

# **Determinants of adoption of conservation tillage practices in maize-cowpea cropping systems: The case of Makueni District, Kenya**

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## **Abstract**

The low soil moisture cannot support productive agriculture to meet the increasing population in the low rainfall tropical areas. Ripping and tied-ridging are some of the recent technologies introduced by the Food and Agricultural Organization of the United Nations, and is used to conserve moisture in the semi-arid areas. Although farmers are aware of the technical gains of these technologies, the adoption rates have remained below the expectations of researchers and policy makers. The objective of this study was to analyze household and technology characteristics that influence the adoption of ripping and tied-ridging techniques of conservation tillage. Semi-structured questionnaires were used to interview a random sample of 177 farmers. Using a logit model, different factors that influenced farmers' use of ripping and tied-ridging were identified. The significant variables include availability of off-farm employment, closeness to local markets, group membership, availability of family labour, contact with extension services and conservation tillage promoters, and farmers' farming experience. The paper recommends that future demonstrations of ripping and tied-ridging should target farmers who cannot easily access markets for farm inputs and outputs. Moreover, non-adopters should be encouraged to join or form new groups to establish contacts with extension services, and organizations promoting the tillage practices if adoption rates of these technologies are to be improved in the study area.