

Harvesting, threshing, sorting, drying and storage

Harvest when the crop is at physiological maturity (yellow ripe) stage or when completely dry. Pull up whole plants from the ground and thresh. After threshing, winnow and sort by hands to remove disease-stained and off type seeds. Dry completely and then store for later use in clean containers or bags under dry conditions.

Storage insect pest management

In storage, the beans may be attacked by bruchids also known as weevils. To reduce losses, practice the following: timely harvest, sorting out of damaged grains before storage, dusting with chemicals (Actellic, or Malathion), proper drying, sunning regimes of 6 hours once every week for 5 weeks, sieving regimes of once every week for 5 weeks before storage in bags, use of botanicals (ground tobacco leaf powder, mexican marigold, neem tree), solar heat disinfection (only good for beans for consumption, but not seed) and good storage hygiene. Some farmers also use ash, anthill soil and ripe banana juice smears. Red pepper fruits can also be mixed into the beans.



NABE 4 at maturity

Where to find seed

Breeder seed of NABE 4 can be obtained from Namulonge Agricultural and Animal Production Research Institute, 27 km from Kampala along Gayaza - Ziobwe Road. Certified seed can be obtained from private seed companies such as Victoria seeds (6th Street, Industrial area), Harvest Farm Seeds (Kibira Road) and FICA (at Kawempe),

For more information, please contact:

Uganda National Beans Research and
Development Programme
Namulonge Agricultural and Animal Production
Research Institute (NAARI)
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P.O.Box 7084, Kampala, Uganda
Email: naari@afsat.com
Telephone: 041573016

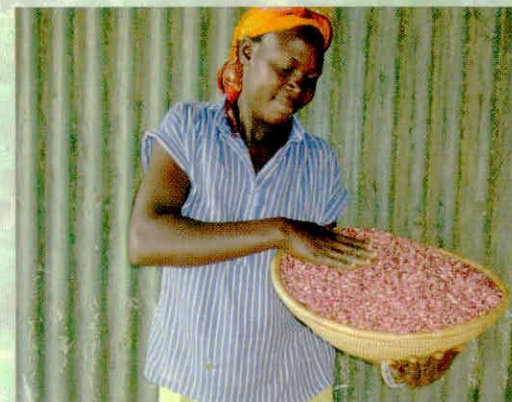


August, 2005

An information guide for farmers, extension
agents and seed producers

GROW NABE 4

An improved bush bean variety



Released in Uganda in 1999



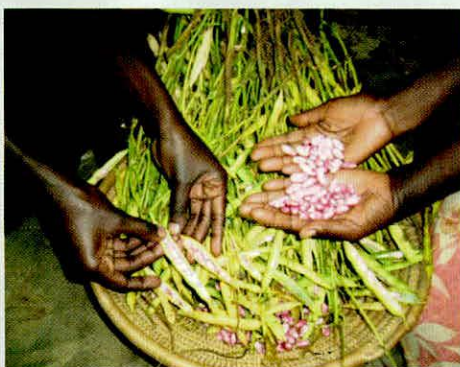
National Agricultural
Research Organisation

Introduction

NABE 4, is a red mottled bean variety released in 1999 by the Uganda National Beans Research and Development Programme based at Namulonge Agricultural and Animal production Research Institute (NAARI) in collaboration with the International Centre for Tropical Agriculture (CIAT) and the East and Central Africa Bean Research Network (ECABREN). Other popular closely related released red mottled varieties include K20 (Nambale), K 132 and NABE 1.

What is good about NABE 4?

- Has large seed
- Matures early (85–90 days depending on environment)
- High yield ranging between 1,500–2,500 kg/ha under good management
- Tolerates major field diseases such as angular leaf spot, anthracnose
- Has clean pods at maturity
- Sheds off leaves at maturity, hence reducing bulk at harvest
- Takes short time to cook, has a good taste and soft testa on cooking
- It's marketable because of the large seed size and red mottled colour



Fresh pods of NABE 4

Recommended zones for production of NABE 4

The variety grows well in all regions of the country. However, it may not be suitable in areas with bean root rot disease.

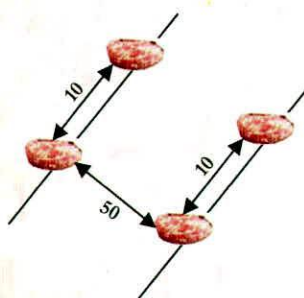
How to grow NABE 4

Seed bed preparation

Prepare a fine seedbed, to ensure uniform and proper growth right from germination. This also reduces on the number of weeding times. In case of couch grass infested fields, spray with Round up once, three weeks before ploughing.

Planting

Plant when there is enough moisture in the soil. Excessive moisture may lead to rotting of the seeds or diseased seedlings. Plant clean, treated or sorted seeds to reduce damage by insect pests and diseases.



Spacing

Space at 50cm between rows and 10cm between plants or 25cm between rows and 20cm between plants. Plant one seed per hole. Row planting eases field operations such as weeding and harvesting.

Seed rate

To grow 1 ha of NABE 4, one needs 80 - 90 kg of seed.

Fertiliser application

Select a site with fertile soil. In case of poor soils, fertiliser can be applied. Use organic fertilisers like farmyard manure (6-8 tons/ha), crop residues (8-10 tons/ha) and green manure (8-10 tons/ha) depending on availability. Apply the organic fertilisers when well decomposed. Inorganic fertilisers such as NPK (2 bags/ha), Urea (25 kg/ha), or DAP (2 bags/ha) can also be used depending on initial soil fertility.

Intercropping

NABE 4 performs best as a sole crop, but can be intercropped with other crops. In a cassava/bean intercrop, plant the cassava at 1m x 1m and beans at 50cm x 10cm. In a maize/bean intercrop, plant the maize at 75cm x 60cm, and the beans at 25cm x 40cm. Plant the beans at the same time with maize or cassava. In bananas plant the beans at 50cm x 10cm, when bananas are less than 1 year old. Planting can also be done in older bananas.

Weeding

Weed 2–3 times after planting the crop, depending on initial land preparation. Avoid weeding during flowering period as this may lead to flower drop, which results into reduced yield.

Disease management

NABE 4, is tolerant to field diseases, particularly angular leaf spot and anthracnose. It is however susceptible to the bean root rot disease. The following practices are important to reduce the effect of diseases: 1) planting clean or disease free seeds, 2) use of organic and inorganic fertilisers to improve soil fertility, 3) chemical application (Diathane M-45 and Benlate for only fungal diseases (suitable for large scale farmers), 4) control of weeds, 5) crop rotation 6) roguing and 7) spraying aphids which transmit viral diseases.

Field insect pest management

Most important field insect pests are bean stem maggot (bean fly), aphids and the foliage beetles in northern Uganda. To minimise losses due to bean fly: plant early at onset of rains, earth up at first weeding, improve soil fertility and seed dress with Endosulfan at a rate of 10ml per 10kg of seed the day before planting. For aphids, use Dimethoate, Ambush, or Sumithion as per the manufacturer's recommendations. For bean beetles use Carbaryl at a rate of 85g in 14 litres of water. Intercropping beans with cowpeas, maize and okra is also effective against the beetles.