

Drought Options Roughage Needs

Many producers facing drought are struggling with securing roughage needs. Roughage supplies are limited; the question is how little roughage do we need to secure.

In an average year, a beef cow will consume 2.5% of her body weight in dry matter intake. Therefore a 1400 lb beef cow, 7-8 months pregnant will consume 35 lbs per day of dry matter, plus moisture and feed waste. Management through the drought conditions suggests that we will need to feed less roughage, and balance accordingly.

Learning from the dairy industry, we know it is possible to feed higher levels of concentrate, and still have healthy cow. Concentrate is defined as grain or pellets or supplement. In an average year with average feed quality, the dairy industry is comfortable feeding 50% concentrate: 50% roughage, on a dry basis.

Given the dry growing condition, forages will not be average. Based on research from the mid 80's, alfalfa grown during a dry year will have significantly lower fiber. This research shows that full bloom alfalfa grown in a drought will have similar fiber levels as pre-bloom alfalfa grown in a normal year. So, if your roughage source this year is perennial forage, it will be better quality, and less effective fiber. Therefore, feed testing and ration balancing will be imperative.

Extrapolating from the dairy industry, beef cow producers can budget on feeding a ration that has 1% of body weight on a dry basis of concentrate. This equates to a 1400 lb cow being able to consume a ration that has as high as 14 lbs of grain, pellets, or combination thereof per day. This amount of concentrate should be delivered twice per day – half in the morning and half in the afternoon. As well, calcium mineral supplementation, and the use of ionophores, must be considered. The remaining 14 plus pounds must come from a roughage source. As long as we follow the 7-9-11 rule (7% protein in mid pregnancy, 9% protein in late pregnancy,

and 11% protein after calving), and energy is sufficient, the roughage portion can be “filler”... straw, hay, crop residue, or other high fiber material. Both Dr Robert Westra and Dr Erasmus Okine refer to research that shows it is feasible to include up to 25-30% poplar sawdust, in a balanced pellet or mixed with silage, as a fiber source.

Several projects and/or nutritionists suggest that, providing the ration is balanced in terms of protein and energy, a cow can be fed at as low as 1.5% of body weight in dry matter intake, rather than the average 2.5%. Simply put, as long as the nutrients requirements are met, a cow can be fed less than her desired intake. Using the same 1400 lb cow, as long as the ration has enough protein, energy, vitamins and mineral, she would consume 11 lbs of concentrate and 11 lbs of roughage. She would not have a satisfied appetite, but she would maintain production.

The following chart summarizes the amount of roughage beef producers can budget for. The numbers are based on the assumption of 1% of body weight coming from concentrate, total intake is limited to 2.1% of body weight per day on a dry basis, the feeds are tested, the ration is balanced, and it is a March calving herd. The chart below is based on –15 degrees Celsius. Colder temperatures require modifications. Cows must be sorted by body condition regularly. **You must check with your nutritionist.**

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Roughage Needed per Cow
(Lbs. Dry Matter / Year)

		Cow Weight (lbs)				
		1,200	1,300	1,400	1,500	1,600
Days on Feed	200	2,640	2,860	3,080	3,300	3,520
	250	3,300	3,575	3,850	4,125	4,400
	300	3,960	4,290	4,620	4,950	5,280

If you have questions or require further assistance on this topic, please call the AgInfo-Center at 1-866-882-7677