THE MOST ECONOMICAL RATE OF APPLICATION OF FERTILIZERS TO COTTON

(Abstract)

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Unfortunately, there are few accurate data on the most profitable rate of application of fertilizers for the different sections of the South. The data from the South Carolina Experiment Station, which are by far the most extensive of any of the southern states, have been carefully analyzed to show the cost of production and the net profit per acre with different rates of application.

This analysis shows that at 10c a pound for seed cotton the largest net profit was with 1200 pounds of fertilizer per acre. At 8c per pound the largest net profit was with 800 pounds of fertilizer per acre, and at 6c a pound for seed cotton the largest net profit was with 600 pounds of fertilizer per acre.

One very interesting fact shown here is that as the price of cotton goes down very low the first rates of application to show a loss are the very low rates, the second the very high rates, and the last rates of application to show a loss when the price of cotton goes very low are 600 to 800 pounds per acre. In other words, it would appear that at any price for cotton a reasonably heavy application of fertilizer is a good form of insurance against loss.

In the western part of the cotton belt there are very few accurate data available on the rate of application. In Bradley County, Arkansas, a series of ten tests has been conducted over a period of four years in which application of 100 pounds of nitrate of soda, 250 pounds of acid phosphate and 100 pounds of kainit applied to one acre were compared with one and a half times the same material applied to a second acre. The net profit per acre was calculated to be $10.02 for the lower rate of application, which amounted to 450 pounds, and $13.01 per acre for the higher rate of application which was 675 pounds.

One other factor, which cannot be expressed in figures, is the value of the residual effect of the fertilizer. With heavy applications there must be a considerable amount of fertilizer remaining in the soil after the crop is removed; but there is no accurate method of deter-