

# Yield, nutrient content and release of improved amaranth varieties in northern Tanzania

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## Abstract

Amaranth (*Amaranthus* spp.) is one of the most commonly produced and consumed traditional vegetables on the Africa continent. It is a nutritious crop with high protein, minerals, and vitamins. Tanzania still lacks improved varieties of amaranth despite the importance of the crop for human health. The objective of the current study was to come up with improved lines for release as commercial varieties. Sixteen amaranth entries (13 test entries plus three check varieties) retained from breeding nurseries of the World Vegetable Center Eastern and Southern Africa (WorldVeg-ESA) were evaluated in replicated trials in three different locations – WorldVeg-ESA, Moshi and Mbuguni – in northern Tanzania in 2015 and 2016. Data collected included vegetative yield and agronomic traits. Farmers' participatory selection was also conducted in all locations. Significant differences among entries in all locations were found for yield, plant height, leaf sizes and branch numbers per plant. Three lines, AH-TL-Sel (*A. hypochondriacus*), UG-AM-9-ES13-2 (*A. dubius*), and Paris (A)-Sel (*A. cruentus*), were released as a vegetable or dual-type varieties in Tanzania in 2018/19 under commercial variety name 'Poli', 'Nguruma' and 'Akeri', respectively. This paper presents the performances of these varieties in yield and nutrient contents.

**Keywords:** Amaranth, Nutrient, Release, Improved Varieties.