

mixture is to aid even distribution of the seeds during broadcasting or drilling.

- v. **Planting method:** Plant seeds immediately after treatment either by drilling or broadcasting method. For drilling, on each bed, tracks should be spaced 20 cm apart and about 0.5 cm deep. Seed-ash mixture should be planted in equal measure along the tracks while broadcast seeding is done by random distribution, ensuring even distribution within the bed. The advantage of drilling is that field management is easier, particularly fertilizer application, weeding, pest control and harvesting without the risk of trampling on other plants.



*Measuring seeds for planting*

**Germination:** Well treated seeds germinate 7 to 9 days after planting while dry and untreated seeds will

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**NI-CAN-VEG Project for Food security**

## Cultivation of **Igbagba**

(*Solanum macrocarpon*) African eggplant



- ✓ Site selection Land
- ✓ preparation
- ✓ Planting operations
- ✓ Seed germination

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**Site selection and land preparation:** Select land that is rich in organic matter with sandy loam texture and neutral pH. As much as possible, avoid water-logged soils. Clear the land of vegetation, remove stumps, remove the debris, mark out the plots and prepare the beds. The beds, for convenience are usually 2 m × 3 m or 3 m × 3 m or 3 m × 4 m or any suitable dimension. Ensure that the beds are well tilled, pulverized and of fine tilth. Locate beds across slope to minimize risk for erosion



*Land Preparation*

- Planting operations:**
- i. **Seeds:** For good plot establishment, use high quality and viable seeds. Mature seeds are extracted from mature fresh fruits. The freshly extracted seeds are planted directly onto the field or may be first raised in the nursery for subsequent transplanting onto the main field. You can also use dry seeds for planting but you must process the seeds to break the temporary dormancy.
  - ii. **Preparation of seeds for planting and breaking of dormancy:** For freshly extracted seeds, wash very well with clean water to remove the gummy substance



*Fresh fruit*



*Matured fruits*



*Dry seeds*

and sow immediately. For dry seeds, to break the temporary dormancy, soak the seeds in water at ~40 °C for 12 hours (7.00 pm to 7.00 am). Rinse thoroughly (three times) with mild water. These procedures dissolve the hardened gummy substance and remove it from the seeds. The seeds are thereafter treated as described below for immediate planting.

- iii. **Seed treatment:** The seed is treated with insecticide/fungicide mixture formulated as Seed Plus 30 ws, Cibadrex, Seedrex, or Apron Plus to prevent attack by insects and fungi. The resulting chemical mix is toxic, therefore care should be taken and necessary precautions such as use of gloves, gown, plastic apron, nose guard and rain boots, appropriate handling and disposal of chemical containers after used, washing and drying of hands should be done during application.
- iv. **Seeding density:** For 2m × 3m plot, use two spoonfuls of treated seeds. First mix the treated seeds thoroughly with four milk tins full of ash or sand. The reason for the



### Uses of Igbagba leaf

- Fresh and tender leaves are cooked and consumed as a vegetable
- The leaves are eaten as a separate dish or sauces together with other ingredients including pepper, tomato, onions, locust beans and fish or meat.

### Importance of Igbagba to human health

- It contains vitamins and minerals including vitamins A, C, E, folic acid, niacin, potassium, thiamin, riboflavin etc that contribute to growth and the maintenance of good health.
- It contains appreciable amounts of antioxidants (flavonoids, phenolics, ascorbic acid and tocopherols) which have been shown to be scavengers of harmful radicals that are known to cause cellular damage, heart diseases, cancer, parkinson's disease and Alzheimer's disease.
- It is rich in dietary fiber which is an important nutrient found only in plant foods. As part of a healthy diet, fiber helps scour bad cholesterol out of arteries, thus lowering risk of heart disease. Fiber keeps digestive system running smoothly.

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## NI-CAN-VEG Project for Food security

# Cultivation of Igbagba

(*Solanum macrocarpon*) African eggplant



- ✓ Field management
- ✓ Biological control of Pests (Neem Extract)
- ✓ Importance



### Field Management:

- i. **Weeding:** Remove weeds manually when necessary (avoid the use of herbicides).
- ii. **Fertilizer application:** Apply organic fertilizer (farm yard manure) supplemented with mineral fertilizer e.g. NPK or Urea.
- iii. **Irrigation:** Water supply is critical for realizing optimum leaf yield of African eggplant. Irrigate when there is shortage of water, especially during the dry season vegetable production. Irrigation should be done early in the morning and late in the evening.
- iv. **Pest Bio-control:** Insect leaf defoliators and some pathogenic infections are often noticed on African eggplant. To control these pests, use neem plant extract (*Azadiractha indica*). The neem plant is called “dongoyaro” in southwest Nigeria. Neem leaf extract is very effective in controlling insect pests of vegetables.

### Preparation and application of neem extracts

Collect mature neem leaves and rinse with water to remove contaminants. Fill one *kongo* with fresh neem leaves (about 200 g). Add into a pot containing ten *kongos* of water (5L) and boil (100 °C) for five minutes (caution: over boiling may render it ineffective). Allow the extract to cool and then sieve to remove the leaves. Dilute the extract at 1 part into 10 parts of water (10%) and apply to the plants. Repeat application two weeks after.

- i. **Harvesting:** First harvesting takes place at 28 to 30 days after emergence while harvesting continues fortnightly for up to 24 months (2 years). It is known that beyond 1 year, gradual decline in leaf yield and quality is noticed. Application of fertilizer as and when due is recommended as soon as symptom of nutritional deficiency is noticed on the plants.
- ii. **Expected leaf yield:** 40 kg/m<sup>2</sup> (40,000 kg/ha) throughout the harvesting cycle.
- iii. **Expected income:** ₦3,680/m<sup>2</sup> (₦3,680,000/ha) throughout the harvesting