

TEPARY BEAN

Phaseolus acutifolius

Fabaceae

ECHO® PLANT INFORMATION SHEET

Description

Phaseolus acutifolius is a vining or bushy herbaceous annual reaching lengths of 4 m. Leaves are trifoliate, alternate, and usually pubescent. Flowers are borne in groups of 2-5, butterfly-shaped, and can range in color from white to lilac. Pods are 5-9 cm in length and contain 2-9 seeds each. Seeds are round to oblong and range in color, including: white, brown, black, purple, yellow, or speckled. With deep roots, it is well adapted to dry climates.

Uses

P. acutifolius are grown for its mature seeds, though young pods can be eaten as well. Biomass can be utilized as fresh forage for livestock, or preserved as silage or hay. A nitrogen-fixing legume, it can be grown as a green manure cover crop.

Common Names

Cultivation

- **Elevation** – up to 1900 m
- **Rainfall** – 300-1700 mm
- **Soil Types** – 5-8 pH; well-drained soils
- **Temperature Range** – 8-38°C
- **Day Length Sensitivity** – not a significant factor
- **Light** – prefers full sun

P. acutifolius imbibes and germinates quickly. Seeds should be broadcast at rates between 28-34 kg/ha (up to 70 kg/ha if seeded for fodder or as a green manure cover crop), or planted 2.5 cm at spacings of 10-45 cm within-row and 60-90 cm between-row. *P. acutifolius* is sometimes intercropped with cereals or vegetables. It may also be grown with *Phaseolus vulgaris* to bolster yield stability of *P. vulgaris*. Irrigation is not typically needed.

Harvesting and Seed Production

P. acutifolius pods mature unevenly, requiring hand harvest as pods change color (2.5-3 months after planting), before shattering. Young pods and fresh seeds can be harvested earlier. Fodder can be harvested through regular pruning.

Pests and Diseases

Pest pressure for *P. acutifolius* is relatively low in semi-arid climates. Where humidity is higher, common diseases include: bacterial blight, bean rust, Fusarium rot, powdery mildew, anthracnose, angular leaf spot, and charcoal rot. Bean common mosaic virus (BCMV) is common. Mexican bean beetle and potato leafhopper are common insect pests.

Cooking and Nutrition

Young seeds and pods can be cooked in stir-frys and soups. Mature seeds should be soaked and cooked for utilization in soups and stews, or dry seeds can be made into flour for pastries and porridges. As with most beans, adequate cooking is necessary to eliminate antinutrients.

References

Mogotsi, K.K., 2006. **Phaseolus acutifolius** A.Gray. Record from PROTA4U. Brink, M. & Belay, G. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands. <http://www.prota4u.org/search.asp>. Accessed 8 November 2019.

Wolf, M. 2018. Plant Guide for tepary bean (*Phaseolus acutifolius*). USDA-Natural Resources Conservation Service, Tucson Plant Materials Center. Tucson, AZ 85705.