

Progress on implementation of an accelerated sweetpotato breeding scheme in Ghana

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Abstract

The sweetpotato support platform for West Africa was established at the CSIR-Crops Research Institute in Kumasi, Ghana in early 2010 with the objective of supporting cultivar development in Ghana and elsewhere in West Africa through the development of adapted less sweet germplasm, and through a participatory approach. The accelerated sweetpotato breeding approach in Ghana uses multi-locational clonal evaluation of seedling families to identify promising families and genotypes, followed by 2 years of additional multi-locational evaluation in target environments. Superior early selections may be used as parents in population improvement in order to speed genetic gain for various attributes. In 2010, roughly 250 genotypes from 34 families, from Ghana, Uganda and Kenya were evaluated at 3 locations, and high yielding, virus resistant genotypes were selected, some at 2 or more locations. In 2011 selected genotypes and introduced clones from diverse sources (330 genotypes) were evaluated in replicated trials at 5 locations covering major production zones and agroecologies. At harvest, farmers were involved in assessment of performance and taste, and selections were evaluated for sugars, minerals and carotenoids using near infrared reflectance spectroscopy. Sixteen genotypes are in advanced trials in 2012.

Key words: Multi-locational testing, seedling trial, NIRS