

# Winter Drought Management Strategies

Consider alternative sources and methods to reduce cost.

by *Lee-Ann Walter, Ph.D.*

**D**rought in the Northern Plains, the Midwest and the western regions of the United States and Canada presents significant management hurdles to cow-calf producers in those areas this winter.

Keep in mind beef cow herd profitability depends on reproductive success, calf weaning weights and associated expenses. Of those expenses, feed cost represents the largest portion of annual cow costs.

For perspective, based on its annual survey of cow-calf producers, CattleFax estimated average annual cow costs in 2019 at \$601 per cow. Average annual cow costs were \$670 per cow in the Northern Plains and \$630 in the Corn Belt, compared to approximately \$565 in the Southeast.

Nutritional management of the herd during the winter is important for spring calving and rebreeding success as well as for controlling feed costs and allocating limited feed resources. Managing winter

feed stocks and feeding regimes is critical in times of drought.

## Focus on energy first

When considering feed, remember cows' single largest nutrient demand is energy followed by protein.

Cow body condition score (BCS) is an indirect assessment of energy reserves with cow energy reserves at calving serving as the most important factor influencing pregnancy rate. Cows should have a BCS of 5 to 7 at calving to ensure reproductive success. Optimum body condition also provides a hedge against future drought-stricken range conditions and winter weather.

Typically, cow energy demands are met primarily through forage with additional supplementation of protein, vitamins and minerals. Byproduct feeds include, but are not limited to, cottonseed hulls, cottonseed meal, corn distillers grains, corn gluten feed, soybean hulls, sugar beet pulp, soybean meal and wheat middlings. Byproduct

feeds such as distillers grains and corn gluten meal can serve as sources of energy from fermentable fiber and fat components as well as sources of protein.

With respect to protein supplementation, researchers observed improved cow body condition in cows supplemented with additional protein (31% crude protein) late in gestation, regardless of winter range or corn residue grazing. Conversely, cows grazing dormant range during late gestation without receiving supplemental protein produced heifer calves that tended to require more days to reach puberty and tended to have lower pregnancy rates.

It is prudent to feed test range, harvested forages, grain, byproduct feeds and any additional feedstuffs. Work with a professional to ensure nutritional needs are met.

## Consider the alternatives

Alternative feed sources and/or alternative feeding methods can provide opportunities during drought.

<sup>1</sup>Aherin, T. 2021. Higher cow costs expected, CattleFax Update. Cattle Marketing Information Service, Inc. Issue 52. Volume LII

<sup>2</sup>Wagner, J. J., Lusby, K. S., Oltjen, J. W., Rakestraw, J., Wettemann, R. P. and Walters, L. E. 1988. Carcass composition in mature Hereford cows: Estimation and effect on daily metabolizable energy requirement during winter. *J. Anim. Sci.* 66:603-612.

<sup>3</sup>Rasby, R. J. and Funston, R. N. 2016. Invited Review: Nutrition and management of cows: Supplementation and feed additives. *The Prof. Anim. Sci.* 32:135-144.

<sup>4</sup>Selk, G. E., Wettemann, R. P., Lusby, K. S., Oltjen, J. W., Mobley, S. L., Rasby, R. J. and Garmendia, J. C. 1988. Relationships among weight change, body condition and reproductive performance of range beef cows. *J. Anim. Sci.* 66: 3152-3159.

<sup>5</sup>Larson, D. M., Martin, J. L., Adams, D. C. and Funston, R. N. 2009. Winter grazing system and supplementation during late gestation influence performance of beef cows and steer progeny. *Can. J. Anim. Sci.* 87: 1147-1155.

<sup>6</sup>Funston, R. N., Martin, J. L., Adams, D. C. and Larson, D. M. 2010. Winter grazing system and supplementation of beef cows during late gestation influence heifer progeny. *J. Anim. Sci.* 88: 4094-4101.

<sup>7</sup>Kelln, B. M., Lardner, H. A., McKinnon, J. J., Campbell, J. R., Larson, K and Damiran, D. 2011. Effect of winter feeding system on beef cow performance, reproductive efficiency and system cost. *Prof. Anim. Sci.* 27: 410-421.

<sup>8</sup>Jose, D., Larson, K., McKinnon, J. J., Penner, G. B., Damiran, D. and Lardner, H. A. 2020. Effects of winter-feeding system on beef cow performance, ruminal fermentation, and system costs. *Appl. Anim. Sci.* 36: 731-744.

Alternative sources and methods include grazing crop residues, grazing swathed cereal crops and dry-lot confinement with limit-fed grain or byproduct feed-based rations.

For instance, in a multi-year study, researchers in western Canada found that swath grazing barley — compared to dry-lot-feeding baled barley — reduced winter cow cost per day by 29% and 36%, in subsequent years. There was no impact on cow reproductive efficiency. Researchers in Nebraska also found little impact on reproductive performance when wintering cows on corn stalk residue with protein supplementation.

If harvested forages or crop residues are unavailable, cows can be wintered in dry-lot confinement on rations with increased concentrate and reduced forage

Photo by Deb Schoen



feedstuffs. Replacing 20-60% (% DM) forage with concentrate by using processed feed grains and byproducts can be done; however, caution should be noted and professional insight from a nutritionist, feed industry personnel or veterinarian is warranted.

Rumen bacteria rapidly ferment starch from feed grain into organic acids, which can quickly become problematic and even deadly in cattle not adapted to grain-based rations.

Producers must ensure that cattle are slowly adapted to grain by replacing forage with concentrate in small amounts (5-10% DM) at intervals no sooner than three days apart. At higher levels of concentrate feeding, producers may need to limit-feed cows to control weight gain and any possible health effects.

Alternative feeds and feeding systems can offer cow-calf producers increased flexibility in navigating drought and extending forage supplies while serving to meet the energy and protein needs of the cow. **HW**

**Editor's Note:** Lee-Anne Walter, Ph.D. is a technical services nutritionist with Merck Animal Health. Copyright © 2021 Intervet Inc., d/b/a Merck Animal Health, a subsidiary of Merck & Co., Inc. All rights reserved.