. @ 12 A.U.M. yield					\$ 8.13

1966

IRRIGATED PASTURE SAMPLE COSTS IN HUMBOLDT COUNTY

by

John V. Lenz, Charles M. Lawrence, Farm Advisors

The costs shown on these pages represent typical costs of establishing, maintaining, and making hay on irrigated bottom land in Humboldt County. A committee of knowledgeable farm operators with considerable experience in this type of enterprise have assisted in establishing these figures. Due to the wide variations in soil types present some of the cultural practices used in this study will not apply to all irrigated pasture in the area.

To properly manage irrigated pasture, certain farm equipment is needed. These costs include allowances for all the necessary farm equipment, fertilization, clipping, and irrigation system. One sheet shows renter-operator costs and one sheet shows owner-operator costs. To produce hay, harvest equipment is added to the costs.

All costs are shown on a per acre basis. To calculate farm costs, multiply these costs by the number of irrigated acres on the farm. Tables showing cost of production per pasture or hay unit are given on the bottom of each sheet. These are calculated by dividing the total cost per acre by several estimated yields. A pasture A.U.M. means one animal unit month. One A.U.M. means the amount of feed required by one mature cow or steer for one month. It is equivalent to 400 lbs. of total digestible nutrients.

SAMPLE COSTS TO ESTABLISH 80 ACRES IRRIGATED PASTURE
HUMBOLDT COUNTY

CASH COST TO ESTABLISH

Operation	Hrs. per acre	Labor	Cash and Labor Cost Per Acre				Total
			Fuel and Repairs	Materials Kind & Quantity	Cost	\$	
		\$	\$		\$	\$	
Disk 2 times	1	2.00	1.46			3.46	
Plow 1 time	1.25	2.50	1.81			4.31	
Disk 2 times	1	2.00	1.46			3.46	
Harrow & Cultipack 2 times	.75	1.50	1.01			2.51	
Drill	.5	1.00	.58	Clover and Grass	12.82	14.40	
Fertilize	.3	.60	.29	16-20 300# @ \$3.50/cwt.	10.50	11.39	
<u>TOTAL CULTURAL CASH COSTS TO ESTABLISH</u>						<u>\$39.53</u>	

OWNER-OPERATOR

ANNUAL COSTS

Labor: Skilled \$2.00/hr. Common \$1.50/hr.

Operation	Hrs. per Acre	Cash and Labor Cost Per Acre				Total
		Labor	Fuel and Repairs	Materials Kind & Quantity	Cost	
<u>CULTURAL COSTS</u>						
Fertilize	.3	.60	.29	300# 16-20 @ \$3.50/cwt.	10.50	11.39
Clipping 2 times	.6	1.20	.68			1.88
Fence repairs	.2	.30	.13	3 miles @ 4.2¢/mi. \$50 ÷ 80 acres	.63	1.06
<u>TOTAL CULTURAL COSTS</u>						<u>\$14.33</u>
<u>IRRIGATION COSTS</u>						
Irrigate 4 times	2.52	3.78		\$160/mo. x 4 ÷ 80 a. Power to pump	8.00	11.78
Resetting pipe	.20	.30	.20			.50
<u>TOTAL IRRIGATION COSTS</u>						<u>\$12.28</u>
<u>TOTAL CULTURAL AND IRRIGATION COSTS</u>						<u>\$26.61</u>

CASH OVERHEAD

Misc., office, etc. (5% x \$26.61)						1.33
Taxes (\$600 x 24% x 9%)						12.96
Personal property tax, assessed value x 9% (\$14,960 ÷ 2 x 24% x 9% ÷ 80 = per acre)						2.02
<u>TOTAL CASH OVERHEAD</u>						<u>\$16.31</u>
<u>TOTAL CASH COST</u>						<u>\$42.92</u>

NON-CASH COSTS

	Investment	Per Acre	Annual Cost		
			Depreciation	Interest 6%	
1. Land	\$600.00		\$	\$36.00	
2. Stand	39.53	7 yr. life	5.65	1.19	
3. Irrigation system	37.00	20 yr. life	1.85	1.11	
4. Irrigation pipe	18.00	12 yr. life	1.50	.54	
5. Equipment	146.38	10 yr. life	14.64	4.39	
6. Fence \$1700/80 a.	21.25	15 yr. life	1.47	.64	
	<u>\$862.16</u>				
<u>TOTAL NON-CASH COSTS</u>			<u>\$25.11</u>	<u>\$43.87</u>	<u>\$68.98</u>

TOTAL COST PER ACRE

\$111.90

Cost per AUM @ 10 AUM yield = \$11.19
 Cost per AUM @ 12 AUM yield = 9.33
 Cost per AUM @ 14 AUM yield = 7.99
 Cost per AUM @ 16 AUM yield = 6.99

SAMPLE COSTS TO PRODUCE IRRIGATED PASTURE
IN HUMBOLDT COUNTY

RENTER-OPERATED

ANNUAL COSTS

Labor: Skilled \$2.00/hr. Common \$1.50/hr.						
Operation	Hrs. per Acre	Cash and Labor Cost per Acre				Total
		Labor	Fuel and Repairs	Materials		
		\$	\$	Kind & Quantity	Cost	\$
<u>CULTURAL COSTS</u>						
Fertilize	.3	.60	.29	300# 16-20 @ \$3.50/cwt.	10.50	11.39
Clipping 2 times	.6	1.20	.68			1.88
Fence repairs	.2	.30	.13	3 miles @ 4.2¢/mi. \$50 + 80 acres	.63	1.06
<u>TOTAL CULTURAL COSTS</u>						<u>\$14.33</u>
<u>IRRIGATION COSTS</u>						
Irrigate 4 times	2.52	3.78		\$160/month x 4 + 80 a. power to pump	8.00	11.78
Resetting pipe	.20	.30	.20			.50
<u>TOTAL IRRIGATION COSTS</u>						<u>\$12.28</u>
<u>TOTAL CULTURAL AND IRRIGATION COSTS</u>						<u>\$26.61</u>
<u>CASH OVERHEAD</u>						
Misc., office, etc. (5% x \$26.61)						1.33
Taxes, personal property assessed value x 9% (\$14,960 ÷ 2 x 24% x 9% ÷ 80 = per a.)						2.02
Rent \$55 per acre						55.00
<u>TOTAL CASH OVERHEAD</u>						<u>\$58.35</u>
<u>TOTAL CASH COST</u>						<u>\$84.96</u>
<u>NON-CASH COSTS</u>						
<u>INVESTMENT</u>	<u>Per Acre</u>			<u>Annual Cost</u>		
				<u>Depreciation</u>	<u>Interest 6%</u>	
1. Stand	\$ 39.53	7 yr. life		\$ 5.65	\$1.19	
2. Irrigation pump	22.00	20 yr. life		1.10	.66	
3. Irrigation pipe	18.00	12 yr. life		1.50	.54	
4. Equipment	146.38	10 yr. life		14.64	4.39	
5. Interior fence \$200/80 a.	2.50	15 yr. life		.17	.08	
	<u>\$228.41</u>					
<u>TOTAL NON-CASH COSTS</u>				<u>\$23.06</u>	<u>\$6.86</u>	<u>\$29.92</u>
<u>TOTAL COST PER ACRE</u>						<u>\$114.88</u>

Cost per AUM @ 10 AUM yield = \$ 11.49
 Cost per AUM @ 12 AUM yield = 9.57
 Cost per AUM @ 14 AUM yield = 8.21
 Cost per AUM @ 16 AUM yield = 7.18

IRRIGATED PASTURE HAY - RENTER OPERATED

25 Acres Hay on 80 Acre Irrigated Pasture Farm Yield - 2½ tons cut 2x = 5 tons

ANNUAL COSTS

Labor: Skilled \$2.00/hr. Common \$1.50/hr.

Operation	Hrs. per Acre	Cash and Labor Cost per Acre				Total
		Labor	Fuel and Repairs	Materials Kind & Quantity	Cost	
<u>CULTURAL COSTS</u>						
Fertilize	.3	.60	.29	300# 16-20 @ \$3.50/cwt.	10.50	\$ 11.39
<u>TOTAL CULTURAL COSTS</u>						\$ 11.39
<u>IRRIGATION COSTS</u>						
Irrigate 4 times	2.52	3.78		\$160/mo. x 4 + 80 a. power to pump	8.00	11.78
Resetting pipe	.20	.30	.20			.50
<u>TOTAL IRRIGATION COSTS</u>						\$ 12.28
<u>HARVEST COSTS</u>						
Mowing 2 times	1	2.00	1.13			3.13
Rake 4 times	1.04	2.08	1.12			3.20
Bale 2 times	1.00	2.00	2.25	wire \$.90/ton	4.50	8.75
Remove from field 2 times		Custom Rate \$15.00 10¢/bale 30 bales/ton				15.00
<u>TOTAL HARVEST COSTS</u>						\$ 30.08
<u>TOTAL CULTURAL, IRRIGATION & HARVEST COSTS</u>						\$ 53.75
<u>CASH OVERHEAD</u>						
Misc., office, etc., \$53.75 x 5%						2.69
Taxes, personal property \$17,770 ÷ 2 x 24% x 9% ÷ 80						2.40
Rent						55.00
<u>TOTAL CASH OVERHEAD</u>						\$ 60.09
<u>TOTAL CASH COSTS</u>						\$113.84

NON-CASH COSTS

INVESTMENT	Per Acre	Annual Cost		
		Depreciation	Interest 6%	
1. Stand	\$ 39.53 7 yr. life	\$ 5.65	\$ 1.19	
2. Irrigation pump	22.00 20 yr. life	1.10	.66	
3. Irrigation pipe	18.00 12 yr. life	1.50	.54	
4. Equipment	258.38 10 yr. life	25.84	7.75	
	\$ 337.91			
<u>TOTAL NON-CASH COSTS</u>		\$ 34.09	\$ 10.14	\$ 44.23

TOTAL COST PER ACRE @ 5 TON YIELD

\$ 158.07

Yield	Cost/Acre	Cost/Ton
4 ton	\$154.17	\$ 38.54
5 ton	158.07	31.61
6 ton	161.97	27.00

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SOLANO COUNTY

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June 20, 1975

Dear Solano County Livestock Producer:

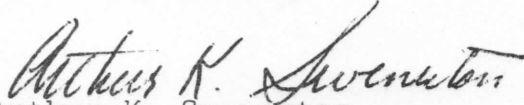
I have enclosed a copy of "*Sample Cost of Production*" for irrigated pasture in Solano County. I got a shock when I did it because the total cost per acre went from \$88.22 in 1971 to \$163.92 in 1975 - an 86% increase in four years!

The reasons for it are obvious - higher interest rates, higher land and equipment costs, higher fencing and water costs, higher fertilizer and fuel costs, etc.

The sample cost assumes land not in the Williamson Land Act, so land in the act would probably pay about half as much county taxes. Even so, a savings of \$8.75 or so still results in \$155.17 total costs per acre. At this level, the 500 pound gain per acre "break even" price goes to \$0.31 per pound. Last week's *Market Review* quotes feeder steer prices (Choice 500-800 pounds) at \$0.32 to \$0.38 per pound so there is very little current margin in cattle. Sheep are in better shape with fat prices at \$0.45 to \$0.49 per pound. A reduction in total yield per acre to 400 pounds would put the "break even" price at \$0.39 where little chance for profit exists.

This "sample cost" is at the end of a revision of my *Irrigated Pasture In Solano County* publication. If you want a copy of the complete publication, please write or phone the office and a copy will be mailed to you as soon as we get them back from the printers.

Sincerely yours,


Arthur K. Swenerton
County Director & Farm Advisor

AKS/jd

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SAMPLE COST OF PRODUCTION

(Revised 1975)

Costs of irrigated pasture vary with purchase prices of land, leveling requirements, water source, taxes, fertilization practices, etc., so no one sample cost can do more than illustrate a possible situation and suggest a means of figuring costs in other situations by changing the amounts as they are indicated. The following figures are based on per acre costs.

Interest on depreciable items is figured at one half the original cost each year. As this represents the average value from full value at the start of depreciation to nothing at the end, 8% interest rate was arbitrarily selected - others may consider a different value more realistic.

OVERHEAD	COST	LIFE EXPEC- TANCY YEARS	DEPRE- CIATION	INTEREST AT 8% ON 1/2 COST	MY OWN COST
Land (including Barns & Corrals)					
Grading (including Irrigation & Drainage Ditches)	\$700.00			\$56.00 *	_____
Fences (including Border & Cross)	40.35	20	\$2.02	0.84	_____
Turnout Gates	5.00	10	0.50	0.20	_____
Stock Water Facilities	5.00	20	0.25	0.20	_____
Pasture Stand (including Seed, Seeding & Irrigating Up)	38.00	7	5.43	1.52	_____
Tillage Equipment Tractor	15.00	10	1.50	0.60	_____
Mower	3.00	10	0.30	0.12	_____
Pickup Truck	30.00	10	3.00	1.20	_____
Miscellaneous (Shovels, Etc.)	2.00	10	0.20	0.80	_____
TOTAL INITIAL INVESTMENT COSTS PER ACRE	\$838.35				
TOTAL ANNUAL DEPRECIATION PER ACRE			\$13.20		
TOTAL INTEREST				\$61.48	
TOTAL OVERHEAD (including interest & Depreciation)					\$74.68

*Interest at full cost because land and leveling costs are not considered depreciable items.

ANNUAL CULTURAL COSTS

Cash and Labor Costs ---

Irrigate 16 times @ 1/2 hour @ \$2.50	\$20.00	_____
Water - 4 acre feet @ \$7.31 (estimated)	29.24	_____
Fertilizer - 22 pounds P (50 pounds P ₂ O ₅) (est.)	12.50	_____
Mow 3 times @ 1/2 hour @ \$4.00	6.00	_____
Ditch Work and Fence Repair	2.00	_____
Miscellaneous Labor & Truck Use	2.00	_____
Taxes (estimated and not in Ag. Preserve)		_____
\$10.00/100 @ \$175.00	17.50	_____

Total Cash and Labor \$89.24

TOTAL COSTS, INCLUDING OVERHEAD AND CASH AND LABOR \$163.92

"Break Even" price per pound for 500 pounds of animal gain \$ 0.33

To simplify information trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products which are not mentioned.

Return

SAMPLE COSTS FOR IRRIGATED PASTURE
Stanislaus County-1965

	COST PER ACRE	
	Sample Cost	Your Cost
Cash Costs:		
Land preparation, seed, plant and extra 1st year - costs - \$22.40 ÷ 6 years	\$ 3.73	
Mow, fertilize, drag, fence work, etc.- 3 man and 1½ tractor hours	6.00	
Irrigation labor - 6 man hours @ \$1.50	9.00	
Irrigation water - power and district tax	*7.00	
Fertilizer - average per year	10.00	
County taxes	7.50	
Misc. cash costs	5.00	
Total Cash Costs	\$ 48.23	
Depreciation:		
Irrigation system - original cost \$60 (20 yr. life)	\$ 3.00	
Tractor - 2½ hrs. incl. 1/6 1st yr. hours @ 60¢	1.50	
Fences - cost \$30 - 12 yr. life	2.50	
Total Depreciation	\$ 7.00	
Total Cash and Depreciation Cost	\$ 55.23	
Interest on Investment @ 6%		
Land @\$800	\$ 48.00	
Irrigation system - on 1/2 cost (\$30)	1.80	
Tractor - 2½ hours incl. 1/6 1st yr. hours @ 25¢	.63	
Fences - on 1/2 cost (\$15)	.90	
Total Interest on Investment	\$ 51.33	
TOTAL COST OF PRODUCTION	\$106.56	

Man labor at \$1.50 per hour, including Social Security and Compensation Insurance; tractor per hour cash cost \$1.00 and \$1.25, depreciation 60¢ and interest 25¢

*Oakdale Irrigation District - \$7.00; T.I.D. - \$1.00; M.I.D. - no charge

Cost per Animal Unit Month** at Varying Production Levels¹

Production Level - AUM per acre	8	10	12	14	16
Cash and Depreciation Cost	\$ 6.90	\$ 5.52	\$ 4.60	\$ 3.95	\$ 3.45
Your Total Cost	\$13.32	\$10.66	\$ 8.88	\$ 7.61	\$ 6.66

**Animal Unit Month (AUM) = 400 pounds total digestible nutrients (TDN) or 0.4 tons hay¹ with no change in costs per acre. Any added costs per acre required to obtain the higher carrying capacities would increase AUM costs accordingly.

SAMPLE COSTS FOR IRRIGATED PASTURE
Stanislaus County - 1980

	COST PER ACRE	
	Sample Cost	Your Cost
<u>Cash Costs:</u>		
Mow, fertilize, drag, fence work, etc. 3 man and 1½ tractor hours	\$ 21.00	
Irrigation labor - 6 man hours @ \$5/hour	30.00	
Irrigation water - power and district tax	24.00*	
Fertilizer - average per year	20.00	
County taxes	9.90	
Miscellaneous cash costs including ½ tractor work	10.00	
Total Cash Costs	\$114.90	
<u>Depreciation:</u>		
Irrigation system (gravity) - original cost \$185 (20 year life)	\$ 9.25	
Tractor - 2 hours @ \$1.75/hour	3.50	
Fences - cost \$75 - 20 year life	3.75	
Stand - cost \$68.55	6.86	
Total Depreciation	\$ 23.36	
Total Cash and Depreciation	\$138.26	
<u>Interest on investment @ 12%</u>		
Land @ \$2,700	\$324.00	
Irrigation system - on ½ cost (\$92.50)	9.25	
Tractor - 2 hours @ 88¢/hour	1.76	
Fences - on ½ cost (\$37.50)	3.75	
Stand - on ½ cost (\$34.28)	3.43	
Total Interest on Investment	\$342.19	
TOTAL COST OF PRODUCTION	\$480.45	

All labor at \$5 per hour including Social Security and Compensation Insurance; tractor per hour cash costs \$4.00, depreciation \$1.75 and interest 88¢.

*Oakdale Irrigation District - \$24.00; other districts or pumping costs vary considerably from this figure.

Cost per Animal Unit Month** at Varying Production Levels¹

Production Level - AUM per acre	8	10	12	14	16
Cash and Depreciation Cost	\$17.28	\$13.83	\$11.52	\$9.88	\$8.64
TOTAL COST	\$60.06	\$48.05	\$40.04	\$34.31	\$30.03

**Animal Unit Month (AUM) = 400 pounds total digestible nutrients (TDN) or 0.4 tons hay¹ with no change in costs per acre. Any added costs per acre required to obtain the higher carrying capacities would increase AUM costs accordingly.

WJV:pjm

LAND PREPARATION, PLANTING AND ADDITIONAL FIRST YEAR
SAMPLE COSTS TO ESTABLISH AN IRRIGATED PASTURE

Cash Costs	COSTS PER ACRE	
	Sample Cost	Your Cost
Land preparation; disc, level, chisel, border work	\$27.00	
Repairs to equipment	3.00	
Seed: 14 lbs. total at average of \$1.50/lb.	21.00	
Plant: 1/3 hr. man and tractor	2.97	
Extra clippings (2): 1/2 hr. man and tractor	4.50	
TOTAL CASH COSTS	\$58.47	
Depreciation on tractor: 3 5/6 hours @ \$1.75	6.71	
Interest on tractor: 3 5/6 hours @ 88¢	3.37	
TOTAL EXTRA FIRST YEAR ESTABLISH- MENT COSTS	\$68.55	

One tenth of the above costs are included in the other table.

MEASUREMENT OF FEED OBTAINED FROM PASTURE

To compare the cost of pasture forage with alternative forages, it is necessary to know how much the pasture produces. Production is measured by the number of animals an acre will carry. The AUM (Animal Unit Month) is the amount of forage needed to feed one 1,000 pound cow for one month. This amount is approximately 400 pounds of TDN or .4 tons of hay equivalent. This can be the basis for comparing with other forages. For example, a pasture carrying 2 cows per acre for 6 months is producing 12 AUM. $12 \text{ AUM} \times .4 = 4.8$ tons of hay equivalent.

The amount of feed obtained from a pasture is influenced not only by pasture management but also by grazing practices. All types of stock do not utilize pasture to the same degree of efficiency. Milking cows may use only 3/4 of the available feed that growing stock might use. Also, sufficient stock must be on hand to fully utilize feed produced. Therefore, in determining the amount of feed which may be obtained from a pasture, one should consider whether or not it will be used to maximize capacity.

SAMPLE COSTS FOR IRRIGATED PASTURE

STANISLAUS COUNTY - 1980

This sheet is for use as a guide in determining irrigated pasture inputs and costs for a specific set of conditions. It is designed to help growers analyze their practices with a view toward increasing efficiency of production. Along with similar sheets on other crops, it also can be used as a basis for making cost comparisons with more profitable alternatives. The figures in the tables are not intended to represent average costs for irrigated pasture in Stanislaus County. A large portion of these pastures are planted on land not well adapted to other crops and costs may vary widely between individual situations.

PREPARED BY

WILLIAM J. VAN RIET

UNIVERSITY OF CALIFORNIA

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