

VEGETABLE SOYBEAN

Soya, Edamame

Glycine max

Fabaceae

ECHO® PLANT INFORMATION SHEET

Description

Vegetable Soybean cultivation probably originated in northeastern China, a region where wild soybeans exist. These high protein beans are best known as pulses and oilseeds.

Uses

Cooked Vegetable Soybean seeds are eaten like lima beans or peas. They now are marketed frequently as frozen beans, allowing for more continuous supply. Vegetable Soybean is used frequently as a rotated cash crop between second and first crops of paddy rice. Vegetable Soybean may have high crop potential in developing countries outside Southeast Asia because of its income value to small farmers, its nutritional values as food and fodder, its ability to fit into rotational cropping systems, and its soil-improvement properties as a nitrogen fixer.

Common Names

- Korean
 - Poot Kang

Cultivation

- Elevation: 0-2000 m (6500 ft)
- Rainfall: needs at least 500 mm (20 in) during growth
- Temperature: 15° - 30° C (60° - 85° F)
- Soil: grows well on most soils, except very coarse sands
- Light: the response to photoperiod interacts strongly with temperature, and given the relatively small variation in daylength in the tropics, temperature is the major factor influencing the rate of phenological development. The photoperiod sensitivity means that types brought directly into tropical Africa from North America will often flower and set seed before they have fully developed, restricting their yields.

Plant seeds in moist soil, 2.5 cm (1 in) deep. Though Vegetable Soybeans can withstand periods of drought, there must be good soil moisture during germination and pod growth though. Before seeds are planted, they should be inoculated with a rhizobial bacteria (*Bradyrhizobium japonicum*) to enhance nitrogen fixation. These bacteria will stay active in the soil for several years so other legume crops may be planted without inoculation. {For more information about inoculants, refer to EDN 101.} Allow a spacing of at least 2.5 cm between seeds as the production of foliage depends upon available light.

Harvesting and Seed Production

The ideal harvest date for selected Japanese varieties was found to be 36-39 days after flowering. The pods should be green in color and expanded nearly to their full size. Pick Vegetable Soybeans only as needed, in the early morning for immediate consumption. To save seeds for future planting, do not harvest until half the plant's leaves have yellowed, and stems are dry. Store for up to a year in a cool, dry place.

Pests and Diseases

Numerous pests such as leaf-eating beetles, caterpillars, and leaf-hoppers feed on Vegetable Soybean plants. To avoid problems with the soybean cyst nematode, don't grow Vegetable Soybeans on land used formerly for grain soybeans or adzuki beans. The cultivar "Kahala" has a resistance to root knot nematodes.

Cooking and Nutrition

The immature shelled seeds of Vegetable Soybeans are prepared by steaming or by boiling them 2-3 min. in salted water. Normally the pod is too fibrous to consume. Vegetable Soybean, like grain soybean, is a highly nutritious legume food source rich in protein, calcium, vitamin A and some vitamin C. Vegetable Soybean seeds are also good sources of thiamin, riboflavin and iron. They are best eaten in moderation, especially when raw as there are some anti-nutrients called trypsin inhibitors that cause a strong flavor, gas production and indigestibility.