

SESBANIA

Sesbania rostrata

Fabaceae

ECHO® PLANT INFORMATION SHEET

Description

Sesbania rostrata is an annual—or short-lived perennial—legume used as a green manure cover crop and fodder species for livestock. Growing to heights of 3 m, *S. rostrata* is one of the few legumes that produces nodulated stem tissues for further colonization by nitrogen-fixing bacteria. Leaves of *S. rostrata* are paripinnately compound, with 12-24 leaflets borne on each leaf. Yellow, butterfly-shaped flowers give way to 15-22 cm pods containing up to 50 green-brown seeds each.

Uses

Most commonly used as a green manure cover crop or intercrop for rice production due to its ability to tolerate waterlogged soils. Fixing up to 200 kg N/ha, *S. rostrata* grows rapidly, producing copious biomass (8-11 t/ha) for incorporation into soils or for use as animal fodder. Some cultures dry the leaves and further process into a leaf meal for human consumption.

Cultivation

- **Elevation** - up to 1500 m
- **Rainfall** - 1500-5000 mm
- **Soil Types** - tolerant of waterlogged soils
- **Temperature Range** - 15-35°C
- **Day Length Sensitivity** - requires day lengths less than 12 hours to flower
- **Light** - prefers full sun

S. rostrata seed coats are thick and require scarification to soften them for more rapid germination. One of the ways that this can be done is by soaking the seeds in hot water. Ratooning is another method of propagation utilized often in rice paddies, or via cuttings taken from auxiliary plantings around the farm. Innoculation can occur naturally, but if planted in virgin soil, the first crop of *S. rostrata* may have limited nitrogen-fixing potential. Subsequent plantings will be more productive.

Harvesting and Seed Production

Once flowering initiates, *S. rostrata* should be harvested for fodder, leaf meal, or terminated in-field for soil fertility. Since it is a softly woody plant, decomposition occurs quickly, resulting in rapid nutrient availability for successive crops.

Pests and Diseases

Pythium spp. and *Rhizoctonia* spp. *Cercospora* spp. and viral leaf mosaic are all common pathogens.

Cooking and Nutrition

Not commonly utilized in human diets, *S. rostrata* has been used in some cultures as a leaf meal, produced from dried, ground leaves. Seeds are not edible.

References

Ecocrop. 1993-2007. *Sesbania rostrata*. Food and Agriculture Organization, Rome, Italy. ecocrop.fao.org/ecocrop/srv/en/dataSheet?id=43996. Accessed 10 July 2019.

Fern. K. Tropical Plants Database. <http://www.tropical.theferns.info/viewtropical.php?id=Sesbania+rostrata>. Accessed 10 July 2019

Orwa, C., A. Mutua, R. Kindt, R. Jamnadass, and A. Simons. 2009. Agroforestry Database: a tree reference and selection guide version 4.0 <http://www.worldagroforestry.org/af/treedb/>. Accessed 10 July 2019