

Drought Strategies for Feeding and Managing Dairy Cattle

Tamilee Nennich
Department of Animal Sciences
Purdue University

Drought conditions often create shortages in forage supplies and reduced quality forages that significantly impact dairy farms. Numerous strategies are available to help dairy farmers manage through the drought and make the best of a tough situation. Although every farm is different, the management strategies below outline some options that may assist dairy farms during drought conditions.

- **Inventory the feeds currently available on the farm.** Determine the amounts and quality of the forage sources currently available on the farm to determine if and how much additional forage may be needed. Also, remember that carry-over of corn silage is necessary to allow time for next year's crop to ferment. Ideally, a minimum of 3 months of additional corn silage should be available after harvesting the next crop. A lack of carry-over of silage can result in reduced lactation performance during the following year and can cause the drought have long-term impacts on the farm.
- **Source forages from outside sources.** Drought conditions often result in reduced pasture, hay and silage yields which can greatly reduce the typical supply of forage for a dairy farm. Being proactive on sourcing additional forage can be beneficial as availability of forages may be reduced and prices will continue to rise as demand increases.
- **Purchase drought-stressed corn to harvest for silage.** Even though drought-stressed corn may not result in feed values equal to corn silage grown during a normal year, it can still be a good source of feed. Increased opportunities for purchasing drought-stressed corn for silage are likely in areas where corn is commonly grown for grain. However, the moisture of these crops must be monitored closely to be sure the crop will ensile and ferment correctly, and nitrate testing needs to be done.
- **Plant summer annuals.** Additional forages may be grown to help supplement forage supplies. Summer annuals, such as sudangrass or millet, provide an option for additional forage. These forages could either be used in diets of lactating cows or as forage sources for heifers or dry cows to increase the supply of higher quality forages for the lactating herd. Of course, some moisture will be needed for germination and growth of these crops.
- **Use non-forage fiber sources in dairy diets.** Consider reformulating diets to include non-forage fiber sources and reduce the inclusion of forages in the diets of dairy cows. Although some effective fiber is necessary in a dairy cow's diet, non-fiber feed sources, such as soybean hulls, corn gluten feed, cottonseed hulls, and wheat midds, can help to meet the animal's fiber requirements while still maintaining production and health. Some less expensive effective fiber such as straw or low quality hay may be added.
- **Focus on proper forage harvest techniques.** Proper management and techniques at harvest will reduce losses and wasted forage (called shrink). Even though proper management at harvest is always important, forage shortages further increase the importance of properly preserving as much forage as possible. Paying attention to forage moisture levels, use of

inoculants when appropriate, and proper packing of silages help to insure that the harvested forage will be properly preserved.

- **Store forages properly.** Harvested forages only will be available to be fed if they are stored properly throughout the year. Bunker silos need to be covered and sealed as soon as possible after harvest. Torn or damaged plastic on bunker or bagged silos needs to be repaired immediately. Dry forages and hay should be stored under cover to prevent rain damage, and the ground they are stored on should be dry to prevent the forage from soaking up water.
- **Reduce waste feed.** Pay special attention to how much feed is being wasted at various points on the farm. Reducing the amount of feed refusals from cows or utilizing the refusals in the diets of other animals, when appropriate, can help to minimize wastage. Keeping the area around the commodity storage clean and tidy can also help to prevent shrink and feed waste.
- **Test forages.** Running analysis on forages is necessary to know the quality of the forages and to properly balance rations. Without having the forage tested, it is impossible to know the nutritional value of the feed. Forages harvested under drought conditions may have much different nutrient profiles than would normally be expected. Other nutritional concerns, such as nitrates, also are a greater risk in drought years. Be sure to have the feeds tested at a certified laboratory.
- **Limit-feed dairy heifers.** Recent research has shown that limit-feeding dairy heifers with high concentrate diets can be a very successful feeding strategy. Limit-fed heifer diets can include greater amounts of grains and by-product feeds, reducing the amount of forages needed for raising heifers.
- **Have heifers custom-raised.** Having heifers custom-raised by a third party will allow feed resources to go into rations of lactating cows. Custom heifer-raisers may be local or even in another state. Using custom-heifer raisers may increase the opportunities as other farmers or locations may have greater forage resources.
- **Cull cows and heifers.** Reducing the numbers of animals that need to be fed will help to stretch forage inventories and purchases. Ensure that the animals being retained and fed on the farm are healthy and profitable for the operation, but also remember replacement heifers may be in short supply and expensive when rebuilding the herd later.
- **Consider selling the herd and exiting the industry.** Under extreme situations, selling the herd may ultimately be the best option. However, this decision needs to be made with the help of consultants, along with a thorough evaluation of the entire situation to insure that all options have been explored and discussed.

Drought conditions, especially when they are severe, can create a very stressful time for dairy cattle farmers. Being proactive and seeking management strategies to help alleviate as many of the negative impacts of the drought as possible will help compensate for limited forage supplies that often accompany droughts.