

The Empty Mineral Feeder: Is It Really Cost-Effective to Cut Back on Mineral Supplementation?

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Historically, Florida has had more problems with mineral deficiencies than any other state. Phosphorus has always been a problem since the early days of the cattle industry. “Salt sick” was a condition that greatly depressed cattle production, and was reported as early as 1872. In the 1930s “salt sick” was found to be combined deficiencies of cobalt, copper and iron. The University of Florida was the second in the world to report cobalt deficiency in cattle (Australia was first), and first to report copper deficiency. Since that time, other minerals have been found to be deficient; so now the main deficiencies are phosphorus, calcium, magnesium, salt, cobalt, copper, selenium and zinc. Minerals that have been in excess are fluorine (near phosphate mines) and molybdenum (which increases copper requirements). In recent years, selenium deficiency has been a particularly severe problem for the cattle industry.

Mineral research from the University of Florida has (1) identified which minerals are lacking, or in excess, in different parts of the state, (2) determined levels of toxicity for various minerals, (3) worked on determining the phosphorus requirement of beef cattle, (4) determined bioavailability of different chemical forms of minerals, and (5) studied the most economical methods of providing mineral supplements.

In one Florida study involving four different regions in the state, more than three-quarters of all forages contained deficient concentrations of phosphorus, copper, selenium and zinc. Also, 63% of all samples were found deficient in cobalt during the summer.

What does it cost to provide a complete free-choice mineral supplement to cattle in Florida? Typically, a mature breeding cow consumes, in one year, about 40 pounds (50 g/day) of a complete free-choice mineral mixture. At today’s prices this costs about \$7.50 to \$8.25 per cow, per year.

Should mineral supplementation be cut back? This would seem to be false economy. We need to keep in mind that the calving percentage in Florida is 10 to 11% less than the national average. Certainly, part of the reason for this is that many Florida soils and pastures are deficient in minerals. With inadequate minerals we would expect lower calving percentages, reduced growth rates and higher disease rates (e.g., white muscle disease, scours, retained placenta and general unthriftiness). In recent years we have learned how important adequate minerals are for proper immune response; therefore, susceptibility to disease organisms increases when mineral supplies are inadequate. Let’s keep the mineral feeder filled!