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Comparative study of the agromorphological performances of different types of plant propagation material from three varieties of plantain banana (*Musa sp.*)

N’Zi Jean-Claude^{1,2*}, Koffi Téhia Jean-Paul¹, Koné Siaka², Sokouri Didier Paulin¹, N’Guetta Assanvo Simon-Pierre¹ & Kouamé Christophe²

¹UFR Biosciences, Université Félix Houphouët-Boigny, 22 BP 582 Abidjan 22, Côte d’Ivoire.

²ICRAF-World Agroforestry, 08 BP 2823 Abidjan 08, Côte d’Ivoire.

*Corresponding author: jcnzi2@yahoo.fr

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ABSTRACT

Objective: The aim of the present study was to assess the morphological performance of plant material from plantain varieties in order to select the most efficient in Tiassalé locality.

Methodology and results: A research program involving three types of plant material (sucker, vivoplant, and vitroplant) from three popularized varieties (Orishele, Corne-1, and Pita-3) was carried out at Tiassalé, precisely at M’Brimbo in Côte d’Ivoire. The experimental design used was a two-factor split plot, the main factor being the type of plant material, and the secondary factor the variety. Data were collected on the number of leaves, the pseudostem height and diameter, the leaf length and width. Results from analysis of variance revealed that in vitro plant was superior for the number of leaves for the three varieties. For the height of the pseudostem, value was high with the sucker of Corne-1 and Orishele varieties, unlike Pita-3 variety in which the in vitro plant recorded the greatest height.

Conclusion and application of findings: At the end of this study, most efficient type of material of each variety was suckers for Corne-1 and Orishele varieties, and vitroplants for Pita-3 variety. The type of material that performs well in each variety can be used in genetic improvement programs to increase yield and obtain superior quality fruit to achieve food self-sufficiency. Compared to the suckers of Corne-1 and Orishele, in vitro plantlets of Pita-3 should therefore be promising in the popularization of this variety.

Keywords: Banana tree, Varieties, Types of plant material, Agromorphological performances.