

RICE BEAN

Climbing Mountain Bean, Mambi Bean, Oriental Bean, red bean

Vigna umbellata

Fabaceae

ECHO® PLANT INFORMATION SHEET

Description

Vigna umbellata is a nitrogen-fixing, perennial legume, often grown as an annual. Depending on variety, *V. umbellata* presents as vining, bush, or semi-erect forms, reaching heights of 30-200 cm. Leaves are trifoliate and bright, yellow flowers are produced in groups of 5-20 per raceme, giving way to 7.5-12.5 cm pods. *V. umbellata* seeds vary in color from green-yellow to red to black.

Uses

A pulse crop, *V. umbellata* is an important food source for many parts of India and Southeast Asia. Leaves, flowers, tender shoots, immature pods, and seeds are all edible and utilized in various preparations, similar to other pulses. Tender shoots and pods are commonly boiled or eaten raw. Dried seeds are boiled and eaten in soups, with rice, or as a rice substitute, or ground into flour. A multipurpose crop, *V. umbellata* is also a viable fodder species (provided as fresh or dried forage) and green manure cover crop.

Common Names

- Spanish
 - Arveja de vaca
 - frijol arubano
 - judía de a vara
 - poroto arroz
- Malay
 - kacang uci
 - kacang sepali

Cultivation

- **Elevation** – up to 2000 m
- **Rainfall** – 300–2000 mm
- **Soil Types** – well-drained, pH 5.5-8
- **Temperature Range** – 10-40°C
- **Day Length Sensitivity** – short-day sensitive
- **Light** – full sun

V. umbellata recommended seeding rate is 70-90 kg/ha if broadcast, and 20-50 kg/ha if planted as a row crop. Row spacing should be 30-90 cm between row and 5-25 cm within row. Often grown as an intercrop, timing of planting is dependent upon primary crop management.

Harvesting and Seed Production

For immature pod consumption, pods should be harvested before seed expansion. Due to mature pod sensitivity, harvesting is usually done by hand to limit seed loss from shattering. For use as a fodder crop, plants should be harvested when pods are still immature to preserve leaf biomass.

Pests and Diseases

A relatively hardy crop, few pests and diseases affect *V. umbellata*. Tests at the Asian Vegetable Research and Development Center (AVRDC) demonstrated that among pulses, rice bean is least attacked by the bean fly. It is generally resistant to common leguminous diseases, including powdery mildew, damping off, and bacterial leafspot. However, rice bean can be susceptible to attack by root-knot nematodes.

Cooking and Nutrition

Similar to other pulses, *V. umbellata* is high in protein, and seeds contain antinutritive factors that require appropriate boiling to reduce.

References

Ecocrop. 1993-2007. *Vigna umbellata*. Food and Agriculture Organization, Rome, Italy. ecocrop.fao.org/ecocrop/srv/en/dataSheet?id=2152. Accessed 18 June 2019.

Heuzé V., Tran G., Boval M., 2016. Rice bean (*Vigna umbellata*). Feedipedia, a programme by INRA, CIRAD, AFZ and FAO. <https://www.feedipedia.org/node/234> Last updated on April 20, 2016

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