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THIRD ANNUAL REPORT OF THE CONTRA COSTA COUNTY IRRIGATED PASTURE MANAGEMENT STUDY FOR 1955

by
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INTRODUCTION

This irrigated pasture study was conducted by the Agricultural Extension Service in Contra Costa County at the suggestion of the County Extension Program Planning Conference. Its purpose was to develop information on how much feed is produced and how much that feed costs. Such information should help a farmer estimate what it will cost him, and whether it will be profitable to use his land for this crop. Only a few records were completed for 1952 and 1953, but for 1954 nine were completed, one of which was in its first year (No. N) and omitted from the averages in the two tables in this report.

Yields and costs shown in this study are more significant on an individual record basis, since yields and costs vary so widely that averages are not typical of any farm set up. Some of these pastures are in the delta with low water and irrigation labor costs. Some are on hill land, irrigated at high expense by sprinklers with water pumped from canals at considerable cost.

MEASUREMENT OF PASTURE

Pasturage is estimated as to quantity in the animal unit month. An animal unit is a mature head of cattle--cow, or 2-year-old steer, or the equivalent in feed requirement in other ages and kinds of livestock. A weaned calf is considered a half an animal unit and a yearling three-quarters. Five sheep or six lambs are equivalent to an animal unit. An animal unit month is the feed required from pasture by an animal unit in one month. Where hay or supplemental feeds are fed in addition, the feed obtained from pasture is correspondingly reduced. An animal unit month of pasturage is further defined as the equivalent of 0.4 tons of hay, or 400 pounds of total digestible nutrients (TDN). It takes 2.5 animal unit months of pasture to furnish the feed equivalent to a ton of hay. Where hay is made from pasture, it is included in the pasture yields shown at 2.5 animal units to the ton. The cost of pasture may be converted to an equivalent cost in terms of hay, as is shown at the bottom of table 1.

SUMMARY

Records over the last three years show a wide range in production and cost. Highest yield reported was 16.1 AUM per acre in one record in 1952, but all four records had good yields that year, with an average of 14.4 AUM per acre, at a cost of $46.04 per acre, or $3.19 per AUM. In 1953 the highest yield among four records was 13.0 AUM per acre, and the average was 10.2 at a cost of 46.77 per acre, or $4.57 per AUM. The 1954 records shown in this report had yields ranging from a high of 12.5 down to a low of 6.4, with an average of 9.4, and a cost of $44.93 per acre, or $4.78 per AUM.

Whether this crop is profitable or not depends on many things, the most important of which is cost of water and irrigation. Good cultural care and grazing management are also essential to obtaining high enough yields to offer a profit potential.

Table 1 General Summary of Contra Costa County Irrigated Pasture Study.

	N	1	2	3	4	5	6	7	8	Av. 8 Rec.
Yield AUM. per A. grazing	4.0	11.4	11.8	8.7	9.8	6.4	9.9	11.4	7.5	8.6
Hay taken, 2.5 AUM per ton	.8		.7		2.3					.8
Total yield, AUM per A.	4.8	11.4	12.5	8.7	12.1	6.4	9.9	11.4	7.5	9.4
Soil type		S.C. loam	Heavy clay	clay loam				clay loam	clay loam	
Year planted	spr. '54	Fall '46	'48 & '52	1949	'38, '51 & '52	1948	1951		1952	
Source of water	slough	canal	slough	slough	creek	slough	canal	canal	canal	
Number of irrigations			20	30	10-14	24			12	
Month of 1st irrigation	Apr.	Apr.	Apr.	Mar.		Apr.		Apr.	Apr.	
Month of last irrigation	Nov.	Oct.	Oct.	Oct.		Nov.		Nov.	Oct.	
Kind of stock-beef, sheep horses	Beef						Beef	Beef	Beef	
Number of fields	6	3				9	1		3	
Grazing-Days on, days off										
Yield in AUM. per A. Jan.			0.7	0.1	0.2				0.2	0.1
h-includes hay Feb.			0.6	0.2	0.2	0.2		0.1	0.1	0.2
taken Mar.		0.9	1.0	0.3	0.2	0.2	0.6	0.3	1.3	0.4
Apr.		1.9	1.7	0.8	0.8	0.1	0.7	1.8	1.2	0.7
May		1.7	1.7	0.9	1.6	0.4	0.7	2.6	0.6	1.0
June		1.7	1.0	1.0	2.0	0.6	1.2	2.2	0.4	1.2
July	0.4	1.5	0.4	1.2	1.7	1.1	1.7	0.6	1.2	1.3
Aug.	0.5	1.6	1.1	1.2	1.3	1.2	1.8	1.1		1.2
Sept.	0.9	1.0	1.6	1.2	1.4	1.2	1.5	1.1	0.8	1.3
Oct.	.7	.5	1.3	1.0	1.2	0.7	1.5	1.2	0.9	1.0
Nov.	1.2	.5	0.7	0.6	0.9	0.5	.2	0.4	0.8	0.6
Dec.	1.1	.1	0.7	0.2	0.6	0.2				0.4
Total yield	4.8	11.4	12.5	8.7	12.1	6.4	9.9	11.4	7.5	9.4
Total cost per A.	61.21	27.17	33.51	28.58	48.16	30.20	79.76	114.48	112.74	44.93
Cost per AUM	12.78	2.37	2.69	3.29	3.97	4.75	8.03	10.00	14.94	4.78
Cost of feed equivalent to 1 ton of hay(2.5)	31.95	5.93	6.73	8.22	9.93	11.88	20.07	25.00	37.35	11.95

The 8 records on mature stands are shown above in order of increasing cost per AUM of pasture. Note the wide range from $2.37 per AUM up to $14.94.

Table 2 Costs Per Acre in Contra Costa County Irrigated Pastures.

	N	1	2	3	4	5	6	7	8	Av.8 Records
Irrigation labor	5.03	1.59	3.37	4.47	8.27	5.36	9.50	50.71	17.14	7.69
Water cost and power for pumping	16.13	10.39	2.70	5.69	2.46	.51	6.48	17.85	31.71	4.29
Clipping or mowing	7.10	1.03	3.20	2.82		.31	.83	1.71	3.66	.83
Fertilizing & Fertilizers		1.65	4.58	.29	4.57	3.25	3.25		9.30	3.86
Miscel.other,fence,ditch etc. including materials	10.52	.95	.92	1.09	3.31	3.85	.07	.29	3.99	2.90
Total labor & materials	38.78	15.61	14.77	14.36	18.61	13.28	20.13	70.56	65.80	19.57
General expense	1.94	.78	.74	.72	.93	.66	1.00	3.52	3.29	.98
County taxes	4.76	3.00	4.75	2.13	4.81	4.62		7.86	6.43	4.42
Repairs, comp. ins. & rent-r	.56				4.26	.29	r. 50.00		.85	4.47
Total, cash costs	46.04	19.39	20.26	17.21	28.61	18.85	71.13	81.94	76.37	29.44
Depreciation-stand	5.00	1.50	4.00	3.00	1.50	3.00	5.80	2.00	5.00	2.80
Fences	.77	1.09	.75	.62	1.16	.58		2.14	1.43	.90
Irrigation system	.40	.83	.21	1.25	1.45	.23	.50	17.15	16.13	1.87
Other equipment	.81	.24	.37	.25	.64	.09	.50	.30	1.14	.48
Total cash & deprec. costs	53.02	23.05	25.59	22.33	33.36	22.75	77.93	103.53	100.07	35.34
Int. on investment-stand	1.25	.75	1.00	.75	.75	.75	1.45	.50	1.25	.84
Fences	.38	.55	.38	.31	.58	.29		1.07	.71	.45
Irrigation system	.11	.21	.10	.63	.72	.11	.13	4.29	4.17	.62
Other equipment	.20	.11	.19	.06	.25	.05	.25	.09	.29	.23
Land	6.25	2.50	6.25	4.50	12.50	6.25		5.00	6.25	8.04
Total all costs per acre	61.21	27.17	33.51	28.58	48.16	30.20	79.76	114.48	112.74	44.93
Cost per AUM of pasturage	12.78	2.37	2.69	3.29	3.97	4.75	8.03	10.00	14.94	4.78

Costs per acre may be seen to vary widely with highest costs for irrigation labor and water which are in records No.7 & 8 which are sprinkler irrigated hill pastures considerably above the canal. No.N, the new planting is a first year record but does not include the land preparation and seed and planting cost. Record No.6 is on rented land and shows the operators costs and rent. With such high per acre costs much better yields will be needed to bring his cost per AUM down to a level where he is not at a disadvantage in using this pasturage for beef cattle. It will be difficult to make much profit even with feeder cattle at a pasture cost above $5 per AUM. Irrigated pasture is not a high gross income per acre crop and will usually earn less than most irrigated row crops.