SITUATION AND OUTLOOK FOR ALFALFA IN 1991

L.J. (Bees) Butler[1]

Abstract: Continuing drought conditions and water restrictions in California appears to have had little effect on acreage, yield and total production of alfalfa in the west in 1990. Prices over the last two years have been kept buoyant, and will likely remain that way throughout the winter months. Milk production per cow and cow numbers in California are likely to increase in 1991, creating increased milk production. However, surplus milk production in the U.S. is likely to force a sharp decline in milk price in 1991. Beef cattle numbers and prices however are expected to remain buoyant in 1991. Falling feed grain prices, small increases in the supply of alfalfa and falling milk prices, offset by increasing beef cattle and dairy cow numbers, will likely cause a decline in 1991 alfalfa prices of about 5-8 percent below 1990 prices.

Keywords: Western regional alfalfa stocks and production, alfalfa outlook, California dairy production and prices, 1990 Farm Bill.

INTRODUCTION

Continuing drought conditions and water restrictions in California appears to have had little effect on acreage, yield and total production of alfalfa in the West in 1990. Prices, however, have been kept buoyant, and will likely remain buoyant throughout the winter months. Prices for alfalfa in California for 1991 depend crucially on two major counter-active factors. If winter rains and snow are insufficient to recharge acquifers, waterways and storage facilities, then further water restrictions will tend to decrease alfalfa production and push prices up. On the other hand, prices for milk are expected to be much lower in 1991 then they were in 1990. Since about 70 percent of alfalfa grown in California is sold to dairy enterprises, lower raw milk prices may temper the demand for alfalfa, thereby putting some downward pressure on alfalfa hay prices.

OVERVIEW OF ALFALFA PRODUCTION TRENDS

Alfalfa Hay Stocks

Transportation costs limit the California market for alfalfa to a seven state region that includes California, Nevada, Arizona, Utah, Oregon, Washington and Idaho. Prior to 1989, January and May stocks for the past few years have averaged between 9 and 13 percent of total U.S. January stocks and 5 to 10 percent of U.S. May stocks. January 1989 regional stocks stood at just over 11 million tons, the lowest since 1986. Alfalfa prices soared as demand for hay and other feeds increased in anticipation of a lean spring in 1989. By May 1, 1989, regional stocks had dwindled to about 1.3 million tons, the lowest in 10 years. Total U.S. stocks had dropped to about 17.6 million tons, about 30-40 percent less than normal. California stocks in May of 1989 dropped to 173,000 tons which is about 50 percent of normal. By January 1990, regional stocks were the lowest since prior to 1980 at 84 million tons. However, U.S. stocks were about 11 million tons above the previous year stocks, at 101 million tons. Hence regional stocks in January 1990 dropped to about 8 percent of U.S. stocks.

California stocks on January 1, 1990 were 1.9 million tons, the lowest since 1985. The prospects for a tight spring and summer in 1990 appeared imminent. However, May 1, 1990 regional stocks stood at about 1.6 million tons representing about 6 percent of total U.S. stocks, well below average, but 300,000 tons above May 1989 stocks. California stocks dwindled for the second year in a row to 256,000 tons, up slightly from May 1989 stocks, but still only 60-70 percent of normal. U.S. stocks, in contrast, on May 1, 1990 were about average at 27 million tons.

Regional Acreage, Average Yields and Production

Regional harvested acreage of alfalfa for 1990 is estimated to be about 3.8 million acres--up slightly from the 1989 acreage but still lower than the 1986 peak of almost 4 million acres. Harvested acreage of alfalfa in 1990 increased in four of the seven Western states. Nevada and Oregon stayed about the same as 1989, while in Washington, alfalfa acreage actually decreased by about 10,000 acres.

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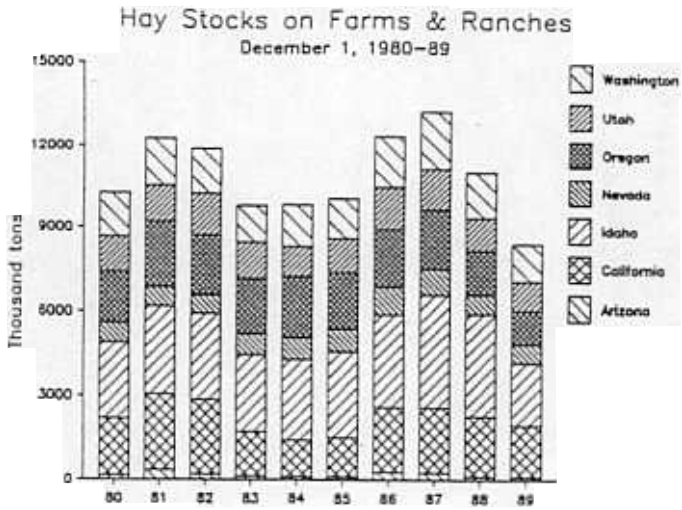
Figures and tables prepared by Kim Norris.

Figure 1



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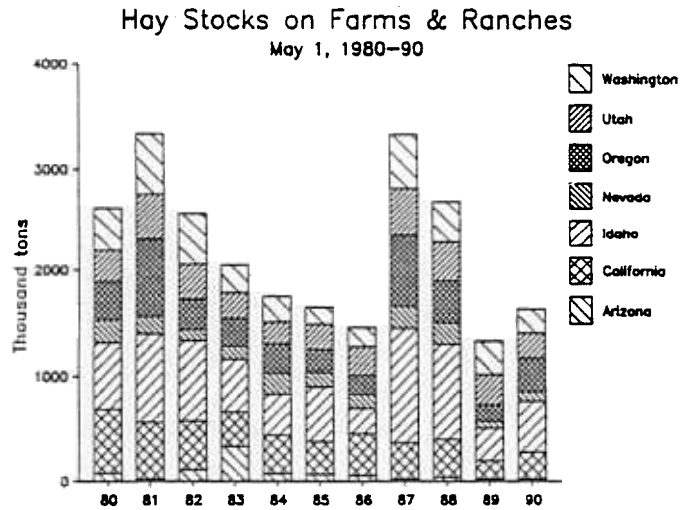
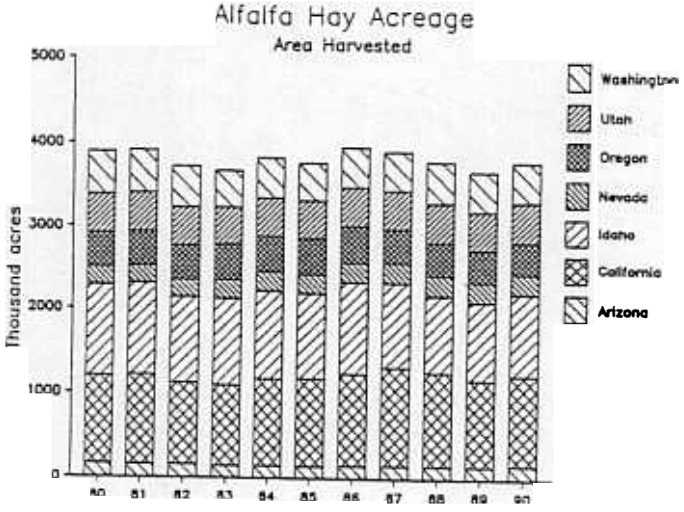


Regional average yields decreased in most states with the exception being Utah and Washington where yields increased slightly. Washingtons yield jumped from 4.3 tons per acre in 1989 to 4.6 tons per acre in 1990--a record high for that state. California managed to retain an average yield of about 6.6 tons per acre in 1990 despite water restrictions and late spring rains which damaged many second and third cuts around the state.

Total regional production of alfalfa hay in the seven western states is about 2 percent above 1989, at 18.7 million tons but is still lower than the 1986 peak of over 19 million tons. Total production increased slightly in all seven states except Nevada and Oregon.

Figure 3



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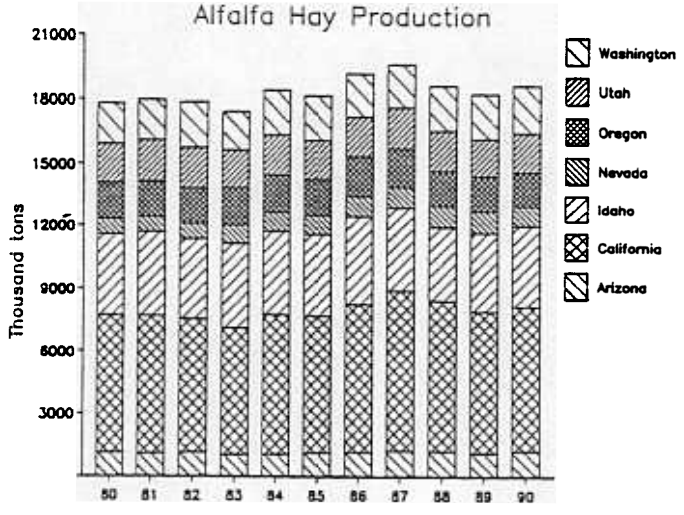
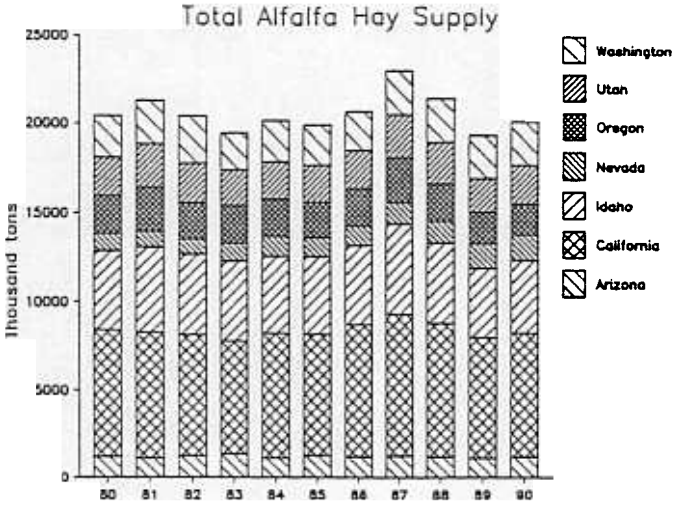


California Supply

California growers will harvest about 1.06 million acres of alfalfa this year, and about 540,000 acres of other hay for a total of about 8.7 million tons of total hay supplies in 1990. Total hay supplies are about the same as they were last year except that there is more alfalfa and less other hay.

Figure 5



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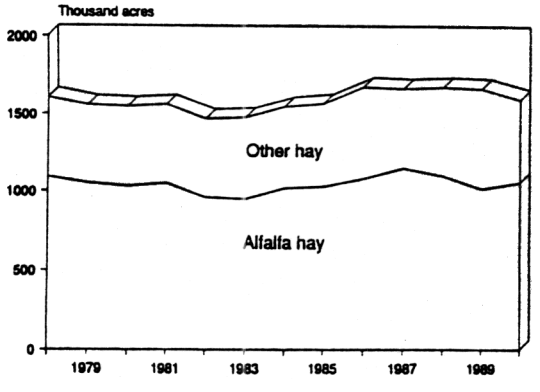

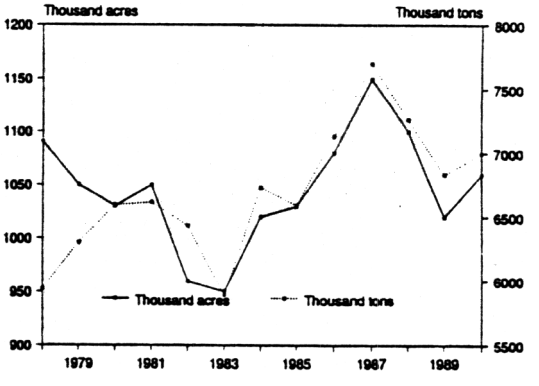

Demand for Alfalfa

Approximately 70 percent of the total production of alfalfa hay in California goes for dairy feed. Hence, economic conditions that affect the dairy industry, also affects the demand for alfalfa hay. The other 30 percent of alfalfa grown in California is used to feed beef cattle and horses.

Alfalfa competes in the animal feed market with other animal fees such as corn, oats, wheat, barley and cottonseed, as well as a variety of other dairy fees that are by-products of the fruit, nut and vegetable industries in California. Although alfalfa is the most important component of dairy cattle diets, use in rations is significantly determined by its price relative to other (competing) feeds.

The effects of the 1988 drought, and increased demand for dairy products on both domestic and international markets created tight markets for milk throughout the U.S., and unprecedented price increases in 1989. These trends slowly unravelled and reversed in 1990, resulting in some fairly dramatic price declines in the last 2-3 months. These price declines are expected to continue throughout the winter months, and by spring of 1991 manufacturing milk prices are expected to be at or near support prices. In California, 1990 saw strong

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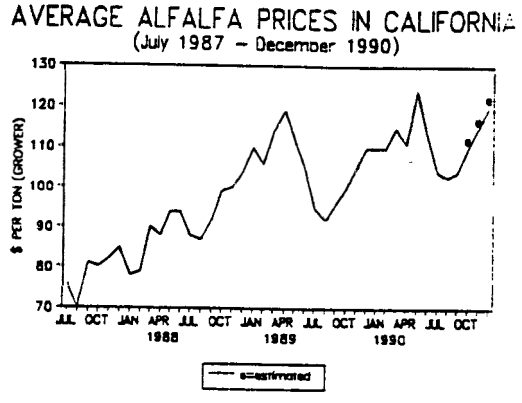

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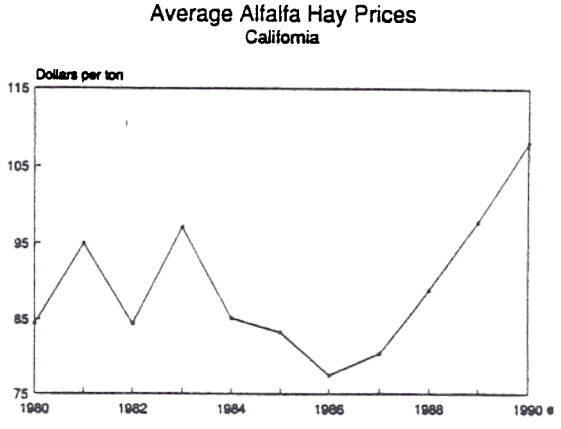

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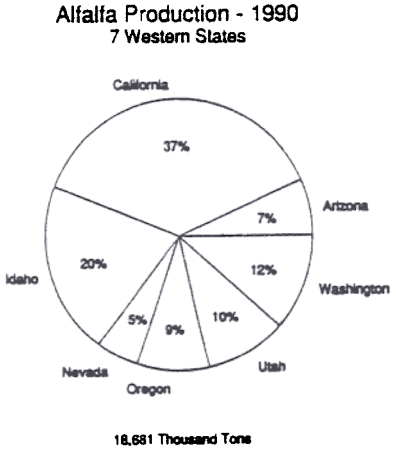
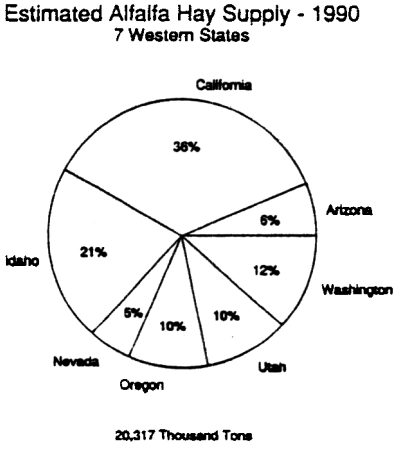
Figure 11





increases in both cow numbers and in milk production per cow, resulting in substantial increases in milk production over 1989 levels. At the beginning of 1990, high milk prices and steady feed prices kept margins relatively high, coinciding with substantial increases in milk production. As prices declined, margins decreased, and milk production increases over 1989 slowly decreased from a high of 10 percent in January to historically typical levels of 5 to 6 percent in the closing months of 1990. Milk production in 1991 is likely to continue to

expand through increasing cow numbers and increased productivity per cow. Milk prices are expected to decline throughout the winter and, due to increasing surplus, are likely to remain relatively flat during the rest of 1991. While increased production will maintain a relatively steady demand for alfalfa during 1991, declines in milk prices, and reduced margins may force many dairy producers to reduce expansion trends, which, in turn, may reduce demand for alfalfa.

1990 Farm Bill

On October 25, 1990, Congress passed the Food, Agriculture, Conservation and Trade Act of 1990 (FACTA), the official title of the 1990 Farm Bill, which replaces the Food Security Act of 1985. The 1990 Farm Bill modifies both original Senate and House versions in order to meet the budget resolutions by cutting $13.6 billion over the next 5 years. This will be accomplished, in part, by implementing a triple base program for crop commodities, and assessing fees on dairy, sugar, peanuts, honey and tobacco. The 5 year bill will cost about $44 billion for price and income support programs, compared to the actual cost of the 1985 farm bill of about $80 billion.

The new bill calls for increased flexibility in commodity programs that will maintain target prices for program crops at current 1990 levels, and minor changes in deficiency payments and non-recourse loan formulas. The new triple base program divides crop bases into three categories. Each program crop will be divided into the acreage reduction program (ARP) on which deficiency payments may be paid. A triple base or flexible acreage will then be established which will equal up to 15 percent of the crop base. Producers will be able to plant any program crop, oilseed, or any other crop, except fruits and vegetables, on the flexible acreage. Crops planted on these acres will not be eligible for deficiency payments, but will be eligible for their usual non-recourse and marketing loans. These program changes are not expected to significantly impact alfalfa production or prices.

Under the Dairy Title, dairy price supports will continue to be adjusted based on CCC purchases on a milk equivalent total solids basis, but will not be adjusted below the current support of $10.10 per cwt. As part of the budget reconciliation, dairy producers will be assessed 5 cents per hundredweight in 1991 and 11.25 cents per hundredweight each year for 1992 through 1994. The fees will be refunded to producers who do not increase milk production over the previous years level.

In addition, the Secretary of Agriculture will have the authority to impose added assessments if CCC purchases exceed 7 billion pounds in any year. These assessments will be designed to cover the costs of CCC purchases in excess of 7 billion lbs., and will also take into account refunds of the assessments mandated under the budget reconciliation.

Of importance to the California dairy milk marketing order is a provision in the Dairy Title that prohibits any state from collecting a make allowance greater than that under a Federal program to establish Grade A prices for manufacturing butter, powder and cheese. Currently, the language under this provision is so obfuscating, that it is not possible to assess the impacts of it on the California dairy industry. It is expected that further legislation will clarify Congressional intent before the provision is enacted in 1992. Potentially, the provision could limit growth in California manufacturing plants which in turn, will limit expansion of milk production in California. At the same time, producer prices for manufacturing milk will increase, which in turn many encourage production increases. It is not possible to currently assess the impacts of the make allowance provision when these two impacts equalibrate.

Finally, the Secretary of Agriculture is required to study a Milk Inventory Management Program (MIMP) and make recommendations to the Congress by August 1, 1991. While there are limitations on the type of program the Secretary can study (including whole herd buyouts and lower milk prices), the potential for significant changes under the provision are still very much up in the air. Possibilities include two-tier pricing and target prices/deficiency payment schemes. Other provisions also call for the Secretary of Agriculture to study changes in the Federal Milk Marketing Order program including national pricing procedures, continuation of the Minnesota-Wisconsin price series and multiple component prices.

The total impact of these various provisions on the California dairy industry are currently unknown. However, depending on the outcome of the USDA studies and subsequent legislation, demand for alfalfa in California will be impacted. Whether or not changes are significant is very much uncertain at this stage, but will have little effect in 1991.

Outlook for Alfalfa in 1991

Supply

Changes in the supply of alfalfa hay are influenced by both large term and short term phenomena. In the long term, changes in planted acreage are mainly responsive to the profitability of alfalfa relative to other competing enterprises such as tomatoes, cotton, corn, wheat, rice and sugarbeets. As the price of alfalfa, relative to other crops, increases, alfalfa acreage tends to increase.

Changes in the short term supply of alfalfa are dependent to a certain extent on acreage planted to alfalfa, but is mainly dependent on factors that affect yield.

Prices for alfalfa have been relatively buoyant over the last two years and this may be a major factor that will cause small increases in acreage planted to alfalfa in the next 2-3 years. Adding to this effect is the fact that prices for other competing enterprises have remained relatively stable over the last 2 years. Therefore, we can expect an increase in acreage planted to alfalfa of about 2 1/2 percent in 1991. This, in turn, will tend to increase the total supply of alfalfa in 1991 to about 19.1 million tons.

Demand

Changes in the demand for alfalfa, as reflected in the price for alfalfa, are due to changes in dairy and beef prices, the prices of other (competing) feeds, the number of dairy and beef cattle, and the supply of alfalfa.

While dairy prices are expected to decrease in 1991 over 1990 prices, beef prices are expected to remain relatively buoyant, and perhaps increase slightly. These offsetting effects are heavily weighted toward dairy prices and could result in about a 5 percent decrease in alfalfa prices in 1991. Additional pressures on the price of alfalfa will result from falling feed grain prices and increases in the supply of alfalfa. Together these factors could result in a further 5 percent decrease in alfalfa prices. However, downward pressure on prices will be tempered somewhat by increasing numbers of both dairy and beef cattle. The net effect of those changes will be a decline in alfalfa prices of about 5-8 percent below 1990 prices.

Table 1
Hay Stocks on Farms and Ranches
December 1, 1980-89

STATE	December 1 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
	-1000 Tons-									
Arizona	164.0	365.0	207.0	137.0	116.0	118.0	290.0	263.0	133.0	115.0
California	2,043.0	2,708.0	2,669.0	1,608.0	1,323.0	1,414.0	2,330.0	2,341.0	2,163.0	1,875.0
Idaho	2,682.0	3,120.0	3,073.0	2,712.0	2,850.0	3,036.0	3,304.0	4,008.0	3,648.0	2,183.0
Nevada	703.0	657.0	628.0	749.0	781.0	808.0	963.0	897.0	668.0	658.0
Oregon	1,798.0	2,382.0	2,165.0	1,958.0	2,185.0	2,023.0	2,100.0	2,200.0	1,591.0	1,243.0
Utah	1,276.0	1,338.0	1,530.0	1,328.0	1,089.0	1,231.0	1,559.0	1,503.0	1,176.0	1,013.0
Washington	1,621.0	1,733.0	1,652.0	1,337.0	1,528.0	1,471.0	1,868.0	2,104.0	1,700.0	1,351.0
7 Western States	10,287.0	12,303.0	11,924.0	9,829.0	9,872.0	10,101.0	12,414.0	13,316.0	11,079.0	8,438.0
United States	108,204.0	91,983.0	99,476.0	106,650.0	89,280.0	100,632.0	121,734.0	119,845.0	90,312.0	101,158.0
Seven Western/ United States	.0951	.1338	.1199	.0922	.1106	.1004	.1020	.1111	.1227	.0834

Source: National Agricultural Statistics Service, Crop Production, May issue

Table 2
Hay Stocks on Farms and Ranches
May 1, 1980-90

STATE	May 1 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
	-1000 Tons-										
Arizona	77.0	25.0	109.0	333.0	73.0	66.0	55.0	25.0	41.0	27.0	26.0
California	620.0	542.0	471.0	337.0	368.0	314.0	400.0	345.0	360.0	173.0	256.0
Idaho	619.0	835.0	757.0	489.0	393.0	522.0	245.0	1,086.0	901.0	310.0	485.0
Nevada	216.0	164.0	105.0	125.0	195.0	135.0	130.0	206.0	207.0	67.0	88.0
Oregon	360.0	745.0	289.0	267.0	281.0	218.0	179.0	689.0	392.0	159.0	318.0
Utah	304.0	453.0	328.0	236.0	206.0	238.0	271.0	470.0	381.0	283.0	238.0
Washington	424.0	578.0	508.0	262.0	237.0	158.0	182.0	517.0	405.0	312.0	225.0
7 Western States	2,620.0	3,342.0	2,567.0	2,049.0	1,753.0	1,651.0	1,462.0	3,338.0	2,687.0	1,331.0	1,636.0
United States	33,346.0	25,429.0	26,155.0	29,052.0	20,558.0	26,863.0	26,698.0	32,418.0	27,353.0	17,507.0	27,080.0
Seven Western/ United States	.0786	.1314	.0981	.0705	.0853	.0615	.0548	.1030	.0982	.0760	.0604

Source: National Agricultural Statistics Service, Crop Production, May issue

Table 3
Alfalfa Hay Acreage
Seven Western States, 1980-90

STATE	Area Harvested 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
	-1000 Acres-										
Arizona	165.0	160.0	160.0	145.0	150.0	145.0	155.0	160.0	155.0.	150.0	165.0
California	1,030.0	1,050.0	960.0	950.0	1,020.0	1,030.0	1,080.0	1,150.0	1,100.0	1,020.0	1,060.0
Idaho	1,090.0	1,100.0	1,020.0	1,030.0	1,050.0	1,020.0	1,100.0	1,020.0	920.0	930.0	980.0
Nevada	215.0	210.0	215.0	230.0	235.0	235.0	240.0	245.0	250.0	245.0	245.0
Oregon	425.0	425.0	420.0	440.0	445.0	450.0	460.0	430.0	415.0	400.0	400.0
Utah	470.0	475.0	470.0	455.0	470.0	460.0	470.0	465.0	480.0	470.0	485.0
Washington	505.0	500.0	490.0	440.0	475.0	450.0	470.0	460.0	490.0	480.0	470.0
7 Western States	3,900.0	3,920.0	3,735.0	3,690.0	3,845.0	3,790.0	3,975.0	3,930.0	3,810.0	3,695.0	3,805.0

Source: National Agricultural Statistics Service, Crop Production

Table 4
Alfalfa Hay, Average Yields
Seven Western States, 1980-90

STATE	Yield 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
	-Tons-										
Arizona	7.0	7.0	7.3	7.3	7.2	7.1	7.6	7.8	7.9	7.6	7.5
California	6.4	6.3	6.7	6.4	6.5	6.5	6.6	6.7	6.6	6.7	6.6
Idaho	3.5	3.6	3.7	3.9	3.8	3.5	3.8	3.9	3.8	4.0	3.9
Nevada	3.5	3.6	3.5	3.9	4.0	4.1	4.1	4.2	4.2	4.4	4.0
Oregon	4.2	4.1	4.2	4.2	4.1	4.1	4.2	4.2	4.1	4.3	4.1
Utah	3.9	4.1	4.0	3.9	4.0	3.9	3.9	4.1	3.9	3.7	3.8
Washington	3.7	3.7	4.3	4.0	4.3	3.9	4.2	4.3	4.2	4.3	4.6

Source: National Agricultural Statistics Service, Crop Production

e = estimated

Table 5
Alfalfa Hay, Total Production
Seven Western States, 1980-90

STATE	Production 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
	-1,000 Tons-										
Arizona	1,155.0	1,120.0	1,168.0	1,059.0	1,080.0	1,147.0	1,178.0	1,248.0	1,225.0	1,140.0	1,238.0
California	6,592.0	6,615.0	6,432.0	6,080.0	6,732.0	6,592.0	7,128.0	7,705.0	7,260.0	6,834.0	6,996.0
Idaho	3,815.0	3,960.0	3,774.0	4,017.0	3,938.0	3,852.0	4,180.0	3,978.0	3,496.0	3,720.0	3,822.0
Nevada	753.0	746.0	753.0	897.0	940.0	936.0	984.0	1,029.0	1,050.0	1,078.0	980.0
Oregon	1,785.0	1,743.0	1,764.0	1,848.0	1,825.0	1,778.0	1,932.0	1,806.0	1,702.0	1,720.0	1,640.0
Utah	1,833.0	1,948.0	1,880.0	1,775.0	1,880.0	1,833.0	1,833.0	1,907.0	1,872.0	1,739.0	1,843.0
Washington	1,869.0	1,850.0	2,107.0	1,760.0	2,043.0	2,050.0	1,974.0	1,978.0	2,058.0	2,064.0	2,162.0
7 Western States	17,802.0	17,982.0	17,878.0	17,436.0	18,438.0	18,188.0	19,209.0	19,651.0	18,663.0	18,295.0	18,681.0

Source: National Agricultural Statistics Service

=estimated

Table 6
Total Alfalfa Supply
Seven Western States, 1980-90

STATE	Total Supply Available										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
	-1,000 Tons-										
Arizona	1,232.0	1,145.0	1,277.0	1,392.0	1,153.0	1,297.0	1,233.0	1,273.0	1,229.0	1,167.0	1,264.0
California	7,212.0	7,157.0	6,903.0	6,417.0	7,100.0	6,906.0	7,528.0	8,050.0	7,600.5	7,007.0	7,252.0
Idaho	4,434.0	4,795.0	4,531.0	4,506.0	4,331.0	4,374.0	4,425.0	5,064.0	4,501.0	4,030.0	4,307.0
Nevada	969.0	910.0	858.0	1,022.0	1,135.0	1,071.0	1,114.0	1,235.0	1,232.0	1,145.0	1,068.0
Oregon	2,145.0	2,488.0	2,053.0	2,115.0	2,106.0	1,996.0	2,111.0	2,495.0	2,109.1	1,879.0	1,958.0
Utah	2,137.0	2,401.0	2,208.0	2,011.0	2,086.0	2,071.0	2,104.0	2,376.5	2,289.0	2,022.0	2,081.0
Washington	2,293.0	2,428.0	2,615.0	2,022.0	2,280.0	2,208.0	2,156.0	2,495.0	2,450.8	2,376.0	2,387.0
7 Western States	20,422.0	21,324.0	20,445.0	19,485.0	20,191.0	19,923.0	20,671.0	22,988.5	21,411.4	19,626.0	20,317.0
United States	113,225.0	109,221.0	116,668.0	111,264.0	110,575.0	111,911.0	118,250.0	16,972.0	96,635.0	94,715.0	109,247.0
Seven Western/ United States	.18	.20	.18	.18	.18	.18	.17			.21	.19

Source: National Agricultural Statistics Service

e=estimated

Table 7
California Hay Crop Production and Yield: 1978-90
Alfalfa and Other Hay Mixtures

Yield	Alfalfa	Yield	Other Hay	Yield	Total Crop	Avg. Yield
	-1000 Acres-	-Tons-	-1000 Acres-	-Tons-	-1000 Acres-	-Tons-
1978	1,090	5.45	520	1.95	1,610	4.31
1979	1,050	6.00	510	1.95	1,560	4.67
1980	1,030	6.40	520	2.20	1,550	4.99
1981	1,050	6.30	515	2.40	1,565	5.01
1982	960	6.70	510	2.40	1,470	5.20
1983	950	6.20	530	2.50	1,480	4.87
1984	1,020	6.60	530	2.40	1,550	5.16
1985	1,030	6.50	540	2.40	1,570	5.02
1986	1,080	6.60	600	2.50	1,680	5.14
1987	1,150	6.50	520	2.50	1,670	5.39
1988	1,100	6.60	580	2.40	1,680	5.15
1989	1,020	6.70	650	2.60	1,670	5.10
1990e	1,060	6.60	540	2.40	1,600	5.18

Source: California Crop and Livestock Reporting Service, Alfalfa Hay: California Market Summary
, California Field Crop Review

Table 8
California Hay Crop Production and Inventories: 1978-90

Year	Carryover May 1	Alfalfa Production	Other Hay Production	Total Crop Production	Total Supply	Carryover December 31
			-1000 Tons-			
1978	1,082	5,940	1,014	6,954	8,036	2,226
1979	765	6,300	995	7,295	8,060	2,043
1980	620	6,592	1,144	7,736	8,356	2,708
1981	542	6,615	1,236	7,851	8,393	2,669
1982	471	6,432	1,224	7,656	8,127	1,800
1983	337	5,890	1,325	7,215	7,552	1,608
1984	368	6,732	1,272	8,004	8,372	1,323
1985	314	6,592	1,296	7,888	8,202	1,414
1986	400	7,128	1,500	8,628	9,028	2,330
1987	345	7,705	1,300	9,005	9,350	2,341
1988	360	7,260	1,392	8,652	9,012	2,163
1989	173	6,834	1,690	8,524	8,702	1,875
1990	256	6,996	1,296	8,592	8,702	N/A

Source: National Agricultural Statistics Service, Crop Production, May issue
California Crop and Livestock Reporting Service, Alfalfa Hay: California Market Summary
, California Field Crop Review

Table 9
Alfalfa Hay Price - California

	Dollars per ton
1980	84.37
1981	94.95
1982	84.42
1983	97.13
1984	85.22
1985	83.25
1986	77.44
1987	80.40
1988	88.98
1989	97.82
1990e	108.00

Source: County Ag. Commissioners' Data

TABLE 10

COMMERCIAL MILK PRODUCTION, DAIRY COWS
PRODUCTION PER COW AND COMMERCIAL DAIRIES
BY YEAR, CALIFORNIA 1975-1990

	MILK PRODUCTION (mil lbs)	NO. MILK COWS (000's)	PRODUCTION PER COW (lbs/cow)	NO. OF DAIRIES (no.)	AVE PRICES ALL-MILK ($ per cwt)
1975	10,853	800	13,566	3,402	9.03
1976	11,583	811	14,282	3,125	9.27
1977	11,968	827	14,472	2,892	9.76
1978	11,859	846	14,018	2,864	10.24
1979	12,563	871	14,424	2,862	11.44
1980	13,577	896	15,153	2,873	12.88
1981	14,248	923	15,437	2,854	13.44
1982	14,528	940	15,455	2,845	13.22
1983	14,743	951	15,503	2,785	13.07
1984	15,299	967	15,821	2,781	12.86
1985	16,768	1,004	16,701	2,778	12.21
1986	17,240	1,013	17,019	2,531	11.78
1987	17,930	998	17,966	2,489	11.44
1988	18,607	1,083	17,181	2,433	10.96
1989	19,353	1,104	17,530	2,400	12.37
1990 (P)	20,892	1,135	18,407	2,401	12.13

P = preliminary

Source: California Department of Food and Agriculture
California Dairy Industry Statistics, 1989

TABLE 11

U.S. AND CALIFORNIA MILK SUPPLY AND USE

UNITED STATES

	1989	1990	1991 (P)
MILK COWS (million)	10127	10149	10171
MILK/COW (lbs)	14249	14583	14924
PRODUCTION	144.3	148.0	151.8
FARM USE	2.1	2.2	2.2
MARKETINGS	142.2	145.8	149.6
BEGINNING STOCKS	4.3	4.1	4.2
IMPORTS	2.5	2.4	2.4
TOTAL SUPPLY	149.0	152.3	156.2
ENDING STOCKS	4.1	4.2	4.2
COMMERCIAL USE	135.8	139.9	144
CCC REMOVALS	9.1	8.2	8.0
PRICE SUPPORT	$10.73	$10.10	$10.10
ALL-MILK PRICE	$13.56	$14.06	$11.56

CALIFORNIA

	1989	1990	1991 (P)
MILK COWS	1104	1135	1167
PRODN PER COW	17530	18407	19051
MILK PRODN	19353	20892	22233
AVE PRICE	$12.37	$12.13	$10.90
AVE COST OF PROD	$10.75	$10.84	$10.75
MARGIN	$1.62	$1.29	$0.15

P = projected