

HIGH QUALITY HAY RESULTS IN HIGHER MILK PRODUCTION

Neil Quesenberry
Dairyman Cooperative Creamery Assn
Colusa, California

Alfalfa hay is still one of the principal forages fed to dairy cattle in California. Until 1973, high quality alfalfa hay had long been one of the most economical sources of energy and protein produced and/or fed in California. During the past three year period, as the demand for alfalfa hay increased sharply, resulting in significant price increases per ton, feed grains and cereal silages have become strong competitors throughout the Central Valley.

Many ruminant nutritionists argue, however, that due to the quantity and quality of protein present in high quality alfalfa hay, it will continue to play an important role in attaining high levels of milk production throughout California.

Research data have demonstrated that high quality alfalfa hay harvested at bud or first flower will maintain body weight and support 25 to 30 pounds of 3.5% fat corrected milk (FCM) per day without concentrates, while hay cut at a very late stage of maturity will support only 5 to 10 pounds of FCM daily. The value of the extra nutrients found in high quality hay may also now be estimated with reasonable accuracy.

Graph A illustrates what generally occurs on California dairies when herds are shifted from high quality alfalfa hay, 55 TDN, to average quality hay at 52 TDN. While this 700 cow milking herd's entire feeding program was completely rebalanced prior to the feeding of the 52 TDN hay, milk production started to decrease immediately following its use.

Although the role high quality alfalfa hay plays in rumen function has not been well defined, the milk production data present in Table A clearly show that the energy and protein supplied through the increased use of feed grains did not fully replace the high quality energy and protein present in the 55 TDN hay. Milk production immediately decreased from 39,500 pounds to 37,650 per day, reducing income over feed cost by \$130.00 per day, or \$3900.00 per month. As you can see from Table A, this calculation included a reduction from \$94.00 per ton for the 55 TDN hay, to \$91.00 for the 52 TDN.

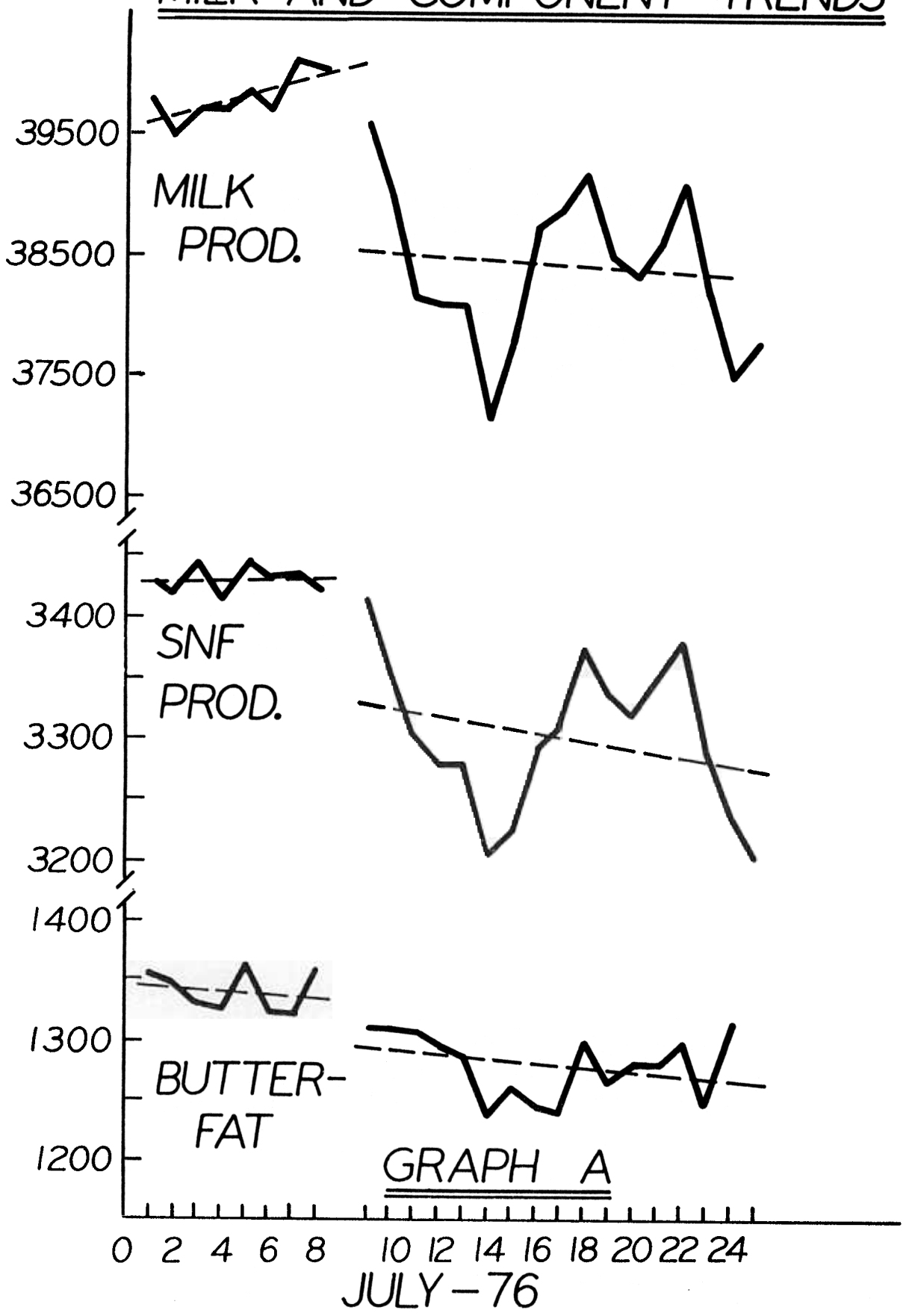
The only significant variable introduced into the total herd management program on this dairy during this period was that of hay quality. Milk production decreases of this magnitude occur a significant number of times daily throughout California due to lowered hay and other forage quality.

At Dairyman's Cooperative Creamery Association we sample and analyze all home produced and/or purchased roughages, and also compute complete nutritional programs for all our dairymen as a part of our total educational program at no charge. While all dairymen do not participate in our nutritional programs, the number enjoying the benefits from them is on the increase.

During 1975 we analyzed 343 lots of alfalfa hay and 145 samples of cereal silages. Thus far during 1976 we have tested 473 lots of alfalfa and 136 of silage. We still have most of our corn silage to sample and analyze. Thus, we expect to analyze in excess of 200 silage samples by the end of the season. This definitely shows progress.

I am not certain by any means that our dairymen fully understand the importance of forage quality in ruminant nutrition, and that they are willing to pay for the extra nutrients present in them. However, it is my opinion that it is time for such an exploratory program to be initiated and tested.

MILK AND COMPONENT TRENDS



INCREASED INCOME FROM FEEDING HIGH QUALITY HAY

55 TDN HAY

52 TDN HAY

TOTAL FEEDS/DAY

ALFALFA HAY 24397 LBS. @ 94.00/TON = \$1146.00

BARN GRAIN 15550 LBS. X .0599 = 931.45

TOTAL FEED COST \$2078.11

INCOME/DAY

39500 LBS. MILK PER DAY

.0872 BLEND PRICE

\$3444/DAY INCOME

INCOME OVER FEED COST

\$3444/DAY INCOME

\$2078/DAY FEED COST

\$1366/DAY INCOME OVER FEED COST

\$40980/MO. INCOME OVER FEED COST

TOTAL FEEDS/DAY

ALFALFA HAY 21537 LBS. @ 91.00/TON = \$979.93

BARN GRAIN 17820 LBS. X .0599 = 1067.42

TOTAL FEED COST \$2047.35

INCOME/DAY

37650 LBS. MILK PER DAY

.0872 BLEND PRICE

\$3283/DAY INCOME

INCOME OVER FEED COST

\$3283/DAY INCOME

\$2047/DAY FEED COST

\$1236/DAY INCOME OVER FEED COST

\$37080/MO. INCOME OVER FEED COST

-- 3900 PER MONTH OR A POTENTIAL LOSS OF 46800/YEAR

TABLE A

BY NEIL QUESENBERY