Farmers’ perceptions, profitability, and factors influencing the adoption of improved maize varieties in the Guinea Savannas of Nigeria

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The Tobit Model (R²) coefficient was 0.657. This implies that an 85.7% variation in IMV adoption was due to the independent variables considered in the Tobit Model. The coefficient of educational status was positive and significant at 10%. This means that there is a direct relationship between IMV adoption and educational status, where the adoption rate increases as farmers’ educational status increases. Total farm size is another significant factor influencing adoption rate. This is because most farmers depend on hired labor for farm activities, especially for weeding and harvesting.

The coefficient of contact with extension agents is positive and significant at 1%. This corresponds to the a priori expectation that there is a positive significant relationship between extension contact and IMV adoption in the study area. The positive relationship suggests that IMV adoption increases as extension contact between extension agents and farmers becomes more frequent.

The coefficient of family size was negative and significant at 10%. This suggests that the greater the family size the lower the IMV adoption rate. It is likely that with larger families attach greater importance to nonfarm activities than smaller households. The coefficient of family size was also positive and significant at 5% and agrees with the a priori expectation. This suggests that the more experienced the farmer, the higher the rate of IMV adoption.

The farm size coefficient was negative and significant at -1%. This implies an inverse relationship: as farm size increases, IMV adoption decreases and vice-versa. The larger the farm size, the lower the potential of IMV adoption.

Access to credit also had a positive coefficient and was significant at -1%. This suggests that IMV adoption increases when farmers have adequate capital for procuring inputs such as fertilizer, seeds, chemicals, and payment for labor. The study found that only 11% of respondents had access to credit during the 2006 farming season, indicating that limited access to credit could affect their adoption potential. Also, the coefficient of the amount of fertilizer used by IMV adopters was positive and significant at 1%, agreeing with the a priori expectation. This implies that IMV adoption increases along with farmers’ increased access to fertilizer.

Conclusion

The study revealed that adoption of IMV is profitable. Extension contact was identified as the key factor influencing IMV adoption in the study area. Farming experience, education, quantity of fertilizer used by farmers, and access to credit were other determinants of adoption rate. Policy should focus on providing maize farmers with improved access to credit, fertilizer, and IMVs. In addition, policy that provides adequately trained and equipped extension workers to disseminate technology information can increase the adoption rate of IMVs.

References


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