K·STATE Research and Extension | Meadowlark District

February 5, 2021

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Sulfur Research in Corn

A second part of the soil fertility research presented as part of the virtual Kansas Corn Management Schools focused on Sulfur (S) needs in corn. Considered one of the 16 elements essential for crop growth, Sulfur is often called the fourth major nutrient, just below nitrogen (N), phosphorous, and potassium. It is often tied closely to nitrogen, and N availability to plants. This is of particular importance when high levels of N are not balanced with Sulfur.

Soil organic matter has traditionally been an excellent source of sulfur, and good organic matter levels may well meet S needs in some cases. Higher yields coupled with less atmospheric deposition and more intensive cropping systems, however, have resulted in increasing instances of sulfur deficiency in Kansas. It's typically first seen on sandier soils, but hilltops and slopes, particularly if eroded, may show sulfur deficiencies as well. Adding to the challenge of determining crop need is cooler soils at planting (slower S mineralization) and the mobility of sulfur in the soil, making surface soil samples (typically six to eight inches deep or less…) less than stellar for predicting soil S levels. Soil test research shows little accumulation of sulfur in the soil profile until clay layers are reached at almost a foot deep.

In the absence of an appropriate soil test, determining S need for your corn crop might be difficult. In the interim, crop removal is an option to consider. A corn crop yielding 150 bushels removes approximately 12 pounds of S per acre. Research conducted by KSU Soil Fertility Specialist Dr. Dorivar Ruiz-Diaz using sulfur rates from zero to 100 pounds per acre showed good response from the first 20 pounds of sulfur applied, with additional increments of added S increasing yields only slightly, and generally not at significant levels. Fifteen pounds of S per acre is a good starting point – generally providing a crop response if one is going to be seen.

For more information on sulfur, check out Sulphur in Kansas, available upon request from me or any District Office or online at: https://bookstore.ksre.ksu.edu/pubs/MF2264.pdf .

Pruning Fruit Trees

It's time to *plan* for pruning, even as it might *not* be time to start. Mid-February through late March is our traditional fruit tree pruning window, allowing us to prune in advance of the start of the growing season. It will likely need to wait a bit this year, however. Pruning is typically not suggested when temperatures fall below freezing, to prevent potential damage to plant tissue. Cold temperatures now are not conducive for pruning – for you *or* the tree. It isn't a bad time to start the planning process, however, and that starts with the proper tools for the job.

Pruning shears are best for small cuts. Select a scissor-type shear when possible. They are less damaging to wood than anvil types. For larger cuts, consider loppers. They're basically hand shears with long handles that can often prune wood up to one inch in diameter. Once you get larger than one inch, you will likely need a pruning saw. Take precautions when making larger cuts to ensure bark isn't pulled away from the underside of the branch when limbs fall.

For specific pruning details, check out https://bookstore.ksre.ksu.edu/pubs/MF3450.pdf, *Pruning Apple and Pear Trees* or https://bookstore.ksre.ksu.edu/pubs/MF3451.pdf - Pruning Peaches, Plums, Cherries and Other Stone Fruits . Both publications are available online or upon request from a District Extension Office.