

OPTIMIZING NPK FERTILIZATION FOR COTTON IN SANDY SOILS OF THE CERRADO FROM BAHIA, BRAZIL

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Support: Fundeagro.

IV Session: Fertilization and environmental quality

Abstract

The Cerrado in Bahia is one of the main agricultural regions of Brazil and the second largest producer of cotton. There's a predominance of sandy soils, which have weak structure and require more refined management of fertilization. It's common to apply larger NPK doses than recommended, often disregarding tools for diagnosis. In this context to optimize the use of products and ensure the sustainability of production, with less damage to the environment, experiments have been carried out in the region since the 2003 about the management of NPK maintenance fertilization for the cotton. Various field trials were performed on commercial farms involving times, doses and forms of NPK application. In general, we observed the possibility of reduction, and implementation of a single dose of N and K in pre or post planting, and 120 and 100 kg ha⁻¹ were the economic doses of N and K₂O, respectively. For P, 80 P₂O₅ kg ha⁻¹ are sufficient to ensure high productivity; the application may be made by broadcast spreading or in the planting furrow. It's recommended to use the concept of fertilization to return to soil the nutrients export through harvest, noting the analysis of the soil and plant in order to optimize the use of fertilizers in the region.