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Natural Protein Important For Winter Feeding Brood Cows

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Florida cattlemen normally supplement their brood cows with molasses mixtures in the winter. During the past three decades these mixtures have often been fortified with non-protein nitrogen, mainly urea, to supply crude protein. Urea is an effective substitute for Natural protein in feedlot diets fed to growing and finishing cattle because corn or other feed grains are present to supply the energy needed by rumen bacteria to readily convert urea to microbial protein. However, there are questions as to urea's effectiveness as a crude protein source when fed to brood cows eating low-quality pasture forages and/or hays which have low energy contents.

A four-year study was recently completed at the Ona Research Center which compared 1) molasses only, 2) molasses-urea and 3) molasses-cottonseed meal-urea as winter supplements for brood cows. These mixtures were fed twice weekly in an open trough at a rate of about three pounds per head per day from December 16 to April 22. Cows were grazed on bahiagrass pasture and fed stargrass hay in the winter. The breeding season was for 90 days beginning on March 1, and calves were born in December and January.

The results of this study showed that cows supplemented with molasses-urea weaned seven more calves per 100 cows, their calves were 12 pounds heavier at weaning, and they produced 40 pounds more calf/cow in the breeding herd than cows supplemented with molasses only. Cows supplemented with molasses-cottonseed meal-urea weaned 12 more calves per 100 cows, their calves were 12 pounds heavier at weaning, and they produced 62 pounds more calf/cow in the breeding herd than cows supplemented with molasses only.

The response of first-calf heifers (three-year-olds) to the molasses supplements containing added crude protein was even greater than the total herd average. Conception rates were 37.5, 60.0 and 69.6 percent and the weaning weights of their calves were 392, 405 and 423 pounds, respectively, for first-calf heifers supplemented with molasses only, molasses-urea, and molasses cottonseed meal-urea.

This information shows the importance of adding crude protein to a molasses mixture. Although urea was effective in improving the performance of the brood cow herd, adding cottonseed meal to the molasses mixture was even more effective than adding urea only. Although cottonseed meal was fed in molasses slurry mixture in the Ona study, cottonseed meal or other natural proteins could also be fed separately from molasses as a dry supplement mixture or range cube with similar results. An advantage of feeding a natural protein in a molasses mixture is that it assures all cows equal access to the protein supplement mixture or range cube with similar results. An advantage of feeding a natural protein in a molasses mixture is that it assures all cows equal access to the protein supplement with a limited amount of trough space, and there is little waste.

Due to the greater response of younger cows to urea and/or cottonseed meal, particularly first-calf heifers, it would be very effective for cow/calf producers to maintain these cattle separate from the older cow herds so that they can be offered a better winter nutrition program.