

# *Habenaria intermedia* D. Don

Fam. Orchidaceae

<b>Ayurvedic name</b>	Riddhi, Vrddhi
<b>Hindi Name</b>	Riddhi
<b>Trade name</b>	Riddhi
<b>Parts used</b>	Tuber

## Morphological Characteristics

*Habenaria intermedia* D. Don is a tuberous rooted, monopodial terrestrial orchid found at an elevation of 1500-2800 meter in Western Himalaya. Stem is terete, 25-50 cm long, bears four to many leaves; leaves are rounded at the base, long and acuminate.

## Floral Characteristics

Flowers are large, greenish-white and 1-6 in an inflorescence. Petals are white and crescent shaped, recurved and adherent to dorsal sepal, lip is pale yellowish-green in colour. Life cycle of the *Habenaria* in its natural habitat starts in mid May, marked by sprouting of tubers and it comes in full bloom up to September. After fruiting, it enters into a dormant period of its life cycle in October.

## Distribution

The species is well distributed in open grassland at high altitudes 1500 to 2800 meter above msl. Being a light demanding species, it prefers southern or eastern slopes. It is more often found in open exposed soils, a characteristic of pioneer species in succession.



*Habenaria intermedia*



Flowers of *Habenaria intermedia*



## Climate and Soil

It prefers loose sandy loam and brown hilly soil rich in humus content. The mean annual rainfall is 100 to 150 cm and mean annual temperature is between 10<sup>0</sup>-15<sup>0</sup> C. This species grows well in open meadows as well as along steep slopes.

## Propagation Material

The orchid seeds being endospermic in nature, do not usually germinate. The vigour of seedling is also very poor. Hence, the vegetative part *i.e.* tubers are recommended for the propagation of this species.

## Agro-technique<sup>17</sup>

### Nursery Technique

- **Raising of Propagules:** Direct raising of plant from tubers either by half or full tuber with apical portion intact gives the best results. Planting is done on raised beds in rows at an optimum spacing of 20X20 cm.
- **Propagule Rate and Pretreatment:** Soil treatment with pesticide or solarisation is useful to kill most of the insect pest of soil including white grubs. Cut portions of the tuber are treated with fungicide (Mercuric Chloride 0.05%). Root hormone treatment for root induction is not required.



Raising Propagules in Beds

### Planting in the Field

- **Land Preparation and Fertilizer Application:** Sandy-loam soil rich in organic matter is suitable for the cultivation of this species. Raised beds are suitable for cultivation as these facilitate good drainage. First Ploughing is carried out just after harvest, followed by mixing of the half rotten FYM and leaf litter to the soil. Field is then left fallow for the entire winter. In May, second ploughing is carried out to make the soil more pulverized. Just before planting of *Habenaria*, the remaining half of the organic manure is added to the field. Raised beds are prepared for planting. The size of bed depends upon the size of field terrace available.
- **Transplanting and Optimum Spacing:** Stored tubers are planted in first week of May. In case storage facilities are not available, tubers are planted just after the harvest of crop in first week of November. Planting as a pure crop in one hectare of land, at a spacing of 20X20 cm will require 250,000 tubers.

<sup>17</sup> Agro-technique study carried out by Non-wood Forest Products Division, Forest Research Institute, a unit of Indian Council of Forestry Research and Education (ICFRE), Dehradun, Uttarakhand.





## Therapeutic Uses

The drug belongs to the group of the “Eight Tonic Herbs”, known as Ashtavarga, which is rejuvenating and age sustaining. It is used as one of the ingredients of Chywanaprasha preparation.

