

## COLEUS (Patharchur)



### Plant Profile

Family	:	Lamiaceae
English name	:	Coleus
Indian name	:	<b>Pashan Bhedi</b> (Sanskrit) <b>Patharchur</b> (Hindi) <b>Garmai</b> (Gujarati) <b>Makandiberu</b> (Kannada) <b>Koorkan Kilangu / Marundu Koorkan</b> (Tamil)
Species and	:	<i>Coleus forskohlii</i> / <i>C. barbatus</i>
Distribution	:	India, Africa (tropical east), Arabia, Brazil Egypt, Nepal, Pakistan, Sir Lanka

- It is one of the most potential medicinal crops of the future, as its pharmacopieal properties have been discovered only recently.
- It is under cultivation in parts of Rajasthan, Maharashtra, Karnataka and Tamil Nadu in large scale. Pharmaceutical companies procuring this crop under contact farming. For more details go to marketing pages.



## MEDICINAL PROPERTIES AND USES

- Dried tuberous roots are the economic part.
- Its tuberous roots are found to be rich source of an alkaloid called **Forskolin**
- Forskolin is the important base for many drugs developed for **hypertension, glaucoma, asthma, congestive heart failures, weight management and certain types of cancers.**
- In addition, forskolin is reported to have been used in the preparation of medicines preventing hair greying and restoring grey hairs to its normal colour.
- **Leaves** are employed in treating **intestinal disorders** and used as a condiment.

## PRODUCTION TECHNOLOGY

### Soil

- It thrives better in porous and well drained soils with a pH ranging from 5.5 to 7.
- It does not require very fertile soils and can be economically grown even on the soils with marginal fertility.
- The red sandy are ideal for the cultivation of this crop.

### Climate

- Coleus is a crop of tropics.
- It prefers humid climate with a RH ranging from 60 to 85 per cent and a temperature range between 10-25°C for its successful growth.
- The annual rainfall in such areas ranges from 100 to 160 cm, mainly during June to September months.
- It is also found to perform well in less humid and warmer regions when grown as an irrigated crop.

### Varieties

**‘Selection-K’** a non flowering type, has been found good under Karnataka and Tamil Nadu conditions. All the growing areas are using this type only. For details on the availability of the planting materials please contact the following address.

Medicinal and Aromatic Plants section,  
Division of Horticulture,  
University of Agricultural Sciences,  
GKVK, Bangalore – 560065  
Ph: 080-23330153



**Advanced line of Selection-K from UAS, Bangalore**

## INPUTS

Sl.No.	Materials		Per acre	Per hectare
1.	Number of plants/cuttings		24,000	55,500
2.	Farm Yard Manure (t)		4	10
3.	Fertilizers (kg)	N	20	50
		P <sub>2</sub> O <sub>5</sub>	30	75
		K <sub>2</sub> O	25	60

**Note:** Half on N, whole of P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O may be applied as a basal dose followed by the remaining ½ N at 30 days after planting as top dressing.

## CULTIVATION

### Propagation



**Close view of terminal shoot used for cutting**

- For commercial plantings the crop is propagated through terminal cuttings.
- For this purpose about 10-12 cm long cuttings comprising 3-4 pairs of leaves are preferred.

- Cuttings are planted in well prepared nursery beds or Polly bags under shade (normally planted in coconut gardens).
- As there is no problem in rooting they establish well in nursery.
- After about a month's time when the cutting has produced sufficient roots it is ready for transplanting.

### **Planting**

- In most areas the crop is planted during June-July with the onset of South West monsoon. Before planting, the field is ploughed deep soon after the receipt of pre-monsoon showers and brought to fine tilth.
- Land should be divided into plots of convenient sizes which are prepared into ridges and furrows at a spacing of 60 cm and the rooted cuttings are planted at 30 cm apart within the row.



**A farmer's coleus field near Salem, Tamil Nadu**

### **Irrigation and interculture**

- The first irrigation is given immediately after transplanting if there are no rains. During the first two weeks after planting, the crop is irrigated once in three days and thereafter weekly irrigation is enough to obtain good growth and yield.
- Due to frequent irrigation during the initial stages there is a lot of competition from weeds. In order to obtain economic yield frequent weeding during the early growth period is desirable.
- Further, as the plants cover the soil under their foliage, not much more weeding is required.

### **Plant Protection**

**Major problem: [Root Knot Nematodes](#)**



**Healthy roots of coleus**



**Coleus roots severely affected with nematodes**



**Close view of nematode attack in coleus roots**

**Nematode control:**

1. Crop rotation with marigold, sorghum and maize
2. Intercropping with marigold
3. 200 kg of neem cake per acre before planting
4. As a last option apply Carbofuron granules at the rate of 20 kg per hectare under wet condition near the root zone.

**Major diseases: Fusarial wilt and Bacterial wilt**

**Fusarial wilt:**

- Never allow water stagnation
- Dipping the terminal cuttings in Carbendazim solution (1 gram per litre) before planting
- Mix 5 kg of *Trichoderma viridae* in 250 kg of compost and apply around the roots in every 20 days interval

**Bacterial wilt:**

- Streptocyclin 300 ppm solution around the roots

- Apply 2 kg of *Pseudomonas fluorescens* bio-control agent mixed with 300 kg of compost

### Harvesting and Yield

- The crop is ready for harvest after about **130-150 days of planting**.
- During the growing period if any flowers are produced they should be nipped off to obtain more biomass.
- The crop is harvested **manually by uprooting** the individual plants.
- The tubers are separated, cleaned chopped into pieces and shade dried to bring about 12 per cent moisture
- On an average, a yield of **2000 – 2200 kg of dried tubers (15-20 tonnes of fresh tubers) per hectare** may be obtained. However, if proper cultivation practices are applied a yield of 2500 kg of dried tubers can be easily obtained per hectare.



**A farmer with harvested coleus, Salem District, Tamil Nadu**



**Harvested coleus tubers ready for chopping**