

SPIDER FLOWER

African Spiderflower, Spider Plant, Spiderwisp, Cat's Whiskers, Cleome, Gynandro

Cleome gynandra

Cleomaceae

ECHO® PLANT INFORMATION SHEET

Description

Spider flower (*Cleome gynandra*) is an erect annual, growing up to 150 cm in height and anchored with a long tap root. Its many branches produce compound leaves (with three to seven leaflets per leaf) and long clusters of white, pink, or purple flowers. The seeds are contained in slender, green pods that ripen to a yellow color and release the seeds when dry. Spider flower's use of the highly efficient four-carbon (C4) mechanism for photosynthesis makes it resilient to diverse growing conditions. It is indigenous to sub-Saharan Africa and Southeast Asia and is found in many tropical and subtropical regions.

Uses

Though spider flower occurs naturally or as a "volunteer crop" in many parts of the tropics, in countries such as Tanzania it is cultivated in household gardens as a valuable potherb. As a leafy vegetable, it is an important source of nutritious food. The seeds are a source of edible oil, and the cake remaining after oil extraction—which can be done with hand presses—can be fed to livestock. Livestock graze the leaves as well.

Spider flower plants have been used in traditional medicine and contain many health-promoting compounds. Extract from the spider flower plant, for example, has proven anti-fungal properties consistent with the practice in Uganda of using crushed shoots and leaves as a topical treatment against *Tinea capitis*, a fungal infection of the scalp. Spider flower leaves and stems have glands that give the plant repellent properties. Ticks (e.g., *Rhipicephalus appendiculatus*), diamondback moth (*Plutella xylostella* L.) larvae, and thrips (*Thrips tabaci*) are repelled by spider flower plants.

Common Names

- French
 - mouzamde a fleurs blanches
- Spanish
 - volantin
 - jasmin del rio
- Swahili
 - mgagni

Cultivation

- Elevation – sea level -2400 m
- Rainfall – somewhat drought tolerant but water stress reduces yield; sensitive to flooding
- Soil Type(s) – sandy to clayey loam and pH 5.5- 7.0
- Temperature Range – heat tolerant; prefers a range of 18 to 25°C but will still grow well at temperatures above 27°C; will not grow well at temperatures below 15°C
- Day Length Sensitivity – neutral

Spider flower grows under many conditions but prefers full sun and well-drained soils. Where the plant is common, seed is easy to collect. Harvested seeds may have erratic germination due to dormancy that lasts about 5 months after collection. In many rural communities, plants are cultivated—in pure stands or with other crops—by managing natural populations or seedlings that emerge from broadcasting the seeds. To cultivate spider flower more intensively, incorporate organic matter into flat or raised beds 1 m wide and sow seeds densely (to a shallow depth of about 1 cm) in rows 30 cm apart. Plant at the beginning of the rainy season to minimize water stress. Dense sowing accounts for seed dormancy, helping to ensure an adequate population of seedlings. Seedlings emerge about 1 week after seeding.

Three weeks later, thin seedlings (which can be eaten) to an in-row spacing of 10 to 15 cm. Where it occurs naturally, spider flower is often found flourishing near compost piles. It will respond well to nitrogen-containing inputs such as compost or farmyard manure. Weeding is important, as spider flower does not form a dense leaf canopy.

Harvesting and Seed Production

Begin harvesting 4 to 6 weeks after seedlings emerge from the soil or when the plants are 15 cm tall. Harvest by picking tender leaves or branches or cutting plants close to ground level. Frequent picking of the leaves, at 1- to 2-week intervals, extends the harvest time, as does removal of the flowers. Reserve some plants for seed production. Harvest and press the seeds for oil or plant them for the next cropping season. To harvest for seed production, pick the pods when they are yellow, before they release seeds.

Pests and Diseases

The plant naturally repels insects and extracts have insecticidal quality. However, there are common pests such as leafhoppers (*Empoasca*

spp.), hurricane bugs (*Bagrada hilaris*), root knot nematodes (*Meloidogyne* spp.), and fungal diseases like leaf spot (*Cercospora uramensis*), among others that affect the plant. Insects can be managed by hand-picking, soap spray, and intercropping with strong-scented plants like garlic (*Allium sativum*).

Cooking and Nutrition

People cook and eat tender plants as vegetables. Leaves, young stems, and flowers are edible and [contain large amounts](#) of vitamins A and C (which diminish with processing), iron, and calcium. Because of its bitter taste, eat spider flowers along with other foods. Boil or ferment the leaves before eating. Blanch, dry, and store them (for up to 6 months), then reconstitute them later with cooking. Note that spider flowers [contain](#) hydrocyanic acid; removed with cooking (for 15 minutes), drying, or fermenting. Oil extracted from the seeds contains healthy, polyunsaturated fatty acids.

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