

Andrographis paniculata (Burm. f.) Wall. ex Nees

Syn. *Justicia paniculata* Burm. f.
Fam. Acanthaceae

Ayurvedic name	Kalmegh, Bhunimba
Unani name	Kalmegh, Chirayita Desi
Hindi name	Kalmegh
English name	Creat
Trade name	Kalmegh
Parts used	Dried Leaves and Tender Shoots



Andrographis paniculata

Morphological Characteristics

It is an erect, annual herb and 30-90 cm tall with upper part of stem quadrangular while the lower part nearly rounded stem. Leaves are opposite sessile or subsessile, linear-lanceolate or lanceolate, 3-8 cm long, acute, glabrous or minutely puberulous beneath and base cuneate, margin slightly undulate.

Floral Characteristics

Flowers are pedicelled, biliped, white-purple or spotted purple and solitary. Pedicel is 2.5–10 mm in size, slender and glandular pubescent. Bracts are acicular and 2.5 mm long. Calyx lobes are subacute, 2.5-3.7 mm long and glandular. Corolla is 7.5-12.5 mm in size, tube about half as long as the corolla. Filaments are hairy and anthers are purple beared at base. Fruit is a capsule, oblong, 18-20X4.5–5.0 mm, young ones sparsely glandular and hairy; when mature it is glabrous. Seeds are subquadrate, yellow to brownish in colour and rugose. Flowering and fruiting occurs in October – December (North India).

Distribution

The species is a native of tropical South-East Asia and occurs throughout hotter parts of India.

Climate and Soil

The plant comes up well in tropical and subtropical regions all over India. It is a hardy species,



therefore, can be grown in medium fertile sandy loam to clay-loam soils, possibly with irrigation. It can withstand partial shade of trees, say few hours, but it is cultivated in open fields.

Propagation Material

It can be easily raised through seed and vegetative methods. But in commercial cultivation, propagation through seed is easy and economical.

Agro-technique¹

This crop is grown during cooler climate and it remains for 120 days in field; usually, ratoon crop is also taken all over north India. Cooler climate helps plants in synthesizing more bitter ingredients.

Nursery Technique

- **Raising of Nursery:** Seeds are soaked in water for 24 hours and sown in the nursery beds in early September. About 650-750 gm seeds are required for raising nursery for one hectare of land. Nursery is prepared with soil, sand and organic matter in 1:1:1 ratio and sown in early September at 5 cm spacing in rows and it takes 8-10 days for germination to commence. Six weeks old seedlings are planted in field at 30X15 cm or 15X15 cm spacing. Direct sown crop is broadcasted thinly and has a seed rate of 1.5 kg/ha. It matures early, but nursery raising is preferred. For nursery beds, FYM @ 20 kg per square meter as basal dose is mixed in the soil.

Planting in the Field

- **Land Preparation and Fertilizer Application:** The land should be prepared well by repeated ploughing to make soil pulverized. For main field, FYM @ 20 t/ha is given as basal application. It is given NPK (75:75:50 kg/ha) in two split doses *i.e.* first at planting stage and second 40 days after plantation. Use of 5 kg Azospirillum + 5 kg Phosphobacteria per hectare has also given good results.
- **Transplanting and Optimum Spacing:** 10-25 cm long seedlings raised in the nursery beds during September are transplanted in the main field (after 6 weeks of sowing) at a distance of 30X15 cm between plant to plant and row to row.
- **Irrigation:** 4-6 light irrigations are required till harvesting the crop.
- **Weeding:** Since it is a herbaceous plant, the field should be free from weeds. Two to three weedings are essential during the crop season *viz.* at 20 days and 60 days after transplantation.
- **Disease and Pest Control:** It is a hardy plant and not attacked by any pest and disease.

¹ Agro-technique study carried out by Centre for Advanced Studies in Botany, University of Madras, Guindy Campus, Chennai – 600 025.

