



## **TITLE: Effects of Charcoal Preservation Methods on the Biochemical Parameters of Three Varieties of Plantain (*Musa ssp*)**

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### **ABSTRACT (upto 300 words)**

To contribute to solving plantain post-harvest losses, six preservation methods combining charcoal and polyethylene bags were experimented on three different varieties of plantain (SACI, Big-Ebanga, and Orishele). This work was carried out at the Biocatalysis and Bioprocesses Laboratory of Nangui Abrogoua University in Abidjan and the Food Technology Laboratory of the National Center for Agronomic Research in Côte d'Ivoire. Some Biochemical parameters of these fruits are monitored to know the effects of these preservation methods during storage. The outcomes indicate an average shelf green life extension of up to 30 days for fruits preserved in polyethylene containing charcoal, while fruits preserved in polyethylene without charcoal have only 24 days on average. The control test (fruits stored in the open air) showed an average shelf green life of 12 days. During storage, total carbohydrate levels increase and values range from 92.49% to 70.05%. Those of total sugars also increase and the levels evolve from 0.47 to 30.83 g/100 g DM. On the other hand, there is a decrease in starch levels (42.66 and 64.05 mg/100g DM). Charcoal can extend the shelf green life of plantain bananas for up to a month. These methods can be recommended to actors in the sector to reduce post-harvest losses.

### **BIOGRAPHY (upto 200 words)**

Teacher-researcher at the Peleforo Gon Coulibaly University in Korhogo, Wohi Maniga holds a PhD in Food Science and Technology from Nangui Abrogoua University in Abidjan, Côte d'Ivoire. Wohi Maniga was a teacher of life and earth sciences for eight years. He then pursued his doctoral thesis through a research project at the National Center for Agricultural Research of Côte d'Ivoire. Author of several publications, many of which focus on banana plantain. He conducts his research in the fields of agro-food, food biochemistry, and food technology.

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