

**Another Reason to Soil Test:
Grass Tetany is affected by Nitrogen, Phosphorus and Potassium in Soil**

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Everyone knows that grass tetany in Beef Cows is primarily due to magnesium deficiency and is most likely to affect lactating cows on early spring pastures. However, there are also complicating factors in the soil that can increase the incidence of grass tetany.

The process of deciding which soil amendments to use will be simplified and made more accurate if producers start with a soil test. University of Tennessee soil test recommendations are consistent with preventing grass tetany.

Recent work out of Missouri indicates that fescue pastures with sufficient phosphorus, according to soil tests, were less prone to grass tetany.

Results of soil test analysis from the University of Tennessee Soil Testing Lab indicates that fifty-four percent of soils were below 30 pounds per acre of available phosphorus (ie. Low). In East Tennessee and West Tennessee, the tests tend to be lower in phosphorus than within the Tennessee basin counties.

It is a concern that in recent years the use of soil testing has decreased. Soil testing is inexpensive, improves pasture production and can be a tool in preventing grass tetany.

High potassium (K) has also been implicated in grass tetany. Many soils in Tennessee are already adequate too high in potassium. Adding potash to soils which already have enough potassium could increase the potential for grass tetany. **The common practice of adding a 'complete' fertilizer (such as triple-nineteen or triple-whatever) without soil testing could be a poor management choice.**

Remember: The Tennessee Forage Mineral Survey conducted in 2001-03 showed that almost 1/3 of Spring pastures tested over 3% Potassium. This is considered being over the "Maximum Tolerable Level" of K. Since excess K, especially at these level, can contribute to grass tetany (and milk fever in Dairy Cows), it is correct to say, when over-used: **K Kills Cows!**

Nitrogen is widely recommended to increase spring grass production, but grass growth as stimulated by nitrogen is very rapid, high in moisture and low in magnesium. This combination can contribute to grass tetany, and may lead to moderating the amount of nitrogen added to grazing pastures. Also, making certain that cows are provided with *and are consuming* high magnesium mineral becomes extremely important on nitrogen-fertilized pastures.

In summary, too little phosphorus and too much potassium could contribute to grass tetany. Nitrogen fertilization is needed for good grass growth, and K should be used if recommended based on soil test, but producers should be aware of tetany prevention steps when N and K are used.