

1988 GENERAL HINTS ON ESTABLISHMENT AND PRODUCTION OF ALFALFA HAY

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General

High yields of alfalfa are possible in Kern County because of favorable climatic conditions coupled with good soil and water. High quality alfalfa hay depends upon a good stand and the proper timing of irrigations, cutting and curing. With good management a crop of alfalfa can produce high quality hay and high yields, offering profit potential to the grower.

Soil Requirements

Alfalfa will do best on the best soil. Shallow soils, those with hardpan or other impervious layers, are not well suited for good alfalfa production. Special management practices must be done if such conditions exist.

Varieties

There are several good varieties available. Some of these are Experiment Station releases and others are private company releases. Almost every variety has some weak points to consider along with the strong points. One should contact seed company representatives or the local University of California Cooperative Extension Office for characteristics of the various varieties. Remember this though, quite often a mistimed irrigation or improper cutting or curing will cause more yield loss than differences due to varieties.

Soil Preparation and Planting

Since the alfalfa crop is going to be on the land for several years, improper soil preparation can be very costly. Careful consideration of leveling the field should be taken to prevent low spots that drown out and high spots that do not get enough water. Both types of areas are costly, not only in lost production, but also from weed establishment problems.

After the field has been leveled for water control, a good seedbed is necessary for good emergence. A good seedbed is firm and moist. After initial land preparation, a pre-irrigation will show where high or low spots are which may be corrected before planting. This irrigation gives the firm and moist seedbed that is required. A light harrow or ring roller can be used to prepare the final seedbed.

If sprinkler irrigation is to be used, then precise leveling will not be required since water is controlled by the sprinklers. If the use of sprinklers are possible for the first couple of irrigations, then the seed may be planted dry and irrigated up. Be careful of crusting soil if this method is used.

Broadcasting or planting with an alfalfa drill are both successful.

Planting Rate

If broadcasting, 20 to 25 pounds per acre, or if drilling, 15 to 20 pounds per acre are sufficient.

Planting Time

Fall plantings give much higher hay production the first year than spring plantings and do a better job of competing against weeds in the late winter and spring of the first year. Plants should have about six weeks of growth to sustain heavy frosts which usually occur the latter part of December and January. There have been successful plantings made throughout the winter but the chance for frost killing the stand is always present during the coldest part of winter.

Planting Depth

Depth of planting should not exceed three-quarters of an inch in most soils and shallower placement is preferred in some instances.

Fertilization

If any fertilizer is needed, it will be phosphorous. In several fields throughout the county, phosphorus has been shown to be deficient. If the use of phosphorus on other crops has proved to be beneficial, then application for alfalfa should be done. The rate to use should fall between 80 and 100 pounds of $P_{2}O_{5}$ per acre.

Diseases

Phytophthora root rot can cause severe losses. When plants become infected, leaves become yellow and drop off, many plants die. Tap roots will have discolored areas and many times the lower roots will be rotted off. Excessive irrigation is the main cause of phytophthora flareups.

There are several leaf diseases which affect alfalfa but usually the economic loss is not great. For further detailed information on alfalfa diseases, ask for "Integrated Pest Management for Alfalfa Hay" at your local University of California Cooperative Extension Office.

Irrigation

Irrigation will depend upon the soil type. Usually two irrigations per cutting are sufficient. Care should be taken not to allow water to stand for any length of time during hot weather. A physiological distress occurs in the plants and the plants die. The control of water at the end of checks will insure the growth of alfalfa rather than weeds.

Weed Control

There is no better weed control method than to have a good strong healthy stand of alfalfa. The regrowth, if cut at the proper time and there is moisture in the soil, will soon shade out most weed seeds that would otherwise germinate. There are, however, times that the stand will not out-do the weeds. There are several chemical controls that may be used. For further information on proper use of these chemicals, consult the Cooperative Extension, University of California.

Quality is lost when the alfalfa is allowed to lay in the windrow longer than necessary, or baled when the hay is too dry causing leaves to fall off.

1988 SAMPLE COSTS TO ESTABLISH ALFALFA HAY

The following costs are based on very competitive custom farming rates. An individual grower's costs may be lower or higher, depending on the cost of his equipment and the degree of utilization. In most cases, a grower could do his own operations in a more timely manner than a custom operator who must satisfy many customers. Manual labor costs are calculated at \$5.50 per hour, including all benefits.

	<u>Sample Costs/Acre</u>	<u>My Costs</u>
<u>Cash Costs:</u>		
Disk - 1 time 32" stubble (\$15) and 1 time 22" finish (\$8)	\$ 23.00	
Chisel - 20" depth	20.00	
Border preparation	21.00	
Irrigate 1/2 acre-ft. @ \$30/acre-ft. 1 hr. labor	20.50	
Plant - 25 lbs. seed @ \$1.90 lb., \$5.00 flying	52.50	
Cultivate to cover seed	4.00	
Interest on stand establishment - 11% for 3 years	8.00	
TOTAL CASH COSTS	\$149.00	

1988 SAMPLE COSTS FOR ALFALFA HAY PRODUCTION

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	<u>Sample Costs/Acre</u>	<u>My Costs</u>
<u>Preharvest Cash Costs:</u>		
Irrigate - 12 times, total 5 acre-ft. @ \$30/acre-ft. 8.0 hrs	\$194.00	
Pest Control Advising	5.00	
Weevil & Aphid Control - \$7.00 material & \$5.00 application	12.00	
Worm Control - \$8.00 material & \$5.00 application	13.00	
Weed Control	12.00	
Misc. labor, materials and tractors	20.00	
Miscellaneous office & bookkeeping - 4% of total cash costs	20.00	
Interest on operating capital - 11% for 3 months	13.50	
<u>Harvest Costs:</u>		
Custom swathing & raking - 7 times @ \$9.50 acre	66.50	
Custom bale & roadside - 8.5 tons @ 17.00/ton	144.00	
TOTAL CASH COSTS	\$500.00	
<u>Depreciation:</u>		
Stand establishment - 3 year life	50.00	
<u>Land Costs</u>		
Rent - including taxes	100.00	
TOTAL COST OF PRODUCTION (\$77.00/ton @ 8.5 tons/acre)	\$650.00	