



AVRDC

The World Vegetable Center

Observation Plot for Indigenous Vegetables

What is an indigenous vegetable?

Indigenous vegetables (IVs) are domesticated or semi-wild vegetable crops grown in particular regions as an integral part of a local food system. The plants usually evolve naturally, or are introduced and then adapt over time to their new homes. Many IVs are underutilized, especially in regions where they are not native.

■ **Okra (*Abelmoschus esculentus*)** is an erect, warm-weather annual well-adapted to the tropics. Pods are smooth, or ridged and beaked; surfaces can be smooth or with light hairs. Pod colors vary from pale green to dark red. The young pods are rich in beta-carotene, folic acid and calcium. Okra can be eaten raw, boiled, stir-fried, or in soups.



■ **Sweet potato vine (*Ipomoea batatas*)** is a perennial with long trailing vines and smooth, flat leaves. Several kinds of sweet potato grow in our IV plot, with colors ranging from green to yellow to purple. The green leaves are extremely nutritious—consuming 300 grams of fresh leaves can fulfill one's daily needs for iron as well as vitamins A, C, and E. The yellow and purple leaves are especially high in antioxidants, with levels 5 to 10 times higher than those of the most commonly consumed vegetables. The shoot tips and young leaves are often boiled or stir-fried.



■ **Drumstick tree (*Moringa oleifera*)** is a fast-growing, drought-tolerant perennial tree, native to northwest India. Its mature pods look like drumsticks. It has been nicknamed the “Miracle Tree” by development agencies because its nutritious leaves can alleviate malnutrition while its seeds can be used to purify water. The leaves, flowers, pods, and roots of *Moringa* can be eaten. The leaves are eaten fresh in salads, cooked with curries, pickled, or used as a seasoning. The leaves are extremely rich in protein, beta-carotene, iron, and antioxidants.



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Why IV research?

Indigenous vegetables increase crop diversification and productivity, stabilize agro-ecosystems, contribute to improved nutrition and health, provide new market opportunities, and generate farm income. With the help of national partners, AVRDC collects IV species from all over the world. We catalog each plant's attributes, evaluate its nutritional content, select promising species for specific agro-ecological and horticultural conditions, and develop cultivation methods for optimum production. Then we share what we've learned with farmers, extension agents and other research institutes in Taiwan and beyond.

The purpose of this plot

In the IV observation plot, plants are evaluated for their potential use on farms. Researchers multiply the seeds of promising types to share freely with other interested parties. The IV plot also serves as a field depository for non-seeding species. AVRDC invites you to take a walk through the plot, observe IVs up close, and enjoy the pleasant surroundings.



Operations of the IV observation plot

- This 0.63 ha plot was established in 2001. It is divided into different areas for aquatic, shade and climbing plants, annual and biennial herbs, and trees.
- There are about 200 accessions growing at one time. The plot is renewed two or three times a year. Materials come from the collections made by AVRDC's Genetic Resource and Seed Unit (GRSU) and International Cooperation Office (ICO).
- The promising materials are selected based on how well they adapt to hot-wet conditions, their resistance to pests and diseases, special nutrient composition, pleasing flavor and appearance, and acceptance by AVRDC taste panels.
- The promising IVs are further evaluated for adaptability and productivity at different sites in the AVRDC experimental farm. Seeds of promising types are multiplied for regional yield trials and distribution.

Some promising IVs

■ **Ivy gourd (*Coccinia grandis*)** is a climbing perennial plant with tuberous roots. It grows surprisingly well under high temperatures. The green immature fruit has a bitter taste that is popular in India. Red ripe fruits are sweet and used for cooking in many Asian nations. The tender shoots, rich in protein and beta-carotene, are fried, blanched or boiled and served with rice, noodles or soup. Ivy gourd can be a valuable vegetable in the tropics especially where vitamin A deficiency is of concern.



■ **Tropical violet (*Asystasia gangetica*)** is an attractive, fast-growing, creeping perennial with violet flowers. It can be harvested in 10 weeks after transplanting and has few pest or disease problems. The tender young shoots are mild in flavor, and rich in beta-carotene, minerals and vitamin C. It is often served stir-fried or boiled.



■ **Jute mallow (*Corchorus olitorius*)** is an annual upright herb. It can be harvested in 4 weeks after transplanting and then weekly for 24 weeks. Jute mallow is a popular leafy vegetable in tropical Africa, Asia, and some parts of Latin America. Its tender, sticky leaves and shoots are rich in iron, beta-carotene, and antioxidants. The leaves are often cooked until they form a paste, which is dried to be rehydrated for later use.



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