ONA REPORTS

published in

THE FLORIDA CATTLEMAN AND LIVESTOCK JOURNAL

September-1996

Protein Supplementation of the Cow Herd

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A major expense in cow/calf production is winter supplementation. The most expensive component in a supplement is crude protein. The two broad classes of crude protein are non-protein nitrogen (urea) and natural protein. Natural proteins include feedstuffs such as cottonseed meal, soybean meal, and feather meal.

There are considerable research data showing that natural proteins are superior to urea as a crude protein source in either liquid or dry supplements fed to cattle grazing moderate quality forages like we use in Florida. However, per a unit of crude protein, urea is a much less expensive than natural proteins, and its use is desirable from a cost perspective.

At the Range Cattle REC we compared different molasses supplements fed during the winter to brood cows grazing bahia pasture and fed stargrass hay. When fed for 130 days at 3 pounds per cow per day, cows offered a molasses-urea (17% crude protein) supplement produced 39 pounds more calf per cow than cows fed molasses only. Cows fed a molasses-cottonseed meal slurry (17% crude protein) produced 18 pounds more calf per cow than cows fed molasses-urea. It now cost $6.50 per cow more to feed molasses containing urea, and an additional $4.50 per cow more to feed a molasses slurry which contains natural protein. Even with a $50 per cwt feeder calf market, feeding the cow herd a molasses-based supplement fortified with either urea or a natural protein is economical.

The Range Cattle REC study further showed that the greatest response to supplemental crude protein was by first-calf heifers. Thus, it would be a good, cost-effective practice to

manage first-calf heifers as a separate herd from older brood cows such that they can be supplemented properly.

Older cows also performed better when fed molasses supplements containing either urea or natural protein. However, the economic advantage was very slight when based on $50 per cwt feeder calf market.

There are other factors that should be considered when selecting a molasses-based supplement. Older cattle must be limited-fed plain molasses or molasses slurry by feeding them twice weekly. Molasses-urea mixtures can be fed free-choice in many situations, but over or under consumption of molasses-urea supplements may be a problem at times and its intake should be closely monitored.

An important concern would be the long term cost of eliminating the use of winter supplements completely to reduce expenses. The ultimate cost of no supplementation would be the reduced performance of the cow herd, thus a reduced calf crop and reduce calf weaning weights. Remember the cow herd is being supplemented this winter such that cows will conceive and produce feeder calves that will be marketed in 1998.