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Bhringaraj-prized medicinal herb



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Bhringaraj- prized medicinal herb

Eclipta alba (L.) commonly known as false daisy, bhringaraj, karisilakanni etc. is an annual herbaceous plant belonging to the family Asteraceae. The herb is widely distributed throughout India, China, Thailand, and Brazil. It is commonly found growing as a weed in waste places, marshy lands, hedges and roadsides, particularly in the more tropical parts of the country. *Eclipta alba* is one of the medicinal plant species traded in high volumes (≥ 100 MT/year) sourced mainly from wastelands and the requirement is increasing sharply in view of the popularity of the Ayurvedic herbal formulations having Bhringaraj as an important ingredient. The plant has a bitter, hot, sharp, dry taste and is used in Ayurveda for the treatment of vitiated conditions of kapha and vata. Bhringaraj is said to be the best drug for the treatment of liver ailments such as cirrhosis and infective hepatitis and other conditions involving hepatic enlargement. In pharmaceutical industry it is the most widely used plant in hepatoprotective formulations. Other pharmaceutical Ayurvedic formulations include Abana (Heart care), Geriforte (Stress care), Pilex (Vein care), Purim, (Homo care), Talket, blood purifier capsules, syrups, Liv. 52 Protec and health supplements. The herb, also called “The King of Hair”, is widely used in the preparation of hair care herbal products like shampoos, protein conditioner and revitalizing hair oils. A wide range of chemical compounds including alkaloids, flavanoids and their glycosides have been isolated from this species which accounts for its pharmacological properties.

Soil

It is a hardy crop and can be grown on various types of soil (soils with high moisture content are preferred for the plant). However red loamy soils rich in organic matter are the best for its cultivation.

Climate

The crop is sufficiently hardy and grows well in tropical, subtropical and temperate regions. However, a warm climate with a temperature range of 25-35⁰C is ideal for its optimum growth and yield.

Land Preparation

The field should be ploughed and harrowed several times, until it is brought to a fine tilth. The field should be leveled properly and good drainage provided to avoid water logging during the rains. The field should be divided into convenient size sub plots.

Propagation

The crop is propagated either through seeds (400-500 g/ha) or stem cuttings (25000 nos/ha).

Nursery Techniques

For raising the seedlings, seeds are sown in nursery beds of 1x3x0.15m size. The best time for nursery sowing is February–March or rainy season Soil is prepared upto a depth of 30 cm and mixed with FYM at the rate of 2 kg/m² and a little sand. The seeds are sown in rows; about 6 cm apart, gently covered with soil and watered using a rose-can. Seed germination is 75-85% when freshly collected mature seeds are sown in a well prepared nursery. The seedlings can be transplanted after 45-60 days to the main field. Any delay in transplanting results in poor vegetative growth that can lower yield of biomass significantly.

Vegetative Propagation

The crop can be propagated by terminal cuttings of 10-15 cm length having 5-6 nodes. The cuttings are planted in well prepared nursery beds or polythene bags. The roots get established in 4-6 weeks time after which they can be transplanted into the main field.

Planting

The seedlings or rooted cuttings are transplanted into the main field at a spacing of 20 x 20 cm. Light irrigation is given to the plots after planting.

Manures and Fertilizers

Application of fertilizers at the rate of 30:40:20 NPK kg/ha and well rotten farmyard manure at the rate of 15 t/ha is optimum for obtaining better growth and herbage yield in bhringaraj. Half the dose of N and the full dose of P₂O₅ and K₂O should be applied at the time of transplanting and the remaining N should be applied in two splits after the first and second cuttings.

Irrigation

After transplanting, irrigation should be provided twice a week for a month, so that the plants establish themselves well. Later, it is given at weekly intervals depending upon the rainfall and soil moisture content.

Weeding

First weeding is done at 30-35 days after transplanting and the second is carried out depending on the extent of the weed growth. After first harvest, weeding should be done to check the weed growth in interspaces.

Pest and Diseases

No major pests are reported in this crop. Occasionally, the crop is attacked by defoliating insects. Yellowing, leaf blight and gall formation are the major diseases of this crop. These diseases can be effectively controlled by spraying 0.2 % mancozeb.

Harvesting and Yield

Harvesting is done 90 days after transplanting by cutting the above ground portion leaving behind 10-12 cm for ratoon crop. Above ground parts should be cleaned, shade dried, packed in gunny bags and kept in cool and dry place. Care needs to be taken so that there should not be any fungal infection during storage. On an average bhringaraj gives about 8 t/ha fresh herbage yield during 1st cropping (April-July) and 3 t/ha from the ratoon crop (August- September). The right time to collect seeds is when the seeds turn black in colour. The harvested seeds must be cleaned and stored after proper drying.

Economics

On an average, *Eclipta alba* produces approximately 11-12 t/ha of fresh herbage in an year. Upon drying, the herb loses 60 per cent of moisture and gives an average of 6000 kg dried herbage/ha/year. The estimated cost of cultivation is about Rs. 20,000/- for one hectare area (NMPB). With the prevailing selling price of Rs 25 /kg for dry herb, gross return of Rs 1, 50,000/- per hectare can be obtained. Hence, a net return of Rs. 1, 30,000/- can be obtained by cultivating Bhringaraj on one hectare area.

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