

ALFALFA HAY

ECONOMICS

FOR

MERCED COUNTY

University of California  
Agricultural Extension Service  
720 West 22nd Street  
Merced, California 95340

## USING COST ANALYSIS WORK SHEETS

These worksheets show an operating schedule of the most generally accepted farm practices, together with Depreciation and Interest Costs. Perhaps their most important use is in comparing an actual or proposed budget or farming program with these sample costs. No one farm may require all of the inputs in a given year, however, or have exactly the same equipment as indicated. This emphasizes the value as a worksheet, as well as a cost guide.

If the grower owns all of the business assets outright, then interest charges that are indicated would return to him as income, or reduce the cash requirements for production accordingly.

One cost schedule cannot illustrate each farm situation. It can serve as a guide of recommended practices and sample costs, against which any actual or proposed schedule can be tested for completeness and unit cost of production.

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## ALFALFA PRODUCTION IN MERCED COUNTY

Merced County grew 75,400 acres of alfalfa in 1967 and the average yield was 5.3 tons per acre. Yields of 10 tons are possible on our deep loam soils with skilled management.

Many acres of alfalfa in Merced County are being grown on problem soils. Some of the major problems are high water table, hard pan, dense clay layer, and heavy clay soil. Every grower should find out if his soil has one or more of these problems, and then manage the soil to minimize the affect of the problem. The above mentioned problems generally reduce the yield.

About 70% of California's alfalfa hay is sold on the open market; the remainder is fed to livestock and dairy cattle owned by the hay grower. Both the domestic and export markets show an increase demand for cubed alfalfa.

### ALFALFA HAY

#### Recent California Acreage, Production and Farm Price\*

Year	Acreage Harvested	California Production in Tons	Average Price Received* by Grower For Baled Hay
1968***	1,117,000	-----	-----
1967	1,164,000	6,169,000	\$ 29.60
1966	1,141,000	6,390,000	28.20
1965	1,176,000	6,292,000	24.00
1964	1,176,000	6,527,000	24.80
1963	1,131,000	6,334,000	28.50
1962	1,120,000	5,824,000	23.40
1961	1,204,000	6,140,000	20.80
1960	1,192,000	5,960,000	24.50

\* Season average price received by farmers for baled hay. Source: California Crop and Livestock Reporting Service and University of California Agricultural Extension Service

\*\*\* Indicated on March 15, 1968

ESTABLISHING A STAND OF ALFALFA FOR HAY PRODUCTION

Cost Analysis Work Sheet

Sample costs to establish a stand of alfalfa for hay production in Merced County. Man labor \$1.75 per hour total and equipment operator \$1.90, which includes employer's social security and workmen's compensation insurance payments. Tractors available are 80 h.p. - Crawler, 75 h.p.-wheel diesel and 50 h.p.-wheel tractor. Cash costs, depreciation and interest costs per hour for each tractor are: 80 h.p. Crawler, \$3.50, \$1.60 and \$1.00; 75 h.p. wheel tractor, \$2.20, \$1.00 and 50¢; 50 h.p. wheel tractor, \$1.50, 75¢ and 40¢.

Annual investment costs and real estate taxes are charged to the hay production schedule, so are omitted from development costs.

	Sample Costs Per Acre	My Costs Per Acre
Disc 2 X: total 1/2 hr. man and crawler tractor	\$ 2.70	
Subsoil 1 X: 1-1/4 hrs. man and crawler tractor	6.75	
Landplane 1 X: 1/3 hr. man and crawler tractor	1.80	
Border preparation: 1/2 hr. man and 75 h.p. wheel tractor	2.05	
Float checks: 1/3 hr. man and 50 h.p. wheel tractor	1.13	
Re-shape borders: 1/10 hr. man and 50 h.p. wheel tractor	.34	
Fertilize: material, 300 lbs. single super phosphate or equivalent amount of P <sub>2</sub> O <sub>5</sub>	6.60	
Bulk spread	1.75	
Disc or springtooth for seed bed preparation: 1/4 hr. man and 50 h.p. wheel tractor	.85	
Weed control: custom applied	8.00	
Plant: 20 lbs. seed at 65¢	13.00	
Plant by airplane	1.00	
Cover seed: 1/8 hr. man and 50 h.p. wheel tractor	.43	
Ditches and boxes: 1/4 hr. man and 50 h.p. wheel tractor	.85	
Repairs to equipment except tractors	2.50	
Office and business expense: 6% of cash costs	3.00	
<b>Total Cash Costs</b>	<b>52.75</b>	
<b>Depreciation</b>		
Tractors: total	4.63	
Equipment except tractors	2.45	
<b>Total Depreciation</b>	<b>7.08</b>	
<b>Interest on Investment at 7%</b>		
Tractors: total	2.75	
Equipment except tractors	1.41	
<b>Total Interest on Investment</b>	<b>4.16</b>	
<b>Total Cost to Establish Alfalfa</b>	<b>63.99</b>	

# ALFALFA HAY PRODUCTION

## Cost Analysis Work Sheet

Sample costs to produce alfalfa hay in Merced County. Man labor \$1.75 per hour total and equipment operator \$1.90, which includes employer's social security and workmen's compensation insurance payments. 50 h.p. wheel diesel tractor per hour cash costs \$1.50, depreciation 75¢ and interest 40¢. Costs are based on a yield of 6-1/2 tons per acre with a 3 year stand life.

Pre-Harvest Cash Costs	Sample Costs		My Costs	
	Per Acre	Per Ton	Per Acre	Per Ton
Irrigate 9 times: labor 6 hrs. total	\$10.50			
Water: \$5.00 per acre total	5.00			
Fertilize: 300 lbs. single super phosphate or equivalent	6.60			
Bulk spread	1.75			
Weed control: including application	8.00			
Insect control	5.00			
Taxes	12.00			
Repairs, except tractor and swather	3.00			
Misc. labor, materials, 1 hr. man and tractor	4.50			
Business expense, office, car, etc. 6% of pre-harvest and harvest costs	6.66			
<b>Total Pre-Harvest Cash Costs</b>	<b>63.01</b>	<b>9.69</b>		
<b>Harvesting Costs</b>				
Swath 5 X: 1/4 hr. per acre per time	5.75			
Turn 5 X: 1/20 hr. per acre per time man and tractor	.85			
Bale: contract \$3.75 per ton	24.38			
Roadside: contract \$1.50 per ton	9.75			
<b>Total Harvesting Costs</b>	<b>40.73</b>	<b>6.27</b>		
<b>Total Cash Costs</b>	<b>103.74</b>	<b>15.96</b>		
<b>Depreciation</b>				
Irrigation system and equipment \$94.00 cost 18 year life	5.22			
Tractor: 1-1/4 hrs. at 75¢	.94			
Swather: 1-1/4 hrs. at \$3.60	4.50			
Stand: cost \$63.99 3 year life	21.33			
<b>Total Depreciation</b>	<b>31.99</b>	<b>4.92</b>		
<b>Interest on Investment at 7%</b>				
Irrigation system and equipment 1/2 cost, \$47.00	3.29			
Tractor: 1-1/4 hrs. at 40¢	.50			
Swather: 1-1/4 hrs. at 65¢	.81			
Stand: 1/2 cost \$32.00	2.24			
Land: \$600.00	42.00			
<b>Total Interest on Investment</b>	<b>48.84</b>	<b>7.51</b>		
<b>Total Cost of Production</b>	<b>184.57</b>	<b>28.39</b>		

No allowance for the cost of management, or income from sheep grazing have been considered. These are sometimes included.

## ALFALFA HAY PRODUCTION

### Sample Costs Of Production At Varying Yields

Yield: Tons Per Acre	Average			Exceptional		
	5	6	7	8	9	10
Cash Costs Per Ton	\$19.17	\$16.85	\$15.19	\$13.96	\$12.98	\$12.21
Total Costs Per Ton	\$35.34	\$30.32	\$26.74	\$24.06	\$21.96	\$20.29

### 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					
	\$2.00	\$4.00	\$10.00	\$15.00	\$20.00	\$25.00
5	\$34.74	\$35.14	\$36.34	\$37.34	\$38.34	\$39.34
6	29.82	30.16	31.16	31.99	32.42	33.26
7	26.31	26.60	27.46	28.17	28.89	29.60
8	23.68	23.93	24.68	25.31	25.93	26.56
9	21.63	21.85	22.52	23.07	23.63	24.18
10	19.99	20.19	20.79	21.29	21.79	22.29

ALFALFA HAY PRODUCTION  
Sample Expense Flow Sheet - 6-1/2 Ton Yield

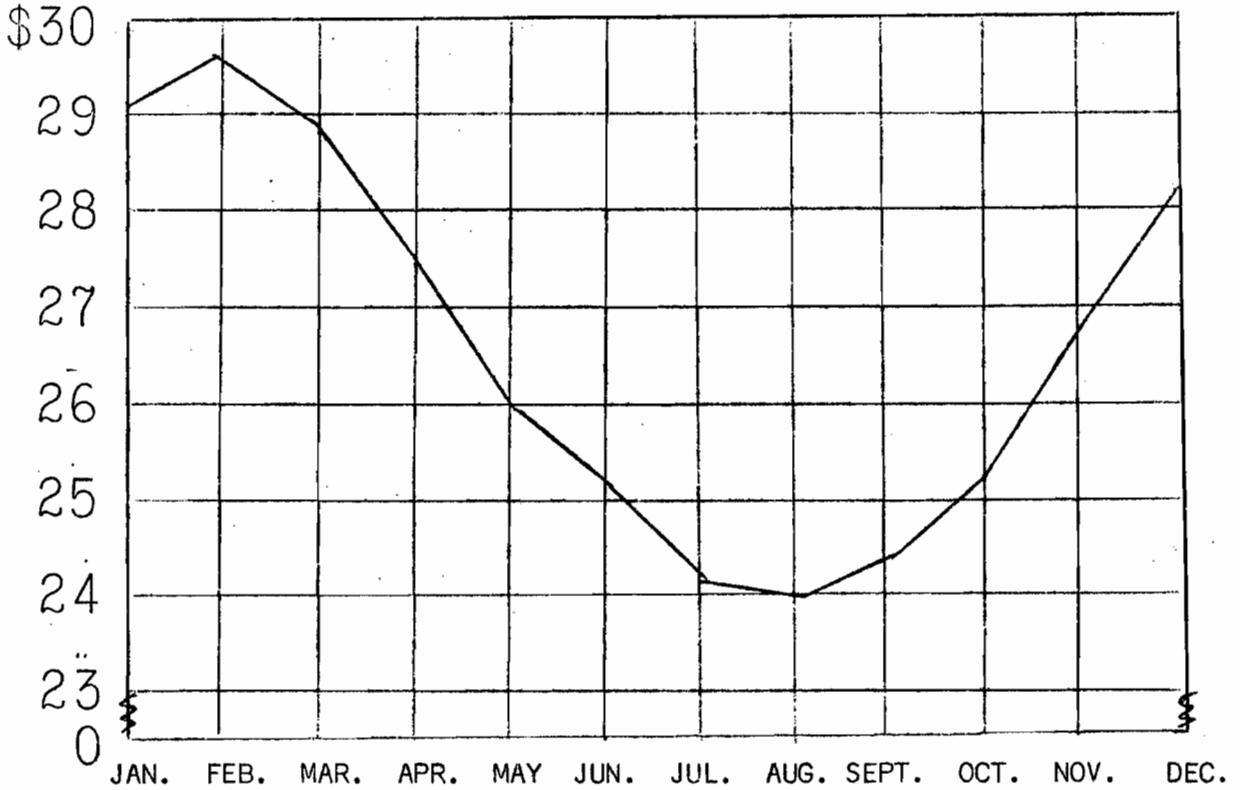
Expenses are for one acre

Activity	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Irrigate				1.72	1.72	1.72	3.45	3.45	1.72	1.72			15.50
Fertilize											8.35		8.35
Weed Control		8.00											8.00
Insect Control								5.00					5.00
Taxes				6.00								6.00	12.00
Repairs	1.50						1.50						3.00
Misc. Labor, Materials	2.25						2.25						4.50
Business Expense	.55	.55	.55	.55	.55	.55	.56	.56	.56	.56	.56	.56	6.66
Harvest					8.14	8.14	8.15	8.15	8.15				40.73
Sub-Total Cash Costs	4.30	8.55	.55	8.27	10.41	10.41	15.91	17.16	10.43	2.28	8.91	6.56	103.74
Depreciation	2.66	2.66	2.66	2.66	2.66	2.67	2.67	2.67	2.67	2.67	2.67	2.67	31.99
Interest	4.07	4.07	4.07	4.07	4.07	4.07	4.07	4.07	4.07	4.07	4.07	4.07	48.84
Total Costs Per Acre	11.03	15.28	7.28	15.00	17.14	17.15	22.65	23.90	17.17	9.02	15.65	13.30	184.57
xxx													

xxx Work space to make adjustments for an individual farm or to convert this page to a cash flow by combining sales data with the expense flow.

# SEASONAL VARIATION IN HAY PRICES

## DOLLARS PER TON BALED ALFALFA HAY



Average Price for Baled Alfalfa Hay Received by California Producers on the 15th of Each Month. 1960-1967

Source: California Crop and Livestock Reporting Service and the University of California Agricultural Extension Service

Farm & Home Advisors Office  
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