

Roscoea purpurea Smith

Fam. Zingiberaceae

Ayurvedic name	Kakoli
Hindi name	Kakoli
Trade name	-----
Parts used	Fasciculated Tuberous Roots



Roscoea purpurea

Morphological Characteristics

It is a terrestrial, herbaceous and tuberous perennial herb. Root is thick, fleshy and fasciculated. Stem is leafy, elongate, leaves 5-6, lanceolate. Flowers are few in a sessile spike borne in autumn and pale-lilac, purple or white in colour.

Floral Characteristics

Flowers are few in a sessile spike, pale lilac or white. Floral bracts are oblong, hidden in the sheaths of the upper leaves. Calyx is green and slit deeply down one side of the flower expand. Corolla tube is dilated upwards, lip 2-3 lobed; upper segment is ovate and lower lanceolate. The staminode is oblanceolate in shape, half as long as the upper segment; whereas fertile stamen is as long as the staminode. Capsule is cylindrical and varies greatly in size.

Distribution

The plant is distributed from an elevation of 1500-2500 meter in Himalayan region and Khasi hills.

Climate and Soil

The plant grows in moist shady places over sandy-loam soils rich in humus. Soils having

rotten FYM should be applied in the field. Second ploughing should be done in the first fortnight of April depending upon the soil moisture. Planking should be done after 2nd and 3rd ploughing to break remaining clods and make the soil friable. If sufficient winter residual moisture is not present in the soil then a light irrigation should be given before planting the tubers.

- **Manure and Fertilizer Used (Basal):** It grows very well in humus rich soils. FYM dose of 25-30 t/ha is recommended. It should be spread uniformly in the field and mixed well in the soil. Unlike annual crops, the entire quantity of FYM is applied in split doses. First applications of $\frac{3}{4}$ th of the total FYM is done at the time of area preparation and rest $\frac{1}{4}$ th should be applied at the time earthing which is carried out in the beginning of next rainy season.
- **Days for Completion of Germination/Sprouting:** Sprouting takes one month period.
- **Optimum Crop Stand /Hectare:** 32,000- 40,000 plants/ha.
- **Inter-cropping System (If Grown in Orchard/Plantations etc.):** Intercropping trials were conducted in the peach and apricot orchard by adopting the same (sole crop) package of practices. The yield obtained per unit area was same as obtained from the sole crop.
- **Interculture Operations:** In areas of heavy rainfall, two earthings, one after about 30-35 days and second after the monsoon is recommended, so that tubers do not get exposed to sunlight. Hand weeding for 3-4 times is required, depending upon the intensity of weedy flora. There are no serious diseases, insect pests, nematodes noticed in trial plots. However, crops should be protected from water stagnation to avoid tuber rotting ensuring proper drainage.
- **Irrigation Practices:** The residual moisture of the winter rains is captured for the sowing. If the rains are not enough, a light irrigation should be applied before planting. Once tubers sprout, a weekly irrigation is required during summer season.
- **Weed Control:** Manual weeding at an interval of 30 days is required depending upon the frequency of weeds.

Harvest Management

- **Crop Maturity and Harvesting:** The crop takes 2 years to produce mature tubers. The tubers are harvested by digging in autumn preferably in the month of October.
- **Post-harvest Management:** The tubers are washed in running water. Mother tubers should be removed and then rest of the tubers should be dried in shade or in partial sunlight. Dried tubers can be stored in well airy gunny bags / bamboo baskets. For seed purpose, healthy fresh tubers of uniform size can be selected and stored in soil pits in cooler areas or bamboo baskets. These should be treated with 0.01% Bavistin solution for half an hour followed by shade drying before storing to protect from fungal infection.

