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PROCEEDINGS  
of the  
WESTERN FARM ECONOMICS ASSOCIATION

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v. 21  
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Thirty-First Annual Meeting

August 13-15, 1958

Pullman, Washington

Held jointly with the  
Western Economic Association

NEW MEXICO HAY AND FEED GRAIN MARKETING  
WITH SPECIAL EMPHASIS ON FEED DEALER OPERATIONS

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What is the hay and feed grain market situation in New Mexico? Are hay and feed grain dealers important in the feed market which includes New Mexico? How have government programs affected hay and feed grain prices in the state? These are the questions which we attempted to answer this year in the hay and grain marketing study.

To appreciate the New Mexico problem, a brief description of the New Mexico portion of the market is necessary. For the past several years New Mexico has been exporting both hays and feed grains to neighboring states as well as feeder and stocker cattle and sheep. In the meantime, New Mexico has been importing meat and milk. Even during periods of severe drought, New Mexico has exported hay. Since 1940 the trend in hay production (mostly alfalfa hay in New Mexico) has been upward while the trend in livestock production (mostly feeder and stocker livestock) has been downward. These trends statistically are highly significant. The rate of increase for hay is about 1.2 percent per year. The counter-trend in the number of livestock feed units in the State was measured in terms of numbers of roughage consuming, grain consuming, and combination and total consuming units. In terms of total animal units, the rate of decrease is about 1.2 percent per year. These equally divergent trends indicate that New Mexico's large 1957 hay surplus is likely to become more, rather than less, burdensome.

FACTORS HAVING A BEARING ON THE PRESENT SITUATION

Factors influencing the marketing of hay and feed grains in New Mexico are the explosive increase in New Mexico's population since 1940, a shift from high-protein supplements to balanced rations, drought, government programs, and the growing importance of western feedlot operations. Briefly, New Mexico's increase in demand for meat and milk, based on population changes, are among the highest in the nation. The drought experienced since 1951 has had many effects on the State's production and marketing of feeds. Higher feeding rates have been more than offset by decreases in the number of units fed. The high cost of the traditionally-popular high-protein feeds as well as development of "balanced" and custom feed rations permitted stockmen to shift to lower protein (and less costly) feeds. Federal programs have had an effect of increasing the feed supply (1) by diverting acreages from cotton production to hay and grain production, (2) by lowering transportation rates of feed shipped into the drought areas, and (3) by subsidizing purchases of drought feeds and hays. The rapid development of feedlots in surrounding states as well as an increase

in demand for milk from nearby out-of-state sources have permitted a ready market for New Mexico's hay surpluses.

#### THE DEALER SURVEY

Techniques used in a mail survey of the 202 feed dealers in the State included a questionnaire and reminder card to each retail dealer listed as being in operation in 1956 by the New Mexico Feed Dealers Association. The questionnaire dealt with 1957 operations. The response was 9 dealers no longer in business, 7 dealers with no sales in 1957, and 35 dealers buying and selling hay and/or feed grains. This response was a 25-percent sample.

In general, we asked the dealers to list their most and second-most important areas for buying and selling hays and feed grains, methods of transporting purchases and sales, margins which they considered necessary to cover their costs and yield "fair" returns, their main sources of market information, and a catch-all question on individual marketing problems.

The sample indicated that only a small portion of the State's hay crop is sold through feed dealers, although they may be important in interstate movements of hay. The sample of dealers indicated hay was purchased from as far away as Idaho and sold to areas as distant as California and Louisiana. Most hay in the state is sold direct, from producer to stockman, including feeders and dairymen. Seasonally, about one-half of the State's total hay crop has been leaving the State between harvest in July, August, and September, and January. Most of the State's demand for hay is in the January-April period. On the average, dealers indicated that they felt the hay margin should be 12.7 percent of the purchase price. Although the margins decreased as volumes increased, the relationship between margins and volume was not statistically significant. We also measured the relationships of margins with the geographic location of the dealer and the distances from area of purchase to area of sale. Both yielded non-significant results.

Feed dealers are important in the State's feed grain market system. Our sample accounted for 80 percent of the State's total production in 1956. Feed grains are shipped into the State from the north and east and leave it to the west. The feed grain margins averaged 13 percent for grain sorghum and 14 to 15 percent for other feed grains. In excess of 95 percent of the grain was moved to and from feed dealers by truck. Although we were unable to establish significant relationships between margins and distances moved, dealer location, and volumes, the data indicated that average margins were not lowered until dealers handled at least 10,000 tons of grains per year.

## PRICES

We also made an analysis of New Mexico alfalfa hay and grain sorghum prices. Price data used are those reported by the Agricultural Marketing Service. They consist of prices received by farmers by months and years for alfalfa hay and grain sorghums.

Monthly hay prices varied seasonally and traditionally. That is, price lows were experienced during the harvest season and highs during months of heaviest demand. From July to January, alfalfa hay prices increased about \$5 per ton, from an average July low of \$21 to the January high of \$26. Statistically, the monthly variation was highly significant over the 1940-57 period. A multiple range test indicated that significant differences existed between July and the following five months, between the August-September period and the following three months, and between the November-December period and January. We also found a high degree of correlation between the prices received by farmers in January and the reported range condition index as well as the prices received for range calves in the preceding October. The first set of data are useful for producers who prefer to play the averages--January is the high price month. The second set are for those with a higher risk preference, with 57 percent of the variation in January prices accountable by or at least related to the range condition index reported three months previously, and 66 percent of the variation related to the October calf price.

The relatively heavy demand at sorghum grain harvest time in November prevents as sharp a rise in prices as in the case of alfalfa hay. However, although grain sorghum prices during the 1940-57 period varied on the average only about 17 percent from the December low to the May high, the variation was consistent enough to be highly significant. The multiple range test indicated that prices were not significantly different in the December-March period, in the January to April period, and between April and May.

One final set of datum was used to describe changes in the prices paid and received by producers in the Southwest. The differences between seasonally weighted prices received by producers and paid by stockmen for alfalfa hay were, in general, consistent and moderate until 1953. The price margin was double the 1940-57 average in 1953, 1954, and 1955. The difference between prices paid and received for sorghum grain has varied during the past 18 years, but with no consistent pattern.

The conclusions reached thus far in our marketing study include:  
(1) Should government acreage control programs continue, New Mexico's hay surplus is likely to become more, rather than less, burdensome, (2) the problem in drought periods is seasonality of supply rather than total supply, (3) feed dealers have been relatively unimportant in New Mexico's hay market, and relatively important in her grain market system, (4) feed dealer margins are not related to size of the feed business, location of the business in the state, or distance from buying and selling areas, and

(5) feed prices in the past 18 years have exhibited statistically significant seasonal trends.

The results of the study might be used by feed dealers and producers in the following ways: (1) Feed dealers might anticipate a future heavy hay surplus condition by developing out-of-state markets, (2) stockmen should become less, rather than more, concerned over seasonal shortages in drought periods because of the expected increase in the State's hay supplies, (3) stockmen should "shop" for feeds because they cannot depend on price margins being lowest at the largest volume dealers, nor at dealers closest to the supply areas, (4) the statistically-reliable seasonal trends in prices should permit feed producers with high risk aversions to better anticipate the price highs, and (5) the key indicators of October calf prices and range condition indexes should permit producers with high risk preferences to better plan flexible marketing programs.