

# Participatory Selection Of Sweet Potato (*Ipomoea Batatas* (L.) Lam.) Cultivars Using Mother And Baby Trial In Western Kenya

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## Abstract

Sweet potato (*Ipomoea batatas* (L.) Lam) is a drought tolerant food security crop. Western Kenya accounts for 60% of the national production. Intensive production is constrained by lack of improved high yielding cultivars tolerant to pests and diseases. Currently, average farmer root yields range between 5.6-13.0 t ha<sup>-1</sup>. The objective of this study is to evaluate with the farmers eleven sweet potato cultivars improved for high yielding and high nutrition value; 'Kemb10', 'SPK004', 'Mugande', 'Namaswakhe', 'K117', 'Polista', 'Bungoma', 'Odinga', '292-H-12', 'Zapallo' and 'Improved Nyathi Odiewo'. These were tested against four local popular farmer cultivars; 'Uimprove Nyathi Odiewo', 'Jayalo', 'Amina' and 'Kuny kibounjo'. The experiment was laid out in a randomized complete block design with 15 treatments replicated four times per each of four locations in mother and baby trials. Assessments were done on biomass and root tuber yields. Results showed that there were significant differences in yield performance between the cultivars with 'Mugande' yielding the highest across locations. Conversely, the farmers cultivars; 'Nyathi Odiewo' and 'Kuny kibounjo' were comparable to the improved cultivars; 'Mugande', 'K117', 'Improved Nyathi Odiewo', 'Namaswakhe', 'Kemb10', and 'Odinga'. All the cultivars had dry matter content above 30% except 'Zapallo' that had 21.6%. The improved sweet potato cultivars have the potential to increase farmers' food security since they yielded 14-28 t ha<sup>-1</sup>. Involvement of farmers has been decisive in the selection of preferred sweet potato cultivars for commercial and domestic use. These cultivars could be further developed through a multiplication and marketing program to incorporate the preferred qualities for the market.

## Key words

sweet potato, *Ipomoea batatas*, baby trial