

Angelica glauca Edgew.

Fam. Apiaceae

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| Ayurvedic name | Chorak |
| Hindi name | Chora, Choru, Gandrayan |
| Trade name | Gandrayan |
| English name | Angelica |
| Parts used | Roots/ Rhizome |



Angelica glauca

Morphological Characteristics

It is a glabrous aromatic perennial or biennial herb, 1-2 meter tall. Stem is hollow. Root is thick rhizomatous. Leaves are unipinnate, bipinnate, or tripinnate, large pinna is toothed, ovate or lanceolate.

Floral Characteristics

Inflorescence is compound umbel with numerous rays. Flowers are white, yellow or purple in colour, bracteate; florets white or purple. Seeds are small in size and winged. Fruits/seeds are 1.25 cm by 0.6 cm in size.

Distribution

The plant is endangered in status, which is distributed in Western Himalaya from Kashmir to Uttarakhand, in alpine scrub and forest shades between 2700-3700 meters.

Climate and Soil

It requires cool and temperate climate. It can be cultivated between 2000-3000 meters above msl. It requires deep rich porous and moist soil with shady situations. For its ideal cultivation, the plenty of organic manure is required.



required, manuring should be done after the completion of the vegetative growth phase during October or in the winter after two or three years of cultivation. At higher elevations, where forest litter is available, it enhances growth as well as survival and yield.

- **Transplanting the Seedlings to Main Field and Optimum Spacing:** After four to six months growth of seedlings raised inside a greenhouse or in a small nursery, transplanting is done at the beginning of the rainy season. Raised beds are better for growth. If the site is moist or has good irrigation facilities, transplanting can be done during April and May.
- **Intercropping System:** It requires similar climatic and edaphic conditions as *Saussurea costus*, so intercropping with this plant is beneficial.
- **Intercultural and Maintenance Practices:** The intercultural operation like weeding/hoeing is carried out periodically as and when required.
- **Irrigation Practices:** Irrigation twice a week during the dry season is required.
- **Weed Control:** Weeding once a month and earthing every month during the rainy season and every two to three months during the dry season is essential.
- **Disease and Pest Control:** No disease and pests have been reported.

Harvest Management

- **Crop Maturity and Harvesting:** Under cultivation, harvesting can be done within two to three years. Roots are harvested during September and October when seeds become partially mature. Harvesting can be done after every two years, once the cultivation is well established and gives the maximum yield.
- **Post-harvest Management:** After harvesting the rhizomes, an apical portion is transplanted in a field for future crops. The remaining portion is washed with water to remove soil, and roots are cut into small pieces and put in partial shade for drying. After complete drying, roots are stored and packed in cloth bags.
- **Chemical Constituents:** Roots contain 1-1.5% volatile oil, valeric acid, angelic acid, lactones, sesquiterpenes, δ - α -cadinene, umbelliprenin, terpene alcohol and angelisine resin.
- **Yield:** At high altitudes of Garhwal, nearly 593-600 kg/ha yield is estimated under



Seedlings

