Meeting the Salt Needs of Florida Cattle

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An essential need for sodium and chlorine by cattle has been demonstrated for thousands of years by a natural craving for common salt. These two mineral elements function as electrolytes in body fluids and are specifically involved at the cellular level in water metabolism, nutrient uptake, and transmission of nerve impulses. The initial sign of sodium and chlorine deficiency is a craving for salt, demonstrated by the avid licking of wood, soil, and sweat from other animals. A prolonged deficiency causes loss of appetite, decreased growth, unthrifty appearance, reduced milk production, and loss of weight.

The need for supplemental salt by cattle is primarily for sodium, with a need for chlorine above that naturally found in feeds and forages less evident. However, the requirement is expressed as salt (sodium chloride). The salt requirement of all classes of cattle is about 0.25 % of the total diet dry matter. This is about 1 ounce per daily for 1000 pound brood cows.

Florida grasses contain about 0.2 % salt equivalent. Thus, forage eaten by a 1000 pound cow supplies 0.8 ounces of salt daily, leaving only 0.2 ounces to be provided in a mineral supplement. This is easily met with mineral mixtures containing 20 to 30 % salt and consumed at 2 ounces per head daily, an intake recommended for loose mineral formulas developed by IFAS for Florida conditions. If salt is fed separate from other minerals, average intake should be about 0.2 ounces per head daily. Higher amounts are not harmful, but would be a waste of salt.

High salt intake can be a problem in Florida due to the proximity of many ranches to coastal brackish waters and high salt levels in well water. Cattle tolerate drinking water containing up to 1.0 % or 10,000 ppm total soluble salts (sea water contains 3.6 %) without affecting health or production. Water containing more than 1% salt should be avoided. The major response of cattle to high saline water is reduced feed intake, which causes reduced growth and milk production.

A major problem with salt in drinking water is that cattle may not consume mineral mixtures provided, and essential supplemental minerals such as phosphorus, copper, cobalt, selenium, iron, iodine and zinc will not be consumed. Mineral mixture intake is affected when drinking water exceeds 1500 ppm total salts. If low intake of a mineral
mixture is caused by the high salt content of drinking water, a mineral mixture with little or no salt should be provided, or a palatable feed ingredient such as cottonseed meal, citrus pulp, or molasses might be added to the mineral mixture to encourage its intake.

Keep an eye on the mineral intake of the cow herd. They should average eating 2 ounces per head per day for loose mineral formulas developed from Florida research, and that recommended on the feed tag for other mineral formulas. Mineral mixture intake is affected by many factors and can be very variable over short periods, thus estimates should be based on intakes obtained over several weeks. Do not be concerned if cattle do not consume or go without mineral over several days because body stores will prevent mineral deficiencies.

For questions or comments regarding this publication contact Findlay Pate