Phosphorus Recommendation for Beef Cows Reduced

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The National Research Council (NRC) is the organization that determines the nutrient requirements of beef cattle and other livestock. Recommendations are made for all classes of beef cattle. Those that apply to Florida include recommendations for dry cows, cows nursing calves, growing open heifers, pregnant heifers, and growing bulls. The research council includes scientist from across the U.S. who meet periodically to address the adequacy of present recommendations. Changes are made in recommendations based on new research information published in the scientific literature.

The latest edition of the Nutrient Requirements of Beef Cattle was in 1996. A major change from the previous recommendations made in 1984 was a large reduction in the phosphorus recommendations for brood cows. This has considerable importance in south Florida because of concerns with phosphorus levels in Lake Okeechobee and other surface waters. The University of Florida/IFAS has also reduced phosphorus fertilizer recommendations for bahiagrass pasture to zero and for Floralta limpograss (hemarthria) from 18 to 9 pounds of phosphorus/acre/year. Changes in pasture fertilization are interrelated with the needs for phosphorus supplementation to meet the phosphorus requirements of the cow.

In 1984, NRC recommended that wet cows producing approximately 20 pounds of milk daily be provided diets with 0.27 to 0.28% phosphorus. This was for the first 4 months after calving, the peak period of lactation, which coincides with the start of the breeding season. It was recommended that dry pregnant cows consume diets containing 0.19 to 0.21% phosphorus.

In 1996, NRC recommended that brood cows producing approximately 20 pounds of milk daily be provided diets with 0.18 to 0.20% phosphorus the first 4 months after calving. Then the percent phosphorus was progressively reduced to 0.12% at 9 months past calving. It was recommended that dry pregnant cows consume diets containing 0.16% phosphorus.

The phosphorus recommendations for brood cows in 1996 was 20 to 30% less than in 1984. Based on the latest recommendations Florida forages provide enough phosphorus to satisfy the needs of producing brood cows in most situations. Brood cows would
require additional phosphorus above that contained in pasture forage during the winter. Phosphorus levels of forages are lowest in the winter, and south Florida cattlemen use a winter breeding season when brood cows have the greatest need for phosphorus. There are always a few cases where phosphorus levels in forages can be very low throughout the year. Ranchers should periodically test pasture forages for phosphorus content to efficiently provide phosphorus supplementation.

From the latest NRC recommendations it is obvious that much less phosphorus is needed by brood cows than once recommended. This will result in a cost savings to cattlemen and less phosphorus added to the Florida environment. However, cattlemen should pay close attention to phosphorus supplementation during the winter, especially if cows are bred during this period. Cattlemen should periodically test pasture forages for phosphorus content.

For questions or comments regarding this publication contact Findlay Pate