

New Grain Amaranth Varieties for semi-arid areas

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Introduction

Amaranthus is a herbaceous, annual upright and fast growing plant in the *Amaranthaceae* family. It consists of about 60-70 different species spread all over the world in temperate, sub-tropical and tropical climates. Grain amaranth (*A. hypochondriacus* and *A. creuntus*) is an early maturing, drought tolerant crop suitable for a wide range of agro-climatic conditions. It has multiple uses as a vegetable, nutrient rich grains and livestock feed. Amaranth can grow in a wide range of environmental conditions between 0-2,400 m above sea level. It is a warm climate plant and thrives well between 22-35°C under plenty of sunshine. Grain amaranth is relatively drought tolerant and with grain yield of up to 500 kg. It can however be grown all year around under irrigation. The crop thrives well in deep well drained soils with high organic matter. Shallow, stony, crusty clay soils with waterlogging logging should be avoided.

Major areas of production in Kenya

- Western
- Coast

- Rift valley
- Lower Eastern

Production of amaranth has increased in eastern Kenya in the last five years after introduction by KALRO Katumani.

Characteristics of KALRO grain amaranth lines

1. Katumani amaranth (KAM) 114

- The plant is bushy, growing up to about 2 m high
- The stem is green with a light purplish base
- It has broad green leaves
- The plant bears several panicles on each branch
- The panicle is open, green and turns yellowish green and then light golden when mature
- Has very small seeds (1,000 seeds weigh about 0.6-1.2 grams)
- The grains are golden brown
- Yield potential in the ASALs is 500 kg grain and 400 kg leaves per acre.



Grain amaranth crop in the field (left) and harvested grain (right)

2. Katumani amaranth (KAM) 001

- The plant is erect growing to about 2 m high
- The stem is green with a light purplish base
- It has very broad green leaves
- The plant bears one panicle at the apex and few small panicles on branches
- The panicle is open, green and sometimes with a pink hue and turns to yellowish green and then light golden when mature
- Has very small seeds (1,000 seeds weigh about 0.6-1.2 grams)
- The seeds are creamish white
- Yield potential in the ASALs is 500 kg grain of grain and 300 kg leaves per acre.



Grain amaranth crop in the field (left) and harvested grain (right)

Katumani amaranth (KAM) 201

This variety has similar attributes as KAM 114 except that the grain colour is dark reddish-brown.



Grain amaranth crop in the field (left) and harvested grain (right)

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