

GROWING NEW SWEETPOTATO VARIETIES

Introduction

Sweetpotato is an important food crop in Uganda. It is widely adapted and performs better than most food crops under sub-optimal conditions. The storage root may be eaten boiled or processed into simple food products like chapati, mandazi or flour. The foliage is an important supplementary feed for livestock.

Orange fleshed sweetpotato contain β -carotene which is a pre-cursor of vitamin A. Most orange fleshed sweet potato have adequate levels of β -carotene to be considered good sources of vitamin A.

Land preparation

The land must be prepared very well and early in advance of planting. Stony soil should be avoided as they limit tuber expansion. In most areas ridges or mounds are prepared as they enable tubers to expand.

Planting

Planting is usually done at a time convenient for the farmer and when there is sufficient moisture in the soil. Tips cuttings 30cm long are used for planting and they are buried in the ground, up to 2/3 of their total length. Sweetpotatoes are usually planted in pure stands. The mounds, ridges or rows should be 70cm-100cm apart and the vines planted at 30-50cm apart along the ridges. The spacing is not very critical.

Field management

In most soils it is not necessary to apply fertilisers. Compound fertilisers containing phosphorus and potassium may be applied to increase yield where soil fertility is low. Nitrogen fertilisers are not recommended for tuber production because they give an increase in the formation of leaves as opposed to tubers. The plant gives an early ground cover so only an initial early weeding is required.

Harvesting

Sweetpotatoes are usually only harvested as required as they cannot be stored fresh for more than a few days. During harvesting the largest of the storage roots are selected, their location is detected by cracks in the ground. They are dug up with sharpened stick or fork, rather than a jembe. First tubers are ready in 3-5 months.

Diseases and pests

Sweetpotato weevil *Cyclas puncticollis* and *C. brunneus*

Adults feed on leaves and soft parts of vines while larvae bore into storage roots and stems making tunnels. Cultural control is advocated, use non-infested planting material. Plant as far as possible from last season's crop. After harvesting infested material should be burned. Weed carefully hilling up all plants. Cover any cracks on the surface. Harvest the crop as soon as it matures.

Sweetpotato virus disease

Caused by a complex of viruses. Symptoms include discoloration and distortion of leaves and stunting of plants. Spread by white flies, aphids and diseased planting material. Control is by planting virus resistant varieties, use of disease free planting material and good field sanitation.

Alternaria disease

Symptoms include black lesions appearing on veins and stems. Death of vines can also occur. Control is by use of resistant varieties and good sanitation practices.

NARO's new released sweetpotato varieties

52

Other names: NIS/91/52

Origin: Bred by NARO (OP selection)

Growth habit: Spreading

Vine pigmentation: Green

Mature leaf shape: Lobed

Mature leaf colour: Green

Immature leaf colour: Green with purple edges

Root skin colour: Cream

Root flesh colour: Pale yellow

Maturity period: Medium (4 months)

Fresh root yield: 7- 45 t/ha

Dry matter content: 31%

β -carotene content: Low

Consumer acceptability: Good

Resistance to weevils: Susceptible

Virus disease resistance: Moderately susceptible

Alternaria Disease resistance: Susceptible

Recommended production areas: Short grasslands agro-ecological zones

178

Other names: NIS/91/178

Origin: Bred by NARO (OP selection)

Growth habit: Spreading

Vine pigmentation: Green with purple tips

Mature leaf shape: Lobed

Mature leaf colour: Green

Immature leaf colour: Moderately purple

Root skin colour: Red

Root flesh colour: White

Maturity period: Medium (4 months)

Fresh root yield: 7-33 t/ha

Dry matter content: 28%

β -carotene content: Low
Consumer acceptability: Good
Resistance to weevils: Susceptible
Virus disease resistance: Resistant
Alternaria disease: Moderately susceptible
Recommended production areas:
Tall and short grasslands agro-ecological zones

324

Other names: NIS/91/324
Origin: Bred by NARO (OP selection)
Growth habit: Spreads
Vine pigmentation: Green
Mature leaf shape: Deeply lobed
Mature leaf colour: Green
Immature leaf colour: Green
Root skin colour: Cream
Root flesh colour: White
Maturity period: Medium (4 months)
Fresh storage root yield: 7-28t/ha
Dry matter content: 32%
 β -carotene content: Low
Consumer acceptability: Good
Resistance to weevils: Less susceptible
Virus disease resistance: Resistant
Alternaria disease resistance: Resistant
Recommended production areas: All production areas

218

Other names: NIS/91/218
Origin: Bred by NARO (OP selection)
Growth habit: Spreading
Vine pigmentation: Green with dark purple tips
Mature leaf shape: Lobed
Mature leaf colour: Green
Immature leaf colour: Mostly purple
Root skin colour: Brown orange
Root flesh colour: Cream
Maturity period: Late (5 months)
Fresh root yield: 5-29t/ha
Dry matter content: 38%
 β -carotene content: Low
Consumer acceptability: Good
Resistance to weevils: Less susceptible

Virus disease resistance: Resistant
Alternaria disease resistance: Resistant
Recommended production areas: Tall grasslands and highlands agroecologies

282

Other names: NIS/91/282
Origin: Bred by NARO (OP selection)
Growth habit: Spreading
Vine pigmentation: Green with purple tips
Mature leaf shape: Lobed
Mature leaf colour: Green
Immature leaf colour: Slightly purple
Root skin colour: Red
Root flesh colour: Pale yellow
Maturity period: Late (5 months)
Fresh storage root yield: 5-38t/ha
Dry matter content: 29%
 β -carotene content: Low
Consumer acceptability: Good
Resistance to weevils: Less susceptible
Virus disease resistance: Resistant
Alternaria disease resistance: Moderately susceptible
Recommended production areas: Tall grasslands

316

Other names: NIS/91/316
Origin: Bred by NARO (open pollinated selection)
Growth habit: Spreads
Vine pigmentation: Green with dark purple tips
Mature leaf shape: Lobed
Mature leaf colour: Green with purple veins on lower surface
Immature leaf colour: Green
Root skin colour: Cream
Root flesh colour: Orange
Maturity period: Medium (4 months)
Fresh storage root yield: 7-28t/ha
Dry matter content: 30%
 β -carotene content: High (2 mg/100g fwt)
Consumer acceptability: Good
Resistance to weevils: Less susceptible
Virus disease resistance: Resistant
Alternaria disease resistance: Resistant
Recommended production areas: All production areas