Local Sulfur Research Adds To Statewide Database

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There are sixteen nutrients deemed essential for plant growth and development. Growers have typically concerned themselves with three macronutrients (Nitrogen, Phosphorus, and Potassium) and have usually not worried too much about the remaining secondary nutrients and micronutrients. Sulfur has been one of those otherwise ignored secondary nutrients until recently.

Decades-old sulfur research once indicated that sulfur fertilizer applications yielded no appreciable return on investment. However, a lot has changed since that research was conducted and some now ask if sulfur is needed.

What change has made agronomists wonder if our sulfur recommendations are up to date? The answer is the environment and yield. Corn yields are now a couple of scores higher than what they were when sulfur research was first conducted in Illinois. This means that sulfur demand and removal are likely much higher as well. Could that increase in potential yield translate into sulfur deficiencies? Additionally, the environment is much cleaner than what it was forty years ago. At one point, Illinois received “free” sulfur fertilizer in the form of acid rain. High sulfur coal emissions created acid rain in the state which deposited enough sulfur in the soil to meet and surpass the crops demand. Environmental regulations have curbed that problem and have also curbed this source of "free fertilizer." Could this decrease in acid rain translate into sulfur deficiencies? Both questions remain unanswered.

So do farmers now need to apply sulfur to raise an adequate corn crop in Illinois? U of I Extension in Fulton, Mason, Peoria, and Tazewell Counties has been participating in research that attempts to answer that very question. Working with Dr. Fabian Fernandez, U of I Soil Fertility Specialist, the local Extension office has established a sulfur research plot at the Central Illinois Irrigated Growers plot in Mason County. The Mason County location is part of a much larger statewide network of sulfur research plots. The Mason County site is a critically important component of that network because it seeks to evaluate sulfur response on sandy soils (soils more prone to exhibit evidence of sulfur deficiency if it should occur).

Should the data demonstrate a response to sulfur, producers might add yield and thus revenue to their farm. Should the data demonstrate no response to sulfur fertilizer, producers might be able to save money by eliminating a potential expense. Research continues as the local Extension office does its part to help update Illinois soil fertility recommendations. Δ