

SWORD BEAN

Canavalia gladiata

Fabaceae

ECHO[®] PLANT INFORMATION SHEET

Description

Canavalia gladiata is a perennial, fast-growing, heavily producing, climbing legume. It is widely cultivated in the humid tropics of Southeast Asia, but remains a minor vegetable elsewhere. Plants can reach 10 m in length with a deep, penetrating root system. Leaves are trifoliate, similar to other legumes, with white, butterfly-like flowers also similar to other legumes. Mature pods reach 40 cm in length.

Uses

Young green pods and seeds are eaten sparingly as a cooked vegetable, though *C. gladiata* is most useful as a green manure cover crop. Since it is a vining plant, *C. gladiata* is usually grown along buildings or other structures. Immature vines and seeds, rich in protein and starch, can be fed to livestock in limited amounts; the level of toxicity increases with maturity of the plant.

Common Names

- French
 - pois sabre rouge
- Spanish
 - caraota grande
 - frijol de machete
 - poroto sable

Cultivation

- **Elevation** – up to 1500 m
- **Rainfall** – 600-2600 mm
- **Soil Types** – low quality, pH 4.3-7.5, tolerates some salinity and waterlogging
- **Temperature Range** – 12-36° C
- **Day Length Sensitivity** – requires day lengths less than 12 hours to flower
- **Light** – prefers full sun

Preferred environmental conditions are found in the humid lowlands, but these beans may be grown with success in elevations to 1500 m.

C. gladiata seeds should be planted 5-7.5 cm deep, 45-60-cm in-row spacing, and 75-100 cm between-row to allow for spreading habit. Best growth occurs with trellis support.

Harvesting and Seed Production

C. gladiata is fast growing. Young pods are available for harvest 3-4 months after planting, before pod swelling occurs. Mature seeds take 5-10 months to mature and the pods will break open, scattering the seeds when fully mature. The dried seeds store well as they are not attractive to insects.

Pests and Diseases

C. gladiata is resistant to diseases and pests. However, it is occasionally subject to root rot disease, fall armyworm, and stem-boring beetle grubs. It is recommended to destroy vines at the end of the harvest season and rotate with other crops to assist in pest and disease control.

Cooking and Nutrition

The immature pods and seeds may be cooked and eaten after draining off the cooking water.

References

Ecocrop. 1993-2007. *Canavalia gladiata*. Food and Agriculture Organization, Rome, Italy. ecocrop.fao.org/ecocrop/srv/en/dataSheet?id=2227. Accessed 16 July 2019.

Bosch, C.H., 2004. *Canavalia gladiata* (Jacq.) DC. [Internet] Record from PROTA4U. Grubben, G.J.H. & Denton, O.A. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. <http://www.prota4u.org/search.asp>. Accessed 16 July 2019.