

ALFALFA HAY

Sample

Costs of Production

Suggestions on Growing

University of California
Farm and Home Advisor's Office
2610 'M' Street
Bakersfield, California

A B O U T T H E S E C O S T D A T A

The costs of production in any agricultural enterprise will vary considerably from ranch to ranch. The input and cost data in this booklet are sample costs. They are intended to be used only as educational guides in assisting you to appraise and plan your own crop and livestock program.

These cost data do not represent industry averages.

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SUGGESTIONS ON GROWING QUALITY ALFALFA HAY

By
Roy M. Barnes - Farm Advisor

GENERAL:

Kern County has the climate, soil and water to produce high yields of alfalfa hay. With proper timing of the irrigations, cutting and curing, good yields of high quality hay can be produced. Unless quality hay is produced, much of the effort to grow the crop may be lost.

SOIL REQUIREMENTS:

Alfalfa can be grown on all Kern County soils. The crop will do poorly on land that contains hardpan or an impervious layer nearer to the surface than four feet, or on soils where the water table is near the surface. A soil in which water will penetrate well is best. Alfalfa is moderately tolerant to alkali.

VARIETY:

There are several alfalfa varieties on the market. Some of these are certified Experiment Station releases and some are private varieties. It may be well to contact the local University of California Agricultural Extension Service office for characteristics of the various varieties.

SEED TREATMENT:

Ordinarily, seed treatment will not be necessary. If seed treatment is desired, 5 1/3 ozs.

per 100 pounds of seed of Arasan SFX or 4 ozs. Phygon is recommended.

PREPARATION OF SOIL AND PLANTING:

Since alfalfa is to occupy the land for several years, special attention should be given to preparing the land so that water can be evenly and properly controlled. Details on the size of the border checks best for each type of soil may be had at the Farm & Home Advisor's Office.

Success in establishing a good stand depends mainly upon the kind of seedbed prepared. A good seedbed is firm and moist. A ring roller is excellent to firm a loose and open soil. After land has been prepared, an irrigation is essential. The water will reveal the high spots or sunken spots within the borders which then may be eliminated before seeding. Also, pre-irrigation will assist in firming the soil as well as providing the necessary moisture for germinating seed. In some soils, although not generally recommended, seeding dry then irrigating up is sometimes practiced. Broadcasting or seeding with a regular alfalfa drill are both successful.

PLANTING RATE:

If broadcasting, 20 to 25 pounds per acre, or if drilling, 18 to 20 pounds per acre are sufficient.

PLANTING TIME:

The best time to seed alfalfa in Kern County is October and November, or February. Plants should have about six weeks growth to sustain heavy frosts.

PLANTING DEPTH:

Depth of seeding should not exceed one and one-half inches in a light soil, or three-fourths of an inch in heavier soils.

FERTILIZATION:

If any fertilizer is needed, it will be phosphate. In some fields around Arvin, Wheeler Ridge, Rosedale, and McFarland, tests have shown a phosphate deficiency. If the use of phosphate on other crops has given economical gains, then phosphate should be applied on alfalfa. At any rate, 80 lbs. to 100 lbs. of phosphate, (200 to 240 lbs. of Treble Super Phosphate), is all that would be needed.

IRRIGATION:

Irrigation will depend upon the kind of soil. Usually, two irrigations per cutting are sufficient. Water should not be allowed to stand for any length of time in the hot weather since this will kill out the plants. For good growth in Kern County, from 40 to 50 inches of water will be required in a season.

WEED CONTROL:

Mechanical: If the crop is cut at the proper time, the new growth at the crown has started. When exposed to light and heat, this new crop grows rapidly, soon covering the ground. In so doing, shades out the grass and weed seeds that otherwise would have a chance to germinate.

Chemical: Ask for "Weed Control Recommendations" published annually by the University of California. It contains the latest chemicals that are registered for use on alfalfa hay and the weed they control.

ALFALFA HAY PRODUCTION

Sample Costs to Produce Alfalfa Hay in Kern County - 1969
 Man labor \$1.75 per hour total and equipment operator \$1.90

which includes employer's Social Security and Workman's Compensation insurance payments.
 50 h.p. wheel diesel tractor per hour cash costs \$1.50, depreciation 75¢ and interest 40¢.

Roy M. Barnes, Farm Advisor

Edward A. Yeary, Farm Advisor-Statewide

	Sample Costs		My Costs	
	Per acre	Per ton	Per acre	Per ton
<u>Pre-Harvest Cash Costs</u>				
Irrigate 13 times: labor 8 hrs.	\$ 14.00			
Power for 4½ ac. ft. water @ \$6.50	29.25			
Fertilize: 44 lbs. phosphate	11.00			
Bulk spread fertilizer	2.00			
Weed control: including application	10.00			
Insect control: total	5.00			
Taxes	18.00			
Repairs to irrigation system & equipment except tractor	3.50			
Miscellaneous labor, materials, 1 hr., man and tractor	4.50			
Business expense, office, car, etc, 6% of pre-harvest and harvest costs	9.90			
TOTAL PRE-HARVEST CASH COSTS	\$107.15	\$12.60		
<u>Harvesting Costs</u>				
Swath 7 X: contract \$2.25 per time	\$ 15.75			
Turn: contract, 7X at 50¢	3.50			
Bale: contract, \$4.00 per ton	34.00			
Roadside: contract \$1.75 per ton	14.90			
TOTAL HARVESTING COSTS	\$ 68.15	\$ 8.02		
TOTAL CASH COSTS	\$175.30	\$20.62		
<u>Depreciation</u>				
Irrigation system and equipment, \$200.00, 12 year life	\$ 16.65			
Tractor: 1 hr.	.75			
Stand: cost \$76.75, 3 years	25.60			
TOTAL DEPRECIATION	\$ 43.00	\$ 5.06		
<u>Interest on investment at 7%</u>				
Irrigation system and equipment: ½ cost \$100.00	\$ 7.00			
Tractor 1 hr.	.40			
Stand: ½ cost \$38.38	2.70			
Land: \$800.00 per acre	56.00			
TOTAL INTEREST ON INVESTMENT	\$ 66.10	\$ 7.78		
TOTAL COST OF PRODUCTION	\$284.40	\$33.46		

No allowance has been included for the cost of management. No income from sheep grazing has been indicated, although this is sometimes earned by hay growers. Costs are based on a yield of 8½ tons per acre average, with a three year stand life. Costs per acre are rounded to the nearest 5¢.

ALFALFA HAY PRODUCTION

Sample Expense Flow Sheet

Activity	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL
Irrigate		3.33	3.33	6.65	6.65	6.65	6.65	6.65	3.34				43.25
Fertilize											13.00		13.00
Weed Control		10.00											10.00
Insect Control								5.00					5.00
Taxes				9.00								9.00	18.00
Repairs	1.75						1.75						3.50
Misc. labor, Materials, Etc.	2.25						2.25						4.50
Business Expense		.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	9.90
Harvest			9.74	9.74	9.74	9.74	9.73	9.73	9.73				68.15
Depreciation	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.59	3.59	3.59	3.59	43.00
Interest on investment	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.50	5.50	66.10
Total	13.09	23.32	23.06	35.38	26.38	26.38	30.37	31.37	23.07	10.00	22.99	18.99	284.40

ALFALFA HAY PRODUCTION
Sample Costs of Production at Varying Yields

Yield Tons Per Acre	Average				Exceptional	
	7	8	9	10	11	12
Cash Costs Per Ton	\$23.81	\$21.55	\$19.79	\$18.39	\$17.24	\$16.28
Total Costs Per Ton	\$39.39	\$35.19	\$31.92	\$29.30	\$27.16	\$25.38

Sample Costs of Production at Indicated Yields Per Acre With Varying Water Costs

Yield: tons per acre	Total Cost* of alfalfa hay per ton at the indicated water cost per acre-foot			
	\$ 4.00	\$ 6.00	\$ 8.00	\$10.00
7	\$37.79	\$39.07	\$40.36	\$41.64
8	33.78	34.91	36.03	37.16
9	30.67	31.67	32.67	33.67
10	28.18	29.08	29.98	30.88
11	26.14	26.95	27.77	28.59
12	24.44	25.19	25.94	26.69

* Investment per acre in the irrigation system was assumed to be constant in this table.

CUTTING:

Quality hay depends upon timely cutting and proper curing. The best time to cut with the least injury to the stand is in the one-tenth to one-fourth bloom stage or when the next growth of the crown is one-half to one inch tall. Quality is also reduced when allowed to lay in swath or wind-row longer than necessary to rake and bale.

A more detailed publication, "Controlling Alfalfa Quality", is available at the Farm and Home Advisor's Office, 2610 M Street, Bakersfield.