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Good Quality Pasture and Molasses Slurry

An Important Combination to Breeding Yearling Heifers

by P. Mislevy and F.M. Pate
University of Florida/IFAS



For questions or comments regarding this publication contact [Paul Mislevy](#), [Findlay Pate](#)

Cattlemen that desire to calve heifers at two years of age must have them grow at a rate so that a high percentage are cycling at 14 to 16 months of age. Heifers weaned at 500 pounds must gain 1.0 pound/ day or more, from weaning to breeding (180 days), to reach a target weight of 700 pounds at breeding. Under central Florida conditions this goal is difficult to achieve with bahiagrass pasture, which is low in TDN and crude protein. An alternative would be to graze heifers on better quality perennial forages grown on the ranch, which have good TDN and crude protein contents, along with high forage production, from March through December. We have conducted research to determine if a grazing system using stargrasses or bermudagrass, along with a molasses slurry, will produce the gains needed to develop replacement heifers.

In each of two years, heifers born in September and October were weaned in early June, at eight months of age and 500 pounds. Weaned calves were fed 10 pounds/ heifer/day of a dry weaning feed for 21 days, the last 14 days of which were on stargrass and bermudagrass pasture. Heifers were rotated weekly with a grazing frequency of three weeks and a four-pasture rotation. Stocking rate was 2.4 heifers/acre. While on pasture, half the heifers received a molasses (80 percent) and cottonseed meal (20 percent) slurry at five pounds/heifer/day, and the other half received no molasses.

Grasses were Florico and Florona stargrass, and Florakirk bermudagrass. The March fertilizer program consisted of 60-40-80 pounds/acre N-P₂O₅-K₂O plus two pounds/acre Fe, Zn, Cu, and Mn. All grasses were cut in early May for hay, and refertilized in mid-June with 40 pounds/acre of N, followed by 40 pounds/acre of N again in August and October. An insecticide was applied in mid-September to control armyworms and loopers.

Weaned crossbred heifers grazing Florico and Florona stargrasses and Florakirk bermudagrass had daily gains (average of two years) of 0.85, 0.68, and 0.49 pounds, respectively, over 140 days from July 1 through mid-November. Heifers grazing Florico stargrass had consistently higher average daily gains than Florakirk bermudagrass (0.85 vs. 0.49 pounds). Forage on offer was similar for both Florakirk and Florico.

Crude protein content of forage during the 140-day grazing period was similar, averaging 12.2 and 13.8 percent (Florico), 10.7 and 14.1 percent (Florona), and 10.8 and 15.1 percent (Florakirk) in 1993 and 1994, respectively. The TDN for the three grasses during the warm season averaged 53 percent (Florico), 50 percent (Florona), and 50 percent (Florakirk) for 1993 and 1994.

Molasses slurry fed at five pounds/ heifer/day, had a positive effect on daily gain over the 140 day grazing season in 1993 and 1994. Molasses slurry supplementation increased daily gain 44 percent (0.29 pounds/ heifer/day) in 1993 and 82 percent (0.28 pounds/heifer/day) in 1994. Slurry tended to have a greater impact on daily gain when heifers were under stress conditions, such as the wet summer of 1994. Rainfall at the Range Cattle REC was 37 inches during an 84 day period, resulting in one to three inches of surface water in all pastures over a 50 to 60 day period. Feeding molasses slurry to heifers grazing Florico stargrass increased daily gain 54 percent (0.35 pounds/heifer/day) over calves grazing Florico with no molasses slurry.

Heifers grazing Florico stargrass and fed molasses slurry had daily gains (average of two years) of 1.0 pound/head/day, and those grazing Florona stargrass and fed molasses had daily gains of 0.75 pounds/ heifer/day. Heifers grazing Florico and Florona, and fed molasses slurry, had final weights (average of two years) of 668 and 644 pounds after 140 days, respectively. These weights placed heifers in a position to obtain a 700-pound live weight for breeding at 14 to 16 months of age.