

## AGRICULTURAL EXTENSION SERVICE UNIVERSITY OF CALIFORNIA

PLACER AND NEVADA COUNTIES

**SAMPLE PRODUCTION COSTS**

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ALFALFA HAY PRODUCTION

**SOIL REQUIREMENTS:** Alfalfa is restricted to the deeper soils in Placer and Nevada Counties. Most of the alfalfa acreage is located along stream channels in the deeper alluvial soils. Alfalfa does poorly on soils which have hardpan or an impervious layer less than four feet from the soil surface.

**VARIETIES:** Alfalfa varieties are classified by dormancy characteristics into three groups. (1) The dormant or winter hardy varieties should be used at high elevations in Placer and Nevada Counties. (2) The semidormant or intermediate winter-hardy varieties are grown in the Sacramento valley and upper foothills of Placer and Nevada Counties. (3) The nondormant or non-hardy, winter-growing varieties can be grown on the Sacramento valley floor.

**PLANTING DATE:** Planting dates vary with elevation. In the fall plantings can be made in September, October and November and in the spring, February, March and April. Early fall planting dates and late spring planting should be used at higher elevations to avoid heaving damaged caused by cold weather. At the lower elevations plantings can be made later in the fall and earlier in the spring.

**SEEDING:** Seeding should be made on a firm, smooth moist seedbed. A ring roller or cultipacker prepares an excellent seedbed. Seed 25 lbs/acre when broadcasting and 20 lbs/acre when drilling seed.

FERTILIZATION:

- Phosphorous** -- 80-100 lbs.  $P_2O_5$  per acre (35-44P) applied annually in the fall on most soils in Placer-Nevada Counties. The bicarbonate soil test can be used to determine if phosphorous is needed.
- Potassium** -- Some of the soils in Placer-Nevada Counties are low in potassium. Deficiency can be determined by plant tissue analysis.
- Lime** -- Alfalfa is extremely sensitive to acid soils and soils low in calcium. Applications of lime can correct both low calcium and acid soils.

**WATER:** Alfalfa hay requires about 4 acre feet of water per acre during the growing season for maximum production. This may be one or two irrigations per cutting depending on soil type and depth. The irrigation system mentioned under investment on back page refers to irrigation well, pump, and portable hand line.

**WEED CONTROL:** To obtain the most current chemical control recommendations for weeds in seedling or established alfalfa ask for "Weed Control Recommendations" published annually by the University of California and available at the Farm Advisor's Office.

**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 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 windrow longer than necessary to rake and bale.

SAMPLE COSTS TO PRODUCE ALFALFA HAY

Production data:  
 250 acre farm  
 6 tons per acre, 50 acres of alfalfa  
 (20 bales 1 ton)

Wages: \$2.25/hr Tractor Operator  
 \$1.85/hr Irrigator

Operation	Hours Per Acre	Labor	Cash & Labor Cost Per Acre		
			Fuel & Repairs	Materials	Total
<b>Cultural costs:</b>					
Irrigate 9X	6.0	11.10		4-acre feet @ \$4.50/acre ft. 18.00	\$29.10
Fertilize	0.25	0.56	0.33	80 P <sub>2</sub> O <sub>5</sub> per acre @ 0.10	8.00 8.89
Rodent Control	0.10	0.23	0.11	Rent bait applicator 1.00 1. lb/acre bait @ 0.75/lb .75	1.34 .75
<b>TOTAL CULTURAL COSTS</b>	<b>6.35</b>	<b>11.89</b>	<b>0.44</b>	<b>27.75</b>	<b>\$40.08</b>
<b>Harvest costs:</b>					
Swath 5X	1.25	2.81	2.00		4.81
Rake 5X	1.00	2.25	1.94		4.19
Bale 5X	1.15	2.59	2.07	wire @ \$0.95/T contract @ 12¢ bale	5.70 10.36
Haul					14.40 14.40
<b>TOTAL HARVEST COSTS</b>	<b>3.40</b>	<b>7.65</b>	<b>6.01</b>	<b>20.10</b>	<b>\$33.76</b>
<b>Cash overhead:</b>					
Misc, office, etc.		@ 6%			4.43
Taxes					5.25
<b>TOTAL CASH OVERHEAD</b>					<b>9.68</b>
<b>TOTAL CASH COST</b>					<b>\$83.52</b>
Management		5% of 6 tons @ 36.00 per ton			\$10.80

INVESTMENT	Per Acre	Annual Cost		
		Depreciation	Interest 7%	
Land	500.00		35.00	
Irrigation system	260.00	13.00	9.10	
Equipment	198.00	19.80	5.94	
Stand	50.00	10.00	1.95	
<b>Total</b>	<b>1008.00</b>	<b>42.80</b>	<b>51.99</b>	<b>\$94.79</b>

**TOTAL COST PER ACRE** \$189.11  
**Cost per ton @ 6 ton yield per acre** \$ 31.52

This Sample Cost of Production is based on an investment of \$28,360 for equipment including a 50 hp wheel tractor, 30 hp wheel tractor, disk, chisel, cultipacker, truck, pickup, fertilizer applicator, planter, mower, rake, baler and bale loader. This cost date is based on 50 acres of alfalfa on a 250 irrigated acre farm. The 4 ton per acre yield is based on 4 cuttings per season, and the 5, 6 and 7 ton per acre yield are based on 5 cuttings per season.

Yield in tons/acre	4.0	5.0	6.0	7.0
Total cost per ton	\$44.07	\$36.75	\$31.52	\$27.78

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