

# Dynamics of on-farm management of potato (*Solanum tuberosum*) cultivars in Central Kenya

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## Abstract

Studies to understand the dynamic nature of farmers' management of potato and assess the extent of genetic erosion and farmers' perceptions of genetic erosion in potato were conducted in Kiambu West district in 2006. A stratified random sampling procedure was used to draw a sample of 302 farmers for the study. Majority of the farmers interviewed obtained seeds from informal sources. Farmers identified 29 varieties which were once widely grown in the study area. Of these, only 9 are still grown while another 11 have been introduced. The most commonly grown varieties were Zangi (69.4%), Tigoni(41.4%), Thima Thuti (30.8%) and Karuse (20.9%). Twenty cultivars including Amin, Anett, Cardinal, Feldeslohn, Gituru, Kiraya, Kibururu, Kenya Baraka, Kenya Dhamana, Karora Iguru, Maritta, Mirka, Njae,Njine, Patrones, Romano, Roslin Bvumbwe, Roslin Gucha, Suzanna and Furaha were the most affected by genetic erosion. The most important causes for abandonment of varieties were low yields, rapid greening, susceptibility to late blight, strong dormancy, sensitivity to drought, and susceptibility to bacterial wilt, susceptibility to potato tuber moth, poor storability and poor cooking quality. The emergence of new and better varieties, lack of markets and lack of seed were the three most cited non varietal reasons for abandoning varieties. Farmers were not bothered by the loss of varieties. When comparing varieties currently cultivated to formerly available varieties, a genetic erosion of 31.0% was computed suggesting that genetic loss has occurred in the study area. Results of this study suggested that it is necessary to initiate collection, characterization and conservation studies of potato varieties across the country. There is also the need for awareness creation on the importance of potato genetic resources and their conservation.

**Key words:** Conservation, genetic erosion, farmers' perceptions, Kenya, potato, seed sources, *Solanum tuberosum*, variety abandonment.