Cow Calf Technical Bulletin

Feeding Strategies "When The Cows Come Home"

Wildfires and drought have many cattlemen facing tough decisions. With virtually no fresh grazing, and the prospect of little or no hay crop, options for maintaining the cowherd look pretty limited . . . and pricey.

One simple "solution" is to just sell the cattle, and restock when conditions improve. However, there are tax implications that may make this an undesirable proposition. More importantly, many herds represent years of genetic selection, relegating dispersal to the means of last resort. The alternative is to find a different way to meet the animals' nutritional needs, with a diet designed to utilize significantly less grass or hay.

This will typically involved bringing or enticing cattle to a specific feeding area, possibly an actual confined lot. Drylot diets can be either concentrate- or forage-based, depending on available feed resources and facilities. Each program brings special considerations, both nutritional and practical.

High Concentrate Programs

It is possible to meet the nutrient needs of a beef cow with a feedlot-type diet – but because long-term health and rumen function are so critical in the breeding herd, it is even more essential to avoid even subclinical acidosis, founder, or bloat. Management must focus on getting every animal to consume adequate roughage every time they eat. Strategies should include:

- ✓ Formulating a minimum of .5% body weight of long hay in the daily ration
- ✓ Minimizing physical separation of the mixed ration (avoid separation of fines)
- ✓ Preventing significant animal sorting of the delivered diet
- ✓ Using a step-up program (14 days)
- ✓ Employing good bunk management: don't feed more than the cows need, and feed at the same time every day
- ✓ Ionophore inclusion.

A high-grain diet must be limit fed to cows. Keep in mind that, by definition, cows will receive less than they are willing to eat. These animals may act hungry, and possibly even appear gaunt. Feed a balanced diet, and use BCS to monitor adequacy. Overfeeding will simply increase the feed bill, and possibly over-condition the cows. Adequate bunk space (24-30 inches per head) is essential, and so are good fences! Animals should

be sorted by requirements (e.g., heifers, old cows) so they can be fed more precisely. Remember that supplemental calcium and vitamin A needs will be greater than with a forage-based diet. And remain alert to potential mycotoxin concerns, especially with grain from drought-stressed fields.

Research done in Ohio illustrates the dramatic reduction in hay usage that can be obtained with bunk rations. Groups of cows were fed balanced diets consisting of full-fed hay OR a mixed diet consisting of 2 lb hay, 2 lb supplement, and 12-14 lb whole corn. The cows on the grain-based ration exhibited equal or better performance, while total hay usage was 6054 vs. 489 pounds per head.

Bunk feeding does require a higher level of management than traditional hay and supplement systems. Performance and efficiency can be significantly impacted if TMR's (Total Mixed Rations) are not correctly formulated, mixed and fed.

Get it Mixed. North Dakota research has demonstrated clear differences between just feeding ingredients in a bunk and feeding a true mixed ration. All the heifers in this trial had similar DM intakes, and both diets were calculated to meet nutritional needs. But the animals whose feeds were just layered in the bunk exhibited weight losses, while those on the TMR gained weight. The properly mixed ration ensured that all animals consumed the balanced mix of feeds, and thus were able to perform as projected.

Make the Necessary Investments. An interesting study done at SDSU involved groups of heifers that were all fed the "same" diet. But half were fed out of a feeder wagon with scales, while the other half received approximately the same amounts of the same feeds, but their diet was 'measured' out with front-end loader and scoop shovel, and different feedstuffs layered in the bunk. Cattle fed the mixed diet gained an additional 22.6 lb on 61.2 fewer pounds of dry matter over the 133-day trial. Improvements were attributed to more accurate and consistent feed supply, and reduced diet sorting by the cattle. Economic analysis of this data showed that a minimum of 114 head on feed for 133 days a year would cover the costs of the wagon.

Performance of Heifers Fed Either Mixed or Unmixed Diets

	Mixed	Unmixed
Initial heifer weight, lb	476	474
Average daily gain, lb	1.82	1.65
Daily dry matter intake, lb	16.59	17.05
Feed:gain	9.12	10.38

Capture the Advantages of Liquid Supplements. When liquid supplements are included in a TMR, the overall mix becomes more uniform, especially if ingredients vary widely in size and density. Fines are held, and dust reduced. Research has shown that liquid supplements reduce animal sorting of feed in the bunk, which has broad implications. Animals that sort out and consume a disproportionate amount of grain or other nutrient-dense feeds are at risk for digestive upsets, while animals that are allowed to exhibit preference for the lower quality portion of the diet will not receive the nutrition they need. Sorting can lead to uneven intake of micronutrients and additives, as well as acidosis. Even sub-acute acidosis causes reduced intakes and performance, and any long-term damage done to the rumen or liver carries a much higher cost in breeding stock, which need to remain healthy and productive for a much longer time period than slaughter animals. Value-added liquid supplements also offer the opportunity to conveniently and accurately deliver protein, sugars, minerals, and additives in one package. This can simplify ration balancing, inventory management, and mixing of feed.

High Forage Programs

When the supply of hay is tight, and the price high, it is more important than ever to maximize utilization of roughage feeds. Minimizing waste and enhancing digestibility will essentially increase the value of the hay, reduce the total amount that needs to be fed, and minimize the volume of refused hay and manure to be handled.

A variation of the typical free-choice hay plus supplement program is limit-feeding hay. Recent research from the University of Illinois supports the practice of limiting access to hay as a tool to reduce hay waste, over-consumption (of very high-quality hay), and costs of production and storage. In one trial, cows (Body Condition Score 6) had access to 19% protein hay in large round bale feeders for 4, 8, or 24 hours per day. While the animals in the four-hour group showed slight reductions in body condition, this practice significantly reduced total hay use and manure production.

	DAILY ACCESS TO HAY (HOURS)		
	4	8	24
Hay use, lb/head/day	22.5	32.1	35.7
Manure output, lb/head/day	13.9	18.7	22.9

Molasses-based protein supplements are designed specifically to enhance forage utilization. When applied directly to harvested hays and crop residues, consumption of even low-quality, unpalatable hay is encouraged, and waste can be significantly decreased.

Realize that when forage is severely limited, free-choice intakes of protein supplements (regardless of type) may increase above economically or nutritionally sound levels. If cattle cannot access adequate grass or hay, alternative feeds such as soy hulls or other fibrous by-products may be practical additions to the diet, along with recommended levels of supplemental protein, minerals and vitamins.

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