

ESTABLISHING A STAND OF ALFALFA FOR HAY
IN TULARE COUNTY

Cost Analysis Work Sheet - 1968

Conditions of this example are as follows: Man labor \$1.75 per hour total and equipment operator \$1.90, which includes employers Social Security and Workman's Compensation payments. Tractors available are 80 h.p. crawler, 75 h.p. wheel diesel and 50 h.p. wheel diesel. 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 the development costs. Costs per acre are rounded to the nearest 5¢.

NOTE: Alkali soils will require the addition of sulfur or gypsum to improve water penetration. These costs are not included in this example.

Cash Costs	Sample Costs per Acre	My Costs Per Acre
Shred previous crop residue		
1/2 hr. man and 75 h.p. wheel tractor	\$ 2.05	
Disc 2 X: total 1/2 hr. man and crawler tractor	2.70	
Chisel: 1 hr. man and crawler tractor	5.40	
Landplane 1 X: 1/6 hr. man and crawler tractor	.90	
Border preparation: 1/2 hr. man and 75 h.p. wheel tractor	2.05	
Landplane between borders: 1/6 hr. man and crawler tractor	.90	
Fertilize: *44 lbs. of "Actual" phosphorous in phosphate Form	11.00	
Application: custom bulk spreading	2.00	
Pre-irrigate: power for 1 ft. of water	6.50	
Labor: 1 hr. per acre	1.75	
Disc or springtooth for seedbed preparation		
1/4 hr. per acre man and 50 h.p. wheel tractor	.85	
Re-shape borders: 1/12 hr. man and 75 h.p. wheel tractor	.35	
Weed control: custom applied	10.00	
Plant: seed, 20 lbs. at 65¢	13.00	
Plant by airplane	1.00	
Cover seed: 1/8 hr. man and 75 h.p. wheel tractor	.50	
Repairs to equipment except tractors	2.00	
Office and business expenses: 6% of cash costs	3.75	
TOTAL CASH COSTS	\$66.70	
Depreciation		
Tractors: crawler	\$ 2.95	
75 h.p. wheel tractor	1.20	
50 h.p. wheel tractor	.20	
Equipment except tractors	2.00	
TOTAL DEPRECIATION	\$ 6.35	
Interest on Investment at 7%		
Tractors: crawler	\$ 1.85	
75 h.p. wheel tractor	.60	
50 h.p. wheel tractor	.10	
Equipment except tractors	1.15	
TOTAL INTEREST ON INVESTMENT	\$ 3.70	
TOTAL COST TO ESTABLISH ALFALFA	\$76.75	

*P x 2.29 = P₂O₅ (or 500 lbs. of single super phosphate per acre)

ESTABLISHING A STAND OF ALFALFA
IN TULARE COUNTY

Cost Analysis Work Sheet - 1968

This work sheet was developed to show sample costs for establishing a good stand of alfalfa hay. It includes all costs involved from land preparation through seeding. Included also is the cost of fertilization for the first year's production. It does not include any other production figures.

In order to obtain high yields of good quality hay, certain factors should be considered before seeding. Some of these factors are outlined below.

Alfalfa gives maximum yields on deep loam soils. It can be grown on most soil types. Alfalfa does poorly on land that contains hardpan or an impervious layer closer to the surface than four feet. It is moderately tolerant to alkali and does poorly on high water table areas.

Subsoiling - Soil compacted by equipment in growing previous crops, especially cotton, develops compacted layers which restrict root growth and increases the incidence of phytophthora root rot. Subsoiling or ripping is needed for good production.

Land Grading - Most alfalfa fields require a 0.2 slope per 100 feet, of run. Newly leveled land should be pre-irrigated so that low and high areas can be eliminated before planting. Water should not run in the checks over eight hours.

Fertilization - Most soils in Tulare County require the addition of phosphorus for optimum alfalfa hay production. A three-year supply can be applied and lightly disced into the soil during seedbed preparation, or annual fall applications can be made.

Time of Seeding - November and February are usually the best months to seed alfalfa. Fall plantings usually produce a higher yield the first year. Weeds are usually a greater problem in fall plantings and herbicides are often necessary for control.

Method of Seeding - Alfalfa should be uniformly covered (no deeper than 1/2 inch). After seeding, the field should be rolled or cultipaked to prevent moisture loss and provide protection against low temperatures. Drilled or broadcast seedings should be rolled or cultipaked. Seeding of small grain companion crops with alfalfa is not recommended unless required for protection from high winds in very sandy soils.

Rate of Seeding - Twenty pounds of seed per acre is recommended for normal seeding on well prepared seedbeds.

Varieties - Non-dormant varieties, (resistant to the spotted alfalfa aphid), make up the largest acreage of alfalfa hay in Fresno County. There are many new private and public varieties on the market today which look promising. University developed data on the performance of many of these varieties is available at the Farm and Home Advisors Office.

Weed Control - Effective pre-emergence and post-emergence herbicides are available for use in alfalfa hay fields. Before using herbicides, contact the Farm and Home Advisors Office.

William R. Sallee, Farm Advisor

7/25/69- mm
300 c.

ALFALFA HAY PRODUCTION

Cost Analysis Work Sheet - 1968

Sample costs to produce alfalfa hay in Tulare County. 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¢.

Costs are based on a yield of 8½ tons per acre average, with a 3-year stand life. Costs per acre are rounded to the nearest 5¢.

	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. of "actual" phosphorus in phosphate form	11.00			
Bulk spreading of fertilizer	2.00			
Weed control: including application	10.00			
Insect control:	5.00			
Taxes	18.00			
Repairs to irrigation system and equipment except tractor	3.50			
Misc. 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, 7 X 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 yr. life	16.65			
Tractor: 1 hr.	.75			
**Stand: Cost \$76.75 - 3 yrs.	25.60			
TOTAL DEPRECIATION	\$43.00	\$ 5.06		
<u>Interest on investment at 7%</u>				
Irrigation system and equipment: ½ cost \$100	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 winter sheep grazing or green chopping has been indicated, although this is often earned by hay growers.

* P x 2.29 = P₂₀₅ (or 500 lbs. of single super phosphate per acre)

**First year stand establishment included under depreciation.

ALFALFA HAY PRODUCTION

Sample Costs of Production at Varying Yields - 1968

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.

William R. Sallee
Farm Advisor

7/69 - mm
300 c.