RESPONSES OF COTTON TO SULFUR FERTILIZATION

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It is well known that sulfur is necessary for the growth of plants, but, as Alway states, it is a slighted element in agricultural research. The purpose of this paper is to present some preliminary results dealing with the effect of sulfur fertilization on the growth of cotton in two widely separated localities of Florida. Even though the results are preliminary, it seems desirable to present them, especially since it is usually assumed that sufficient sulfur is supplied as sulfates in fertilizers or through precipitation to prevent that element from being a limiting factor in crop production.

EXPERIMENT 1

This paper deals with three experiments conducted in 1944, two at Gainesville and one at Madison, Fla. The first experiment was conducted on the Experiment Station Farm at Gainesville. The soil type is Arredonda loamy fine sand, and it is in a productive condition. Liberal fertilizer treatments have been applied in the past.

This experiment was exploratory and was designed to give some indication as to whether sulfur, magnesium, or placement of fertilizer would have any effect on the growth of the cotton.

A 4-8-4 fertilizer was used at the equivalent rate of 500 pounds per acre. It was formulated from 60% muriate of potash, uramon, ammonium nitrate, and 48% triple superphosphate, and presumably contained very little sulfates. One third of the nitrogen came from uramon. In the cases where the sulfur was added this was done by substituting 48% potassium sulfate for the muriate of potash in the above mixture. This sulfate mixture supplied a calculated 7.4 pounds of sulfur, or 18.5 pounds of SO₂ per acre.

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