

## CHILLI

Chilli is one of the important vegetable cum spice crops, commercially grown under different soils and climatic conditions in northern districts of Karnataka under both rainfed and irrigated condition. Chilli + onion + cotton cropping system covers the maximum area in Dharwad, Gadag and Haveri districts of Karnataka. Recently, it has also become an important export crop due to increasing demand for organically grown chilli.

### Details of varieties

Variety	Zone and situation	Time of sowing	Duration (days) / Specialty
Byadgidabbi	Zone 3 and	May-June	180-200, Riped fruits are 12-15 cm long, turning
Byadagikaddi	8		to deep red colour at harvest and developing
Dyavanur	(Kharif)		wrinkles on upper part of the fruit. Fruits are less
			pungent with more oleoresin content.

### Inputs required (Per acre)

- a) Seed : 500 gm
- b) Organic manures
- Compost manure/ FYM : 1.7 tonnes
  - Vermicompost : 1.3 tonnes
  - Green leaf manure : 2.7 tonnes
  - Neem cake : 1.0 quintal
- c) Liquid organic manure
- Panchagavya : 12 litres
- (Preparation method is given on page number 51)
- d) Biofertilizers
- Azospirillum* biofertilizer : 4 kg
  - Phosphorous solubilizing bacterium : 4 kg

### e) Bio pesticides and others inputs

- Trichoderma harzianum* : 800 gm
- Pseudomonas fluorescence* : 3000 gm
- Lecanicillium lecanii* : 600 gm
- Sex pheromone traps (*Heliothisa*) : 2 numbers

### Nursery bed preparation

Six beds each of 7.5 m length, 1.2 m width and 10 cm height are required for raising seedlings for one acre of land. Incorporate 50 kg of FYM or compost, 25 kg of vermicompost and 2 kg of neem cake into each bed and mix well with soil. Treat the seeds with 10 g of *Trichoderma harzianum* and sow in lines spaced 8 cm apart. Cover the seeds with a thin layer of soil or manure. Cover the beds with dry straw and irrigate daily until seeds germinate. The seedlings will be ready for transplanting after 6 weeks of sowing.

### Transplanting

Prepare the main field by deep ploughing and converting to fine tilth by tillering and harrowing. Mark the pits at a spacing of 90 cm x 60 cm with the help of the marker. Apply the recommended quantity of FYM, green manure and neem cake into these pits and incorporate.

Prepare a mixture of *Azospirillum* (4 kg), phosphorus solubilizing bacterium (4 kg) and *Trichoderma harzianum* (800 grams) in 60 lit. of water. Dip the seedlings in this solution for 30 minutes and then transplant them at the marked pits in the main field. Apply vermicompost as top dress around the plants in the form of ring at 30 and 60 days after transplanting.

### Weed management

After 20-25 days of transplanting, intercultivate 4-5 times in both the directions at an interval of 15 days to control weeds.



In addition to this, take up hand weeding twice after 30 and 60 days of transplanting.

### Foliar Spray with Plant Growth Promoters

Spray panchagavya (@ 3 %) + cow urine (@ 10 %) + plant based insecticide at flowering and fruiting stages.

### Plant protection measures

- Sow 5 to 6 rows of sorghum/maize around the field, against the direction of wind. Before 15 days of transplanting of chilli seedlings,
- Grow one row of marigold after every 10 to 15 rows of chilli as trap crop to manage fruit borers.
- Install sex pheromone traps @ 2 traps /acre for monitoring the incidence of fruit borers.
- Spray *Lecanicillium lecanii* (@ 2 g/lit.) along with 0.1% Tween-80 after 30 and 45 days of transplanting for managing sucking pests.
- For the control of mites and thrips, install yellow sticky traps (@ 10 traps/ acre).
- Spray cow urine (@ 10%) to control leaf curl disease.
- Spray plant based insecticide @ 10 % after 60 and 105 days of transplanting.
- Spray NSKE @ 5% or Garlic green chilli extract 2% for the management sucking insects and fruit borers (Preparation method is given on page number 50)
- Spray *Pseudomonas fluorescens* (@ 5 g/lit.) after 30 and 60 days of transplanting, at flowering and fruiting stages to control anthracnose and fruit rot diseases.

**Yield (Per acre) :** 3 to 4 quintals of dry chilli.

## POTATO

Potato is an important vegetable crop of Dharwad and Belagavi districts of northern Karnataka grown in *kharif* season. Fertile, well drained, black and sand mixed soil is most suited for potato cultivation. Ill drained and waterlogged lands are not suitable for its cultivation. Avoid growing potato in the same field where tomato/ brinjal/ chilli / tobacco are grown during previous seasons.

### Details of varieties

#### Inputs required (Per acre)

Variety	Zone and situation	Time of sowing	Duration (days)/ Specialty
Kufri Jawahar and other varieties	Zone 8 (Kharif)	June	60-75, medium sized round shaped tubers, having ability to tolerate late blight disease

a) Seed : 400 kg

#### b) Organic manures

Compost manure/Farm yard manure : 1.7 tonnes

Vermicompost manure : 1.3 tonnes

Green leaf manure : 2.7 tonnes

Neem cake : 1.0 quintal

#### b) Liquid organic manures

Panchagavya : 12 litres

(Preparation method is given on page number 51)

#### c) Biofertilizers

*Azospirillum* : 8 kg

Phosphorous solubilizing bacterium : 8 kg

#### d) Biopesticides

*Trichoderma harzianum* : 1.6 kg

*Trichogramma chilonis* : 40,000-60,000 nos.

*Nomuraea rileyi* : 500 g



## Selection of seed tubers

Select certified and disease free seed tubers for sowing. Non-dormant tubers must be used for sowing. If the tubers are big, cut them into pieces such that at least two swollen buds/eyes are present in each cut tuber and each weighs approximately 35-40 g.

## Planting

Prepare the land by deep ploughing 2 to 3 times. Apply recommended dose of FYM and incorporate into the soil. Prepare a mixture of *Azospirillum*, phosphorus solubilizing bacterium and *Trichoderma harzianum* in water. Dip the seed tubers in this mixture before planting. Prepare ridges and furrows with a spacing of 60 cm and apply green manure and vermicompost in the planting lines and incorporate into the soil. Plant the tubers at 20 cm spacing along the planting line.

## Intercultivation

- Intercultivate and earthen up after 30 and 45 days of planting. This will ensure weed control, better tuber improvement and helps in preventing tubers turning green.
- After intercultivation, remove the remaining weeds by hand weeding.

## Foliar Spray

After 30 and 45 days of planting, foliar spray of panchagavya (@ 3 %) + cow urine (@ 10 %) on the foliage.

## Plant protection measures

- Spray 5 % NSKE (*Preparation method is given on page number 50*) or *Nomuraea rileyi* (@ 1 gm / lit.) mixed with 0.1 % Tween 80 to control leaf eating insect pests.

- To control shoot borer damage, remove and destroy the drying shoots and release the egg parasite *Trichogramma chilonis* @ 20,000/acre each time for 2 to 3 times.

## Harvest and yield

The crop will be ready for harvest in 75 to 80 days. When stem and leaves turn yellow and start drying, cut the top leaves and harvest after 10 days. This will help in thickening of tuber skin and favour longer shelf life. Dig and harvest the tubers at optimum soil moisture without damaging them. Spread the harvested tubers in dry and well ventilated place for 10-15 days. Do not use potato leaves for storing harvested tubers.

## Yield (Per acre)

Rainfed crop : 2 tonnes