

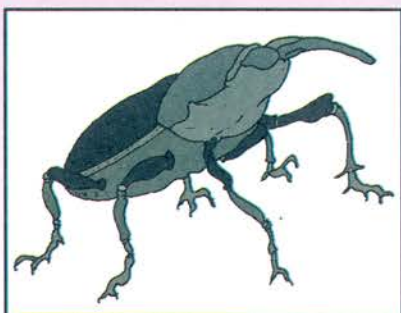
## Weeding/Cultivation

- Control weeds especially *Ipomoea triloba* ('kamo-kamotehan') during the first 2 months after planting.
- Off-bar 3-4 weeks after planting and hill-up 2-4 weeks later.



## Insect Pest and Disease Management

- Sweetpotato weevil is a major problem in tuber production during the dry season. It attacks both vine and fleshy roots.
- Plant early to avoid the peak of weevil population during summer.
- Choose sandy loam soil and avoid clayey soil which develops cracks through which weevils enter.
- Use clean or uninfested planting materials.
- Dip planting materials in insecticide before planting to reduce infestation.
- Practice crop rotation or the planting of two other crops one after the other following sweetpotato.
- Use sex pheromone traps to attract males and reduce weevil population.
- Use chemicals only as a last resort.



The sweetpotato vines are ready for gathering after 3-4 months from planting.

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# Plant Propagation Techniques for SWEETPOTATO

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**Plant propagation** is the art, science and business of multiplying plants to increase the number of outstanding fruit and crop varieties in order to perpetuate their desirable qualities such as high production, large fruits, and excellent eating quality that command better market price.

### Ways to Propagate Plants

- **Sexual** – use of seeds (for papaya, mangosteen and for root stock for asexual propagation)
- **Asexual** – use of plant parts other than seeds. It does not involve exchange of genetic material, so it almost always produces plants that are identical to the parent.

### Advantages of Asexual Propagation

- Plants are true-to-type
- More rapid means of producing planting materials for crops such as cassava, sweetpotato, and other root crops
- Plants start fruiting at a shorter time and mature into smaller trees, hence easy to manage (e.g., grafted fruit trees)

### Asexual Propagation Methods for Root Crops

- **Divisions** – specialized or modified stems and roots are cut into pieces or sections, each with a growing point or bud.
- **Micropropagation or tissue culture** – a tiny piece of bud, leaf or stem can produce incredible numbers of new plants in a small space in a short time using technical advances, specialized equipment, and sterile laboratory conditions.
- **Cuttings** – regeneration of structural parts in detached vegetative parts such as stem cuttings, leaf cuttings, root cuttings, softwood and hardwood cuttings.

### Stem Cuttings for Sweetpotato

**Sweetpotato** (*Ipomoea batatas* L. [Lam.]) is a dicotyledonous plant which belongs to the family *Convolvulaceae*. It has large, starchy, sweet tasting tuberous roots that are cooked and processed into human food such as starch, flour substitute, and other delicacies. Industrial uses include the production of alcohol and animal feed. Its young leaves and shoots are also eaten as greens.

Besides simple starches, sweetpotatoes are rich in complex carbohydrates, dietary fiber, beta carotene (Vitamin A equivalent nutrient), Vitamin C, and Vitamin B6.

Sweetpotatoes are perennial vines that are propagated vegetatively, either by shoots/vine cuttings or from tubers. They are not grown from seeds. Collect 25–30 cm long vine cuttings from insect- and disease-free plants. Use cuttings as soon as possible but in case they need to be stored, keep vines moist for 2–3 days in a cool and shaded place.

### ENVIRONMENTAL REQUIREMENTS

Sweetpotatoes need full sunlight, well-drained soil (preferably sandy loam), and plenty of room to thrive. These are not heavy feeders but require a good balance of nitrogen, potassium, and phosphorous.

### NURSERY ESTABLISHMENT

Establish a nursery to propagate selected sweetpotato plants more rapidly.

### Land Preparation

Plow and harrow the soil once when using a tractor. When using an animal-drawn implement, plow once and harrow twice. Make furrows at 75 cm distance.



### Planting

- Plant the vine cuttings vertically or slightly inclined to the soil.
- Plant in ridges during the rainy season and in furrows during dry season spaced at 30 cm between hills.
- Replant missing hills 1–2 weeks after planting.



### Fertilization

- Apply well-decomposed manure or compost at the rate of 10–15 bags per hectare, if necessary.
- Apply six bags of complete fertilizer (14-14-14) per hectare along rows and cover with thin layer of soil before cuttings are planted.



### Irrigation

- Water the field just after planting if soil is dry.
- During the dry season, water the plants regularly or during the first 2 months after planting and when needed.
- Provide drainage because sweetpotato is sensitive to waterlogging.

