

Alfalfa Production Costs and Market Future in Southern California

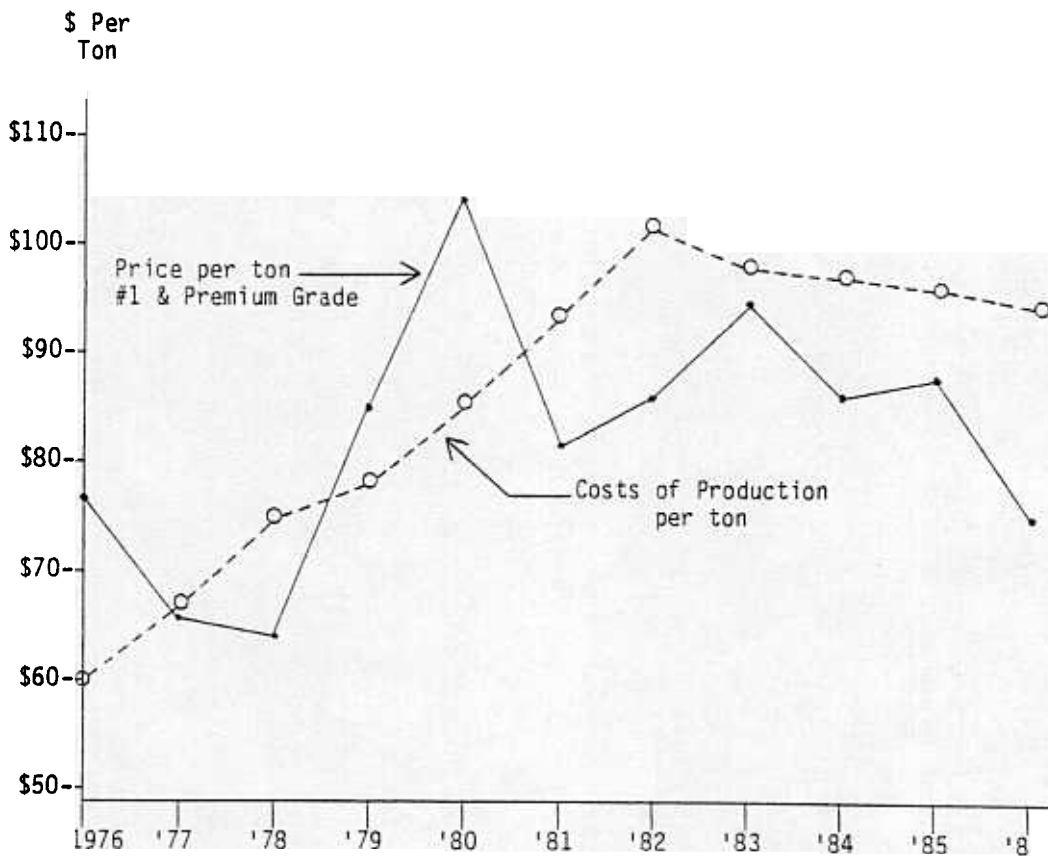
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Profit earned from a business venture can be described as price received minus all costs of production. Farmers who produce alfalfa hay can often improve the prices they receive, or maintain higher than average prices, by producing higher quality hay, above average yields per acre, and timing of sales to match the higher markets during the year.

To help the cost side of the equation, knowledge of production costs combined with good cost control measures will help to keep production costs as low as possible, while producing the high yields to top quality hay. Comparing the records from one farm with area average costs will help to verify that costs on the farm are in line with those of others, or else show very quickly why they are not. Sample costs of production prepared by staff members of the University of California Cooperative Extension are very useful for this purpose. The latest Sample Cost of Production study, prepared for Imperial County by Farm Advisor Bob Hagemann, is included.

Costs of production tend to move steadily upward, or to level off, but not drop significantly. Price movement from one year to the next is sometimes downward, which places a very considerable burden on the hay producer.

Detailed information on statewide production costs at a given level of production is not available, but the information that could be obtained suggests that producers of yields near the state average of approximately 6.5 tons per acre have little or no profit margin. Comparing costs at the 7 ton per acre level of production with prices received statewide suggests that losses will result unless production per acre is considerably above this level, in the recent market.



The Southern California Hay Market

Southern California, for our purposes, will consist of the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara and Ventura.

Judging the future of this market must be done by looking at the numbers of livestock that consume alfalfa hay. All cattle, calves and horses consume most of the hay fed in this region.

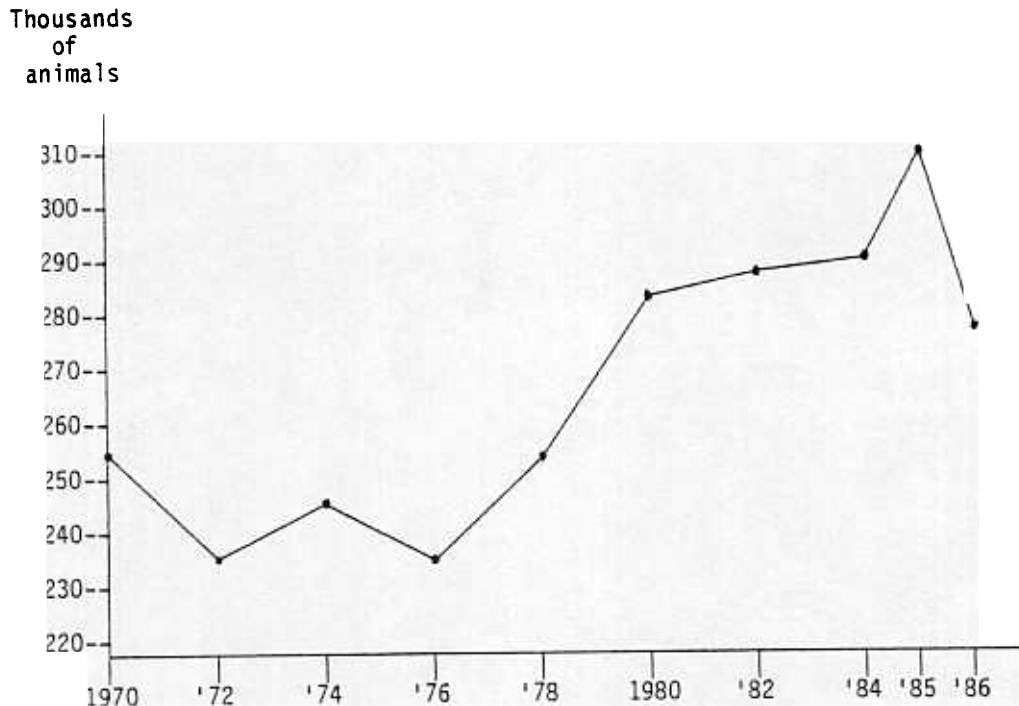
Over the region as a whole, the gain in numbers of dairy cows and 2 year old heifers between 1969 and 1986 has been rather modest. Urbanization and the national dairy buy-out program are factors that have helped to limit gains in these numbers. Los Angeles and Orange counties are nearly or completely out of the dairy business, but off-setting increases elsewhere have done much to maintain this area as a dairy market.

Starting in 1969, 254,500 dairy animals were reported. Reaching a high of 310,000 just ahead of the dairy buy-out program, this number was reported at 277,000 in 1986.

In 1969, the number of all cattle and calves was 1,194,000. This has declined slightly to a 1986 number of 1,010,000. The peak number during these years was 1,472,000; reached in 1973.

Beef calves are not heavy consumers of alfalfa, so the drop does not indicate any major change in the total potential consumption of alfalfa hay.

Dairy Cows and 2 year old heifers
Southern California



Horses represent a large and increasing market for alfalfa hay in Southern California. The author attempted to obtain a current accurate count of the number of horses in California and in the Southern California region, but this did not occur. Personnel in the State Department of Food and Agriculture were most helpful in providing data which are included here. In 1972, a very accurate inventory was made, as at this time, all horses had to be vaccinated. Results of this effort produced an inventory of almost exactly 1/2 million horses in California, according to information obtained from the State Department

of Food and Agriculture. In 1980, an inventory believed to be quite reliable placed the Statewide number of 1,040,000 horses, with 353,370 of them in the Southern California region.

Estimates of the rate of increase varied widely, but an estimate of 3 to 5% net increase per year was believed to be reasonably accurate. If the rate of increase was 3%, which is only an estimate, than the horse population of the Southern California region is approximately 434,600 in 1987. This is about the level of $1\frac{1}{2}$ times the number of dairy cows and 2 year old heifers in the same area.

If, indeed, the horse population doubled between 1972 and 1980, then the annual rate of increase was on the order of 10% to 11% per year during that time period.

The amount of hay consumed by horses may vary widely, but 10 to 11 lbs. per day is a reasonable estimate, and this could go up to 15 lbs. per day. Assuming two tons per horse per year, this market would require 896,200 tons of alfalfa hay. At the high level of 8 tons per acre, 108,650 acres of alfalfa would be needed to supply this market in Southern California.

These numbers suggest that the Southern California hay market will maintain its present size or expand slowly, and that horses will be a very significant part of this market.

ALFALFA PROJECTED PRODUCTION COSTS, 1987-1988

Mechanical operations at custom rates. Hand labor at \$5.50 per hour (\$4.30 plus Social Security, unemployment insurance and fringe benefits).

Yield--8.0 tons per acre

OPERATION	CUSTOM RATE	-----MATERIALS-----		--HAND LABOR--		--COSTS-- Per Acre
		Type	Cost	Hours	Dollars	
LAND PREPARATION						
Plow	24.25					24.25
Disc 2x	9.00					18.00
Fertilize	6.00	260# 11-52-0	30.55			36.55
Build & Break borders	15.00					15.00
Flood		½ ac. ft	4.50	1	5.50	10.00
Disc 2x	9.00					18.00
Landplane 2x	9.50					19.00
Border, dump	11.75					11.75
Float	7.75					7.75
TOTAL LAND PREPARATION COSTS						160.30

COST OF ESTABLISHMENT

Weed Control	8.75	Herbicide	13.00			21.75
Planting	10.50	20# seed @ 1.00/lb.	20.00			30.50
Irrigate 2x		1 ac/ft	9.00	2	11.00	20.00
Insect Control 1x	4.90	Insecticide	7.00			11.90
COST OF ESTABLISHMENT						84.15
TOTAL COST OF STAND ESTABLISHMENT						224.45

Annual Costs of Hay Production--3 Year Life

Weed Control		Herbicide	14.60			14.60
Irrigate 16x		6.5 ac. ft.	58.50	9	49.50	108.00
Fertilize	6.00	90# Phosphate	10.58			16.58
Insect Control 4x	4.90	Insecticide	46.00			65.60
TOTAL ANNUAL CULTURAL COSTS						204.78

Land Rent (gross)						150.00
Amortization--	33% of total cost of stand establishment					80.67
Cash Overhead--	12% of annual costs, land rent and amortization					52.25
TOTAL PREHARVEST COSTS						487.70

HARVEST COSTS

Swather 7x	7.50	7 times				52.50
Rake 9x	4.00	9 times				36.00
Bale	9.00/ton	8 tons				72.00
Haul & Stack	.23/bale	16 bales/ton				29.44
TOTAL ALL COSTS						677.64

PROJECTED INCOME ABOVE COSTS (PER ACRE)
price/ton

		60.00	70.00	80.00	90.00	100.00	110.00	120.00	Breakeven \$/ton
Tons	7	-245	-175	-105	-35	35	105	175	95
	8	-198	-118	-38	42	122	202	282	85
per	9	-150	-60	30	120	210	300	390	77
acre	10	-103	-3	97	197	297	397	497	70
	11	-56	54	164	274	384	494	604	65