

The World Vegetable Center

- **Introduction:** Several species of African nightshade (mnavu in Kiswahili) are grown for their edible leaves, including *Solanum americanum*, *Solanum scabrum* and *Solanum villosum*. The leaves are highly nutritious and there is a growing market for them in both rural towns and major cities. Bitter and small leaf types are preferred by adults in Kenya and Tanzania. Big leafy types are generally sweeter and preferred by children. Only the yellow to orange-colored fruits of *Solanum villosum* are edible while those from other species are poisonous.



- **Varieties:** AVRDC-The World Vegetable Center has selected and is promoting the big leaf type of nightshade which is rather sweet as compared to the narrow or medium leaf types, which are more bitter. Cultural tastes determine which type to grow.

- **Sowing time:** Nightshade is not as susceptible to cold temperatures as other African indigenous vegetables such as spider plant. It can be grown throughout the year if water is available.
- **Nursery preparation:** The nursery should be in a flat fertile area, near to a water source and free from shade if producing during the rainy season. However, shade during the dry season can be beneficial to prevent the bed from drying out and young plants wilting. The land should be well prepared and mixed with cattle, chicken or compost manure at a rate of 2-5 kg/m².



- **Sowing and thinning:** The small seeds should be mixed with sand at a ratio of 1:3 to make them easier to sow evenly. Space seed about 1 cm apart in rows that are 15-20 cm apart. After sowing, the



seeds should be covered with a thin layer of soil and watered. After emergence, thin densely populated seedlings to 2-4 cm between plants. Weeding should be done as soon as the weeds appear, especially when the plants are still young.

- **Transplanting and crop management:** About three weeks after sowing, harden seedlings by slightly reducing the frequency of watering. The seedlings for transplanting should be ready in four to six weeks when they have 4-7 true leaves. Land should be well prepared and mixed with compost, cattle or chicken manure at a rate of 2-5 kg/m² depending on availability.





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Use a plant spacing of 20 cm by 20 cm for continuous leaf picking for home garden crops. A wider spacing of 50 X 50 cm gives a higher leaf yield in long term commercial production plots and for seed production purposes.

Weeding is particularly important during the hot dry season when it should be done at least once every three weeks.

- **Harvesting and sale:** Yields are increased by continuous picking of tender lateral stems and leaves which stimulates the production of new shoots. Harvesting can continue for up to 5 months during the wet season and for 4 months during the dry season. The prices for quality leaf are highest in the dry season and vary from 50 to 200 Tsh for a bundle of 50-100 g in Tanzania and up to 15 Ksh for a bundle of 450-650g in Kenya.
- **Cooking:** Several recipes involving onion, tomato, fresh milk, groundnut flour and cooking oil have been developed by the World Vegetable Center and are available as leaflets. The cooking time does not exceed 15 minutes. Nightshade leaves are rich in protein, fiber, calcium, phosphorus, iron, and carotenoids.



- **Seed production:** Seed production usually takes about 4-6 months after transplanting or thinning. Plant out seedlings for seed production more widely (50 X 50 cm) than those for leaf production (20-30 X 20-30 cm). Ripe fruits are harvested and seed extracted from the pulp either mechanically using a seed extractor or manually. Extracted seed is fermented for 24 hours in water, washed then sun dried, packed and stored in a cool place until use.



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How to Grow AFRICAN NIGHTSHADE

Long-term production of
nutritious and tasty leaves

