

Agricultural Briefs

SACRAMENTO COUNTY

ALFALFA HAY PRODUCTION

Soil Requirements: Deep, well-drained soils. Avoid hardpan and claypan soils or soils with a high or fluctuating water table.

Planting Dates: September to early October, February.

Harvest Dates: 6 to 7 cuttings. First cutting April 1 - 15. Cut at 1/10 blooms or when crown regrowth is 1/2 - 1 inch tall.

Varieties: Public and private varieties resistant to the spotted alfalfa aphid and, if available, with resistant or tolerance to pea aphid, leaf spot, downy mildew, and phytophthora root rot. On heavy, poorly drained soils phytophthora root rot tolerance becomes very important.

Seeding Rates: On good seedbeds 20 lbs/acre broadcast and ringrolled, 15 lbs/acre drilled. Inoculate seed before planting.

Fertilizer Requirements: Starter fertilizer at planting time providing 10 - 20 lbs. N, 30 - 35 lbs. P, 30 - 35 lbs. K. Soil and tissue tests can be used to determine fertilizer needs of established stands and soil tests can be used to determine preplant fertilizer needs.

NUTRIENT CONCENTRATIONS IN ALFALFA AT DIFFERENT RESPONSE LEVELS

Response Category	Total K (middle %)	PO ₄ -P (stems) ppm	SO ₄ -S (leaves) ppm	SOIL P(HCO ₃) ppm	SOIL Exchangeable K ppm
<u>Deficient</u>	.40-.65	300-500	<80	Below 10 ppm	Below 50 ppm
<u>Critical</u>	.65-.80	500-800	80-150	*	*
<u>Adequate</u>	.80-1.5	800-1500	150-150	Over 20 ppm	Over 100 ppm
<u>High</u>	1.5+	1500+	500-1000	--	--

* Soil levels between 10 and 20 ppm P and 50 to 100 ppm K may or may not respond to fertilization.

On P and/or K deficient soils recommended initial preplant applications of fertilizers providing approximately 43 lbs P (100 lbs P₂O₅) 130 to 165 lbs K (200 lbs K₂O) should be used. Additional applications may be necessary in subsequent years.

Irrigation: One to two irrigations per cutting depending on soil type.

Rotation: Usually in rotation with row crops. Three to four years alfalfa then 4 - 6 years annual crops.

Normal Yield: Six to nine tons per acre - average 7 tons/acre/year for 4 year stand.

Special Insect Problems: Alfalfa weevil (Feb.-Mar.), armyworm, alfalfa caterpillar, pear aphid, root knot nematode. Spotted alfalfa aphid on non-resistant varieties.

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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS, Division of Agricultural Sciences,
University of California, U.S. Department of Agriculture and County of Sacramento cooperating

UC Cooperative Extension

Disease Problems: Phytophthora root rot, mildew, leaf spot.

Weed Problems: Grasses and some broadleaf weeds.

2.4-DB, Dintro Selective - post-emergence broadleaf weeds.

IPC, Kerb® post-emergence seedling stands, grassy weeds.

IPC, CIPC, Kerb®, established stands, grassy weeds.

Karmex®, weed oil and dinitro general - established stands, both broadleaves and grasses.

CAUTION: FOLLOW LABEL DIRECTIONS

SAMPLE COSTS TO PRODUCE ALFALFA --

Sacramento County - 1977

Production data: Yield - 7 tons per acre. 4 year stand life, custom operations, hand moved sprinkler irrigation.

OPERATION	TOTAL		
<u>Cultural Costs</u>			
Winter weed control	Herbicide & application \$ 26.75		
Fertilize	400# potassium sulphate + \$2.75 application 33.00		
Insect control 2x *	Insecticide \$10.25 + \$2.75 applic 26.00		
Irrigation 5x	Labor Power 25.00		
Maintenance, ditch, weed control	3.00		
TOTAL CULTURAL COSTS	\$113.75		
<u>Harvest Costs</u>			
Swath, turn, bale, bankout	7 tons dry weight @ \$20/ton 140.00		
<u>Cash Overhead</u>			
Misc., office, etc.	14.17		
Rent	25% of gross 7 tons @ \$65 114.00		
TOTAL CASH OVERHEAD	\$128.17		
TOTAL CASH COST	\$381.92		
Management 5% of 7 tons @ \$65	22.75		
<u>INVESTMENT</u>			
	<u>Per Acre</u>	<u>Annual Cost</u>	
Irrigation system	\$460.00	<u>Depreciation</u>	<u>Interest</u>
Stand	\$ 94.00	\$30.67	\$18.40
Total	\$554.00	23.50	3.76
		\$54.17	\$ 22.16
TOTAL COST PER ACRE			\$481.00
Cost per Ton @ 7 ton yield			68.70

*Normally no insecticide treatment is needed during first crop year.

SAMPLE COSTS TO PRODUCE ALFALFA

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SAMPLE COSTS TO ESTABLISH ALFALFA

<u>OPERATION</u>	<u>TOTAL</u>
<u>Cultural costs</u>	
Disc 2x	\$ 5.00
Fertilize	Starter Fertilizer \$25 25.00
Weed Control	Herbicide & Application \$15 15.00
Harrow - Spiketooth	\$2 2.00
Plant	20 lbs. seed @ \$2/lb.+ applic. 43.00
Harrow - Ringroll	\$4 4.00
TOTAL COST TO ESTABLISH STAND	\$94.00

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TST/gs
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