

# JACK BEAN

*Canavalia ensiformis*

Fabaceae

## ECHO® PLANT INFORMATION SHEET



*Canavalia ensiformis* is native to the West Indies and Central America. It closely resembles Sword Bean, *C. gladiata*, and the predominantly African wild species, *C. virosa*. *C. ensiformis* is widely distributed in the tropics and subtropics although it is regarded as a minor vegetable rather than a major crop species.



*C. ensiformis* is succeeding as a green manure cover crop plant because its deep root system can find water during drought, its nitrogen fixation capabilities improve soil nutrients, and it can be intercropped with bananas, cacao, cassava, citrus, coconut, coffee, maize, pineapple, sweet potatoes, and tobacco. It can serve as supplementary food for ruminants (cud-chewing animals), though it should be introduced gradually as a small percentage of the total diet because of toxins. Some Asian cultures eat the young green pods and seeds but only after thorough cooking.



- English
  - Jack Bean
  - Horse Bean
  - Habichuela Espada
  - Horse Bean
  - Gotani Bean
  - wonder bean
- French
  - le pois-sabre
- Spanish
  - Haba De Caballo Jack Bean
  - Pallar De Los Gentiles
  - Haba De Burro
  - frijol de espada
  - haba blanca
  - judía sable
  - poroto gigante



- **Elevation** - up to 1800 m
- **Rainfall** - 600-2000 mm
- **Soil Types** - tolerates a wide range of soil fertility, pH (pH 5-6 preferred), and salinity
- **Temperature Range** - moderately high over long growing season
- **Day Length Sensitivity** - short days encourage bush-form growth, long days produce vine-form growth (up to 2 m tall); flowers as days shorten

If grown as a green manure, the seeds are broadcast. If grown as a food crop, seeds should be planted 2-3 cm deep, 30-45 cm apart, in rows 60-90 cm apart.



*C. ensiformis* thrives in warm, humid environments with a long growing season. Immature pods may be harvested 90-120 days after planting. Mature seeds may be harvested 180-300 days after planting by cutting the whole plant when the pods are brown and dry. The thick seed coat resists burrowing insects during storage.



*C. ensiformis* is relatively free of pests and diseases. Root rot, stem-borers and leaf-eating beetles pose problems in different stages of growth.



Leaves, tender shoots, pods, and seeds may all be eaten but they should be very young, and must always be thoroughly cooked (with cooking liquid discarded). Mature seeds, sometimes eaten as "famine food," are not flavorful, have a mealy texture, and require hours of soaking (submerged in water or kept moist until sprouted) and boiling in water to soften and purge of harmful toxins. They are however a nutritious source of protein and carbohydrates. The tough seed coat, that comprises 13% of seed weight, should be removed after soaking or cooking. *C.*

*ensiformis* seeds can be roasted and used as a coffee substitute. In Indonesia, steamed flowers and leaves are used as flavorings.

## References

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