

Texas Dairy Matters

Higher Education Supporting the Industry

Forage Evaluation and Feeding

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Drought conditions frequently lead to reduced forage yields. However, changes in forage quality that occur during periods of drought can be an even greater concern for dairy producers. Understanding the quality of the forages available on a dairy operation is extremely important. Knowledge of nutritional advantages or disadvantages of forages allows for adjustments to be made to rations to compensate for less than ideal forage quality.

Monitoring forage moisture is even more critical during drought conditions. Forage moisture levels change more quickly than expected during hot and dry conditions. Monitor the moisture level of silage crops closely to ensure that crops are harvested at the optimum moisture content to insure proper fermentation. During drought conditions, the moisture of the crop may be ideal for ensiling before the crop reaches the optimum stage of maturity.

Analyzing forage samples as quickly as possible provides information on which to base nutrition management decisions. Sample forages that are being ensiled as they are being chopped to provide baseline values of the nutritional content of the forage. Although ensiling slightly alters some nutritional values, analyzing the forage before the ensiling process adds several weeks of time for making management decisions. If the forage quality is poor, the extra time can be used to explore alternative feed options. Remember analyze forages again after ensiling to determine the nutrient value prior to feeding.

Low quality forages can be supplemented with grains, by-product feeds, or other forages. Decide whether or not the forage is of high enough quality to feed to lactating cows. Calculate how much of the forage can be included in the ration without production losses. Balance the cost of purchasing other feeds and/or forages with the costs of production losses and cow health. If the forage is decent quality, but the nutritional value is lower than preferred; it may be more cost-effective to have a slight reduction in milk production than to purchase higher quality feed. However, if the health of the cows is jeopardized by feeding the forage, purchasing feed may be necessary.

Dairy Rations with Limited Forage Amounts

Forages may be in short supply in some areas due to lowered yields and a result of hot and dry weather conditions. Normally, rations are designed to maximize forage use. However, properly formulated rations designed to minimize forage use can provide a healthy rumen environment and cow productivity.

Cows need minimum amounts of roughage. Extensive use of by-products in rations can be used to keep the rumen functioning properly.

Table 1 provides a list of nutrient values of common forages and by-product feeds. The values listed in the table are book values. Always analyze forages and by-product feeds for nutrient contents before balancing rations and feeding them to dairy animals.

Table 1. Book nutrient values for common forages and by-product feeds (Dairy NRC, 2001).

| Feedstuff | CP | NDF | ADF | Fat | NEI (3x) |
|------------------------------|------|------|------|------|----------|
| | | | | | Mcal/lb |
| % of dry matter | | | | | |
| Alfalfa | 20.8 | 42.9 | 33.4 | 2.0 | 0.58 |
| Beet pulp | 10.0 | 45.8 | 23.1 | 1.1 | 0.67 |
| Brewers Grain | 29.2 | 47.4 | 22.2 | 5.2 | 0.78 |
| Citrus pulp | 6.9 | 24.2 | 22.2 | 4.9 | 0.80 |
| Coastal | 10.4 | 73.3 | 36.8 | 2.7 | 0.46 |
| Corn silage | 8.8 | 45 | 28.1 | 3.2 | 0.66 |
| Cottonseed hulls | 6.2 | 85.0 | 64.9 | 2.5 | 0.22 |
| Cottonseed (whole) | 23.5 | 50.3 | 40.1 | 1.9 | 0.88 |
| Distillers grain w/ solubles | 29.7 | 38.8 | 19.7 | 10.0 | 0.89 |
| Hominy | 11.9 | 21.1 | 6.2 | 4.2 | 0.85 |
| Sorghum grain | 11.6 | 10.9 | 5.9 | 3.1 | 0.82 |
| Sorghum silage | 9.1 | 60.7 | 38.7 | 2.9 | 0.50 |
| Soybean hulls | 13.9 | 60.3 | 44.6 | 2.7 | 0.66 |
| Tifton 85 | 13.7 | 76.9 | 36.2 | 2.7 | 0.51 |
| Wheat midds | 18.5 | 36.7 | 12.1 | 4.5 | 0.76 |

If forage yields and quality are a concern, talk with a nutritionist as soon as possible to develop a feeding strategy for the upcoming year. Develop a plan for managing feedstuffs to insure that all of the animals on the operation have access to the best diets possible. Adjust feeding strategies to prevent problems from occurring in the future.