

## **Small-scale postharvest practices among plantain farmers and traders: a potential for reducing losses in rivers state, Nigeria**

### **ABSTRACT**

High postharvest losses (PHLs) caused by poor postharvest management of perishable staple foods is a serious food security problem in Nigeria. Adoption of suitable postharvest management techniques is necessary to maintain produce quality and minimize avoidable losses by relevant stakeholders. The challenge is that most popular postharvest technologies are unsuitable for small scale farmers and traders who are a majority in the Nigerian food supply chains. This paper proposes the adoption of small-scale friendly postharvest techniques in the form of small-scale postharvest practices (SSPPs). To justify this proposal, the impact of SSPPs adoption on self-reported losses were investigated in Rivers State Nigeria. The factors influencing plantain farmers and traders intention to use SSPPs were also studied. Multistage and snowball sampling techniques were used to obtain data from farmers and traders, respectively. Data were obtained via face-to-face interviews using structured questionnaire. The data were analysed using descriptive statistics, correlation analysis, chi-square test of independence and multiple linear regression analyses. The results indicate that farmers adoption of SSPPs was negatively correlated with quantitative losses ( $r = - 0.142$ ) and qualitative losses ( $r = - 0.412$ ). Gender, education level, occupation, amount of produce harvested, and information access were significantly associated with farmers adoption of SSPPs. From the regression analysis, attitudes ( $\beta = 0.523$ ,  $p < 0.05$ ), awareness knowledge ( $\beta = 0.100$ ,  $p < 0.05$ ) and perceptions ( $\beta = 0.293$ ,  $p < 0.05$ ) of farmers significantly predicted their intention to use SSPPs. The regression model was significant ( $R^2 = 0.552$ ,  $F(3, 308) = 126.264$ ,  $p < 0.05$ ), with attitudes, awareness and perceptions explaining 55.2% of the variation in the dependent variable, intention. Based on the results, we recommend that plantain farmers and traders should integrate small scale postharvest practices in their operations because it will help them maintain produce shelf life and minimize avoidable losses. Policy makers, food security proponents and relevant institutions should take the necessary action by formulating tailored intervention programs that would facilitate adoption of SSPPs at farm and market levels. These recommendations will positively impact food security efforts in the country.

**Keyword:** Food losses; Food security; Plantain; Postharvest losses (PHLs); Postharvest technologies; Small-scale postharvest practices (SSPPs)