Managing Phosphorus Feeding to Brood Cows

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Recommendations on the phosphorus requirements of producing brood cows have been substantially reduced over the past 30 years. Developed by a committee of animal scientist from all areas of the U.S., nutrient needs are published as the Nutrient Requirements of Beef Cattle by National Research Council. It is important for Florida cattlemen to take note of changes in the nutrient recommendations which can save money on production cost and be of benefit to the environment, especially water quality.

In 1976 the requirements of phosphorus by a 1,000 pound lactating cow was 28 grams/cow/day throughout the nursing period. Today, the requirement for phosphorus at peak lactation, the second month after calving, is 21 grams/cow/day and progressively decreases to 11 grams/cow/day at nine months after calving. This is approximately a 50% reduction in phosphorus recommendations for beef cows from 1976 to 1996.

On many ranches phosphorus contained in pasture forage could provide all the needs of the brood cow and no phosphorus supplementation would be needed. The level of phosphorus needed in the forage to meet the total requirements of producing brood cows is 0.2%.

The greatest need for phosphorus on most south Florida ranches is during the winter months when cows are nursing young calves and exposed to bulls for rebreeding. The content of phosphorus in grasses is also the lowest during the winter months. It is very important that brood cows receive adequate amounts of phosphorus at this time to ensure conception of the next calf crop.
To best manage the feeding of phosphorus ranchers must determine the phosphorus content of their pasture forage. On small ranches this would require 3 to 5 forage samples in mid summer and again in mid winter. Sampling for only two or three years will provide an adequate profile of the phosphorus content of the pasture forage, and further sampling is not needed. It cost about $5 to analyze a forage sample for phosphorus, or a total cost of $30 to $50 per year for small ranches. More sampling would be required for large ranches which usually grow numerous forage varieties and have many different ecological areas.

It is possible that no supplemental phosphorus is needed by the cow herd, especially during the spring and summer periods. This savings in phosphorus supplementation would more than pay for the sample analysis.

Another way that phosphorus may be overfed is offering a mineral mixture containing phosphorus during the winter in addition to feeding phosphorus contained in a winter supplement. Some liquid supplements may contain up to 1.0% phosphorus. Commodity feeds like cottonseed meal and wheat midds contain in excess of 1.0% phosphorus. If these commodity supplements are fed, a mineral mix containing phosphorus is not needed. But, a word of caution, trace minerals like copper, cobalt, and selenium are often deficient in Florida forages and, must still be provided in a mineral supplement if they are not contained in the winter supplement.

It is very obvious that Florida cattlemen can save substantial dollars by better managing the feeding of phosphorus to the cow herd. At the same time the quality of our water resources will be protected.

For questions or comments regarding this publication contact Findlay Pate