

## CHANGING TRENDS IN DAIRY CATTLE NUTRITION

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The dairy industry has undergone some dramatic changes in the last 10 years. Particularly in the dairy producing areas of the southwest we have seen tremendous increases in herd size and efficiency in handling large numbers of milk cows. In Tulare County alone the average herd size is approximately 500 head. In addition to herd size, average production per cow has continued to climb.

Several reasons can be given for these changes.

1. Land costs have forced dairymen to confine his animals into dry lot locations instead of the less efficient utilization of pasture.

2. The climate in the southwest has, in general, been conducive to a comfortable environment for dairy cattle and has also allowed for the production of quality roughages to feed.

3. Genetics has improved tremendously. A recent listing of proven sires available artificial insemination exceeded 200 bulls whose daughters had the genetic potential to exceed herdmates by over 1000 lbs. of milk. Ten years ago there were only about 10 of these sires available.

4. Milking barns have been designed more efficiently using equipment that does a faster and more efficient job of milking large numbers of cows.

5. Improved feeding programs have developed because of a better understanding of the nutritional needs of high producing cows.

This nutritional understanding, along with the large herd size, has resulted in segregating cows according to milk production and stage of lactation and feeding these cows a complete ration in the corral. This has been beneficial because the nutritional needs of a dairy cow changes as production changes. In the past we generally fed all the cows the same no matter what their level of production was. This resulted in underfeeding the fresh high producing cow and overfeeding the stripper.

More recently we have seen commodity or pad feeding become more popular and profitable to dairymen. Instead of feeding a previously mixed feed to the different strings, dairymen are now purchasing individual commodities and mixing these according to the nutritional needs of each production group. This not only meets the production needs more accurately but also gives somebody the option of purchasing the commodities that are the best value. Nutritionally it is better to mix individual commodities based on the nutritional needs of the cows at the dairy than to try to formulate one mixed feed from a mill that will meet the nutritional requirements of all levels of milk production.

### Example of a Commodity Feeding Program

	Corral 1	Corral 2	Corral 3	Corral 4
Avg. milk prod. lbs.	90	75	55	35
Roughage fed				
Alfalfa Hay	16	16	16	16
Corn Silage	20	25	30	40
Total Roughages				
Inside barn mix	10	10	10	
Whole Cottonseed	7	5	3	
Beet Pulp	9	6	3	
Hominy	8	9	6	0
Total Concentrates	34	30	22	10

Commodity or pad feeding works well with silage and hay when everything is mixed and fed as a complete ration. This has the advantage of allowing for better digestion of available feeds.

Cost studies have shown this to be a successful and profitable approach to feeding dairy cows where size of operation and management capabilities allow cows to be strung according to production and fed based on need.

Segregating cows according to production also allows the dairyman to separate his alfalfa hay according to quality. Excellent roughage quality is necessary for high production in early lactation. If a dairyman does not have enough high quality hay for all his milking cows for the year he can at least feed his best hay where it will do the most good.

Alfalfa silage is an excellent roughage when ensiled and fed properly. In the central valley area we see more and more used. It lends itself well for developing at first and last cutting because of weather changes that would affect hay quality. The critical area for quality alfalfa silage is to get the moisture between 55-65%. This often seems to be the most difficult aspect to coordinate when making silage from alfalfa.

In conclusion, the changes that have taken place in dairy cattle nutrition and management in the last 10 years will continue to be followed in the future. Since feed costs average between 65 and 70% of the dairymans total costs it will be an area where progress will be necessary to keep up with the times.