

# AGRICULTURE - IV



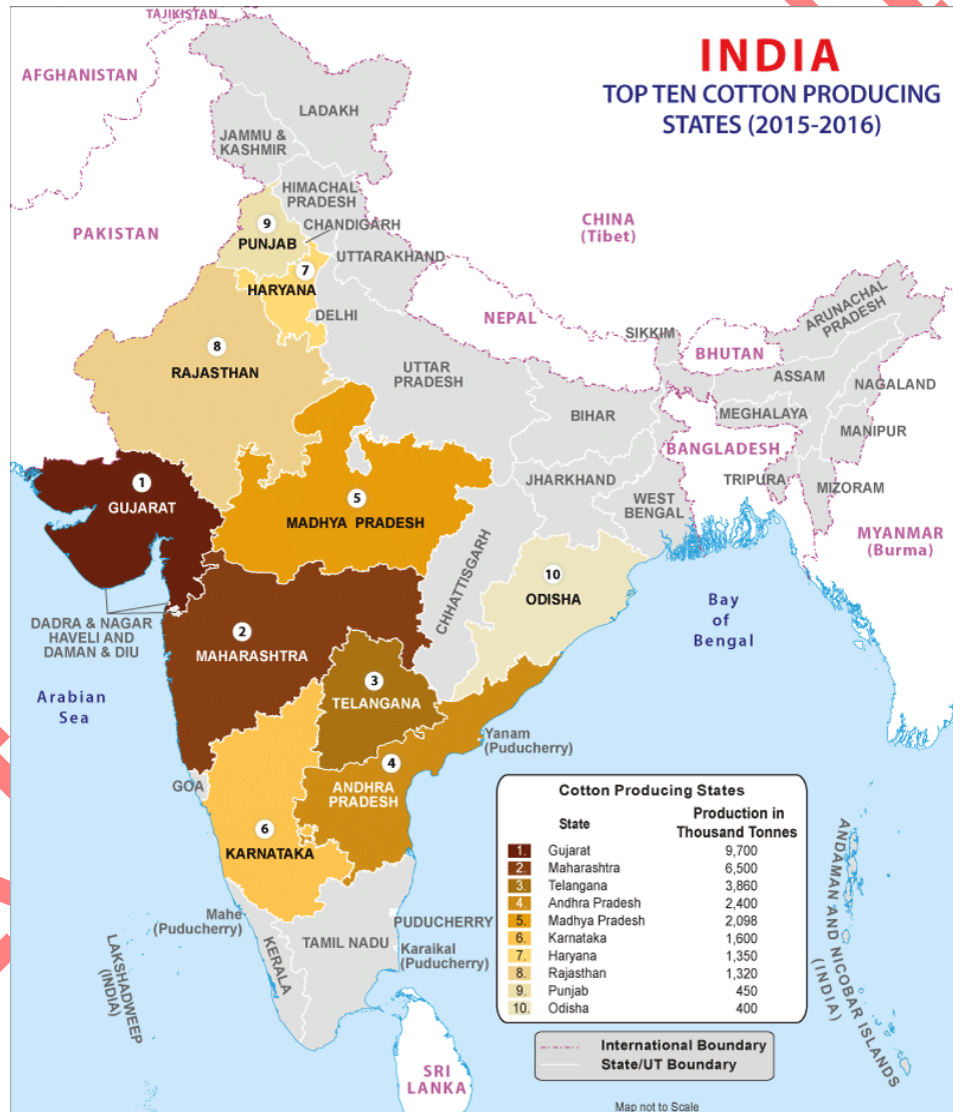
**Cotton:** It is a cash crop & is raw material for textile industry. It is a Kharif crop. 200 frost free days are required for growing.

**Temp:** 21°C 30°C (frost free)

**Rainfall:** 50 - 70 cm

**Soil:** Black soil, Alluvial soil

**Leading States:** Gujarat, MP, Maharashtra



## METHODS OF CULTIVATION

**Sowing:** The seeds are sown by **broadcast method or by drills**. The duration of the crop season in India is 6 to 8 months. Sowing is done mostly, before the onset of rains in case of the kharif long staple varieties and later upto September for the short and medium staple varieties.

**Harvesting:** The crop is harvested in October when the cotton bolls ripen and burst into white, fluffy and shiny bolls of fibre. The crop is harvested in

three to four pickings as the bolls mature; yields decrease with successive pickings.

**Processing:** After harvesting, the cotton crop passes through the following process:

- (i) After the cotton has been picked, either by machine or by hand, it is ginned. **Ginning is the process used to separate the fibres or lint from the cotton seeds and the short fibres or linters which adhere to them.** A cotton gin is a machine that quickly and easily separates the cotton fibres from the seeds. This process was earlier used to be done by hand.
- (ii) The lint (fibres) are washed and then combed to form a rope-like mass of fibres known as **sliver**.
- (iii) The sliver is fed to the spindles and spun to make cotton yarn.
- (iv) The seeds are crushed to yield oil, the residue being used as cattle fodder.

## **VARIETIES OF COTTON**

- i) Superior Long Staple longer than 27 mm.
- ii) Long Staple length between 24.5 to 26 mm.
- iii) Superior Medium Staple: length between 20 to 24mm.
- iv) Medium Staple: 20 to 21.5 mm.
- v) Short Staple: less than 19 mm.

**Jute:** It is most important fibre in India obtained from inner bark of white & tossa Jute. It is used in making of rough quality cloth, sacks, carpet, rugs, twine upholstery, tarpaulin etc. It is called **Golden Fibre** as it provides huge revenue to the government.



**Temp:** 24 °C - 35 °C

**Soil:** Light sandy or clayey alluvial soil

**Rainfall:** heavy rainfall of 150 cm.

**Leading States:** WB, Bihar, Assam, Odisha.



## METHOD OF CULTIVATION

**Sowing:** The fields for growing jute have to be thoroughly prepared before the crop is sown in February on lowlands and March-June on uplands. Sowing of the seeds is done by drilling or broadcasting.

**Harvesting:** The crop is harvested from July to September about 8-10 months after sowing. When plants attain the height of 2-4m and are mature these are cut, bundled and put in ponds, for retting. After 20 to 25 days the bark is peeled from the plant by hand and fibre is then removed from the pith. It is then rinsed, washed, dried and pressed into bales.

**Processing:** Jute is harvested by hand, by pulling up the stem. It is dried and stripped of unwanted leaves and is put in water and allowed to rot. This process, known as retting, was once done by submerging the jute into ponds and streams but is now done in special tanks.

## TEA

It is an important beverage like by all because of unique taste and property of tranquiliser and stimulant. It is a shade loving plant & quickly gran under shade.

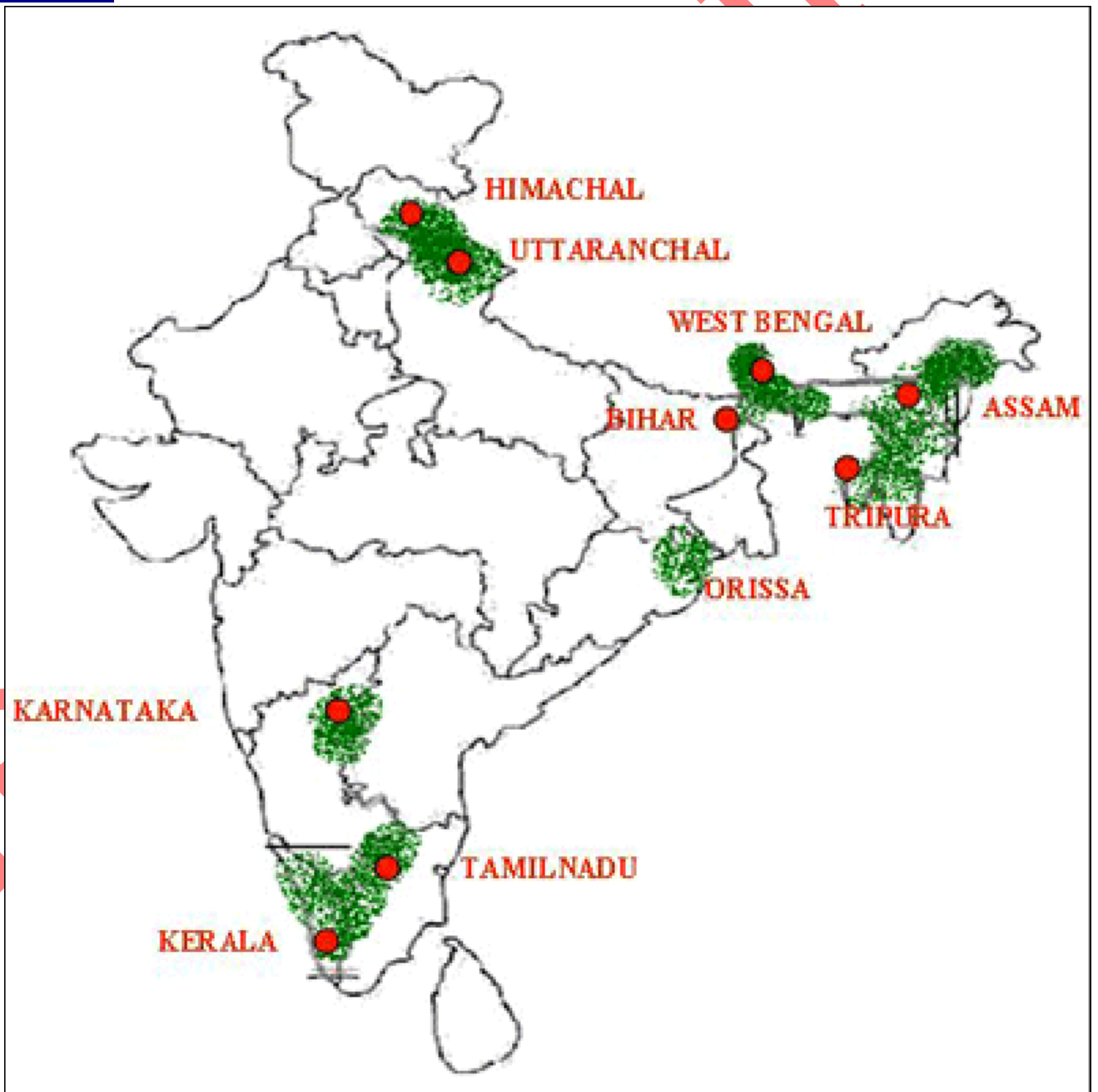


**TEMP:** 24°C - 30°C

**RAINFALL:** at least 150cm.

**SOIL:** forest soil rich in humus and iron.

**DISTRIBUTION:** Assam, WB, Tamil Nadu, Kerala



**Methods of Cultivation:**



1. **From seeds**- high quality seeds are sown in nursery and transplanted
2. **From Cuttings**-Tree shrubs are grown in nurseries from cuttings of HYV called Clonal Planting.

## Harvesting

Bush are pruned after 2 years to maintain height and diameter. Tea is picked every 10 days. It is skilful job. Two tender leaves and a bud or shoot is plucked called as **Fine Plucking**.

**Processing:** There are four types of tea. Each one is processed differently. These types are:

### (A) Black Tea

It is processed by drying the leaves, crushing them in a machine and fermenting them. This tea is **taken with milk and sugar in India**.

In processing Black Tea the following steps are taken:

1. **Withering:** The gathered leaves are first withered or dried in the sun for a day or two to extract moisture.
2. **Rolling:** They are then rolled mechanically between steel rollers to break up the fibres. The leaves are dried again or baked lightly over charcoal fires, until they become reddish brown in colour.
3. **Fermentation:** The leaves are allowed to ferment and this reduces the amount of tannic acid in the tea by half, but does not impair its flavour.
4. **Drying:** Further fermentation is checked by roasting and drying the leaves over a fire or in an oven until they are black in colour.
5. **Blending:** Expert blenders and tea-tasters further blend the various grades of tea to give it special aroma and make many proprietary brands.

### (B) Green Tea

Green tea is not dried in the sun but in ovens after the leaves are steamed in large vats and crushed in machines. It is not fermented. This variety of tea is consumed in China and the Far East. They are usually **taken without milk or sugar after brewing with boiling water**.

### **(C) Oolong Tea**

This variety of tea is greenish-brown and is prepared by partially drying and fermenting the leaves. From the tea gardens, a high grade semi-fermented Oolong Tea is produced. Much of it is **shipped to the United States**.

### **(D) Brick Tea**

In this variety the inferior and coarser leaves, stems and tea-dust are compressed into rectangular blocks of brick tea. Such tea is normally **consumed in Russia and Tibet**.

### **DISTRIBUTION**

Assam, West Bengal, Tamil Nadu, Kerala, etc.

### **COFFEE**

The coffee plant was introduced in India by a Fakir, Bababudan, during the **17th century**. He brought the seeds from Arabia and the first seedlings from these were raised in the Bababudan Hills in Karnataka. Coffee cultivation became more firmly established during the earlier decades of the 19th century when it also spread to several other districts in Karnataka, Kerala and Tamil Nadu.

### **Varieties of Coffee**

The varieties of coffee grown in India are the following:

**(i) Coffee Robusta:** It is grown in the lower elevation (between 300 to 610 metres) districts of South India, where Coffee Arabica does not thrive well.

**(ii) Coffee Liberica:** This is a hardy and disease resistant species, suited to lowland rather than upland conditions. It gives heavy yields of moderate quality coffee.

Both robusta and liberica are particularly **suitable for making 'instant' coffee** and are thus gaining greater importance.

**(iii) Coffee Arabica:** It is the finest coffee but is very delicate and susceptible to leaf and other diseases. It is grown in over 60 per cent of the area under coffee on slopes ranging from 750 to 1,500 metres high.

## **CLIMATIC CONDITIONS**

**Temperature:** Coffee plant requires warm climate (15°-28°C) and a moderate supply of moisture.

**Rainfall:** During the period of growth, the plant requires 150cm to 200cm of annual rainfall.

## **SOIL**

Coffee cultivation requires rich, well drained friable loamy soil.

## **METHODS OF CULTIVATION**

**Sowing:** Coffee is propagated from seeds or cuttings in a nursery and after a few months, the saplings are transplanted to the field. Plants are positioned 3m apart. Coffee plants are grown on slopes so that water does not stagnate.

**Covercrops:** Since coffee plant is **susceptible to direct sunrays** it is planted under the shade of trees. Trees like orange, cardamom and pepper vines are interplant to generate extra income.

**Harvesting:** Coffee picking is done by hand by removing the ripe berries from the stalk. Indiscriminate picking of both ripe and unripe berries results in coffee beans of inferior quality which fetch low prices.

## **Processing**

There are two methods of processing coffee, namely, the **Wet Parchment** method and the **Dry Parchment** method. In the Wet parchment method, the fruit covering of the beans is removed before they are dried and then

pulping, fermenting, washing and drying takes place. After this the coffee beans are ready to use.

In the Dry parchment method, the following process is followed:

- (i) The **harvested cherries are sorted and cleaned**, to separate the unripe, overripe and damaged cherries and to remove dirt, soil, twigs and leaves.
- (ii) The coffee cherries are then spread out in the sun to dry.
- (iii) The beans are then fermented by drying in the sun for a week.
- (iv) After drying, machines peel off the two layers of inner husks.
- (v) They are sorted according to size and quality and then packed in sacks for use.
- (vi) The beans are roasted at temperatures of about 99°C and then ground into coffee powder which is used to make the beverage. Roasting gives it brown colour and characteristic aroma and taste.

## **DISTRIBUTION**

Karnataka, Kerala, Tamil Nadu, etc.

## **Traditional Coffee Producing Areas**

**(a) Karnataka:** Karnataka alone accounts for about half of the area and over three-fourths of the production. Coorg (Kodagu) and Chikmagalur account for over 86 per cent of the total output in Karnataka. Other producers are Hassan, Mysore and Shimoga.

**(b) Kerala:** It is the second largest producer of coffee. Most of the production comes from Kozhikode, Palakkad, Wayanad, Idukki, etc. Picking of berries takes place just after the monsoon is over. Sunny weather helps in drying the berries.

**(c) Tamil Nadu:** Tamil Nadu provides 5.8 per cent of the total production of coffee in the country. Nilgiris district alone accounts for half of the production of the state. Other producers include Madurai, Coimbatore, Tirunelveli and Salem districts.