

Effect of different doses of cocoa shell compost on the agronomic parameters of the Corne 1 plantain variety in Côte d'Ivoire.

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1 ABSTRACT

Plantain is today the third food crop the most important and contributes greatly to the food security of the populations in Côte d'Ivoire. However, its culture is facing a drop in yield, mainly due to soil poverty and the total absence of inputs in production systems. To rectify this, an organic fertilization trial using cocoa shell compost was conducted on the CNRA experimental plot at Azaguié-Abbè in south-eastern Côte d'Ivoire with the Corne 1 plantain variety. The experimental set-up was a randomized complete block design with four treatments and three replications. Plants fertilized with mineral fertilizer (T1; conventional dose) were compared with plants that have received different doses of cocoa shell compost (T2; 7 T/ha), T3 (14 T/ha) and T4 (18 T/ha). The parameters measured included the height and circumference of the banana tree plantains, the number of leaves emitted, the number of functional leaves, and the interval between planting and flowering (PFI). Observations were also made on the state of initial and final fertility of the soil of the study site. The results showed that the doses of 16 and 18 T/ha of compost significantly improved the chemical properties of the soil compared to the mineral fertilizer. The effects of cocoa shell compost on the parameters of growth and development of the banana trees plantains were statistically identical to those of mineral fertilizer. The soil fertilization in banana plantations can be assured by cocoa shell compost, which is accessible to farmers at a lower cost at a dose of 18 T/ha, to improve plantain productivity in the long term while respecting the environment.