

# Cotton

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## Introduction

Cotton is the first ranking fiber crop in the world and it is the second important fiber crop in Bangladesh. This crop is under the family 'Malvaceae'.

There are several species of cotton are as follows:

*Gossypium hirsutum* – American upland cotton  
*Gossypium arboreum* – Hill cotton  
*Gossypium herbaceum* – Asiatic cotton/Comilla cotton.  
*Gossypium barbadense* – American cotton/Egyptian cotton.

## Growing area

China, India, Iran, Iraq, Egypt, America, Australia, Mexico, and Brazil.

## Cotton producing area in Bangladesh

Jessore, Kushtia, Dhaka, Mymensingh, Rangpur, Comilla, Tangail, Chittagong.

Around 4-5% of the national requirement is fulfilled through the local production; remaining 95-96% is fulfilled by importing raw cotton from USA (40%), CIS (35%), Australia, Pakistan, South Africa and other country producing countries

## Climate

Cotton favors temperate climate. But in Bangladesh 10-15°C and 500 mm total annual rainfall is favorable for cotton cultivation.

## Soil

High or medium high land and sandy loam soil is best for cotton cultivation. Besides, any soil with suitable drainage is fit for cotton cultivation.

## Variety

D-5, D-10, D-124, DEF-1, BARI BSC-7, 24, 77, 79, C-4, CB-1, CB-2, CB-3, CB-9, Rupali.

## Land preparation

The roots of cotton run to the depth of soil horizon. So, deep ploughing is necessary for cultivation of cotton. Soil should be pulverized.

## Fertilizer dose

Fertilizers	Dose
Cowdung	5-6 t ha <sup>-1</sup>
Urea	200-230 kg ha <sup>-1</sup>
TSP	100-150 kg ha <sup>-1</sup>
MOP	100-150 kg ha <sup>-1</sup>



### Method of fertilizer application

One-third of urea and full dose of TSP and MP have to be use during final land preparation. Cowdung have to be use during last ploughing. Rest one- third of urea should be applied after two weeks of seeding and rest one-third of urea at the flowering stage.

### Time of sowing

July-August is the optimum time for cotton sowing. Scarification and defuzzing is necessary before sowing of seed. They facilitate germination.

**Scarification:** The seed coat of cotton seed are ruptured before sowing. It is called scarification. Scarification makes the germination easier.

**Defuzzing:** Before sowing of seed, fuzzes should be separated from seed. It makes the seed treatment, sowing and germination easier. It may be done by three ways-

- Physically: In this method, seed are presoaked for 3-4 hours and then rubbed by dry sand and cow dung and fuzz are separated.
- Mechanically: In this case, various type of sow is used for separation of fuzz.
- Chemically: In this case, fuzz is destroyed by using various chemicals like, HCl, H<sub>2</sub>SO<sub>4</sub>, or ZnCl<sub>2</sub>.

### Method of sowing

Cotton seed are generally sown in row. 60 cm row-row distance and 36 cm plant –plant distance are maintained. Depth of seed are maintained to 3-5 cm. 3-5 seeds are put into one hill and later, gap filling will have to done as requirement.

### Seed rate

20-25 kg ha<sup>-1</sup>

### Intercultural operations

#### Thinning

Thinning should be done after germination. First one is done after one week of germination, second one is after two week and third and last one is after three weeks.

#### Irrigation

Whenever necessary.

#### Weeding

Generally 2-3 weeding is necessary.

#### Mulching

For conservation of moisture, mulching may be necessary.

### Disease and pest control

Aphid, bollworm, leaf roller and leaf cutting caterpillar are major insects. Wilt and leaf blight are major diseases. They should be controlled properly.



### Harvesting

After 5 month of sowing boll become ready for harvesting. Harvesting is completed after 2-3 plucking.

#### Yield

If cotton is cultivated scientifically it may give  $1.5 \text{ t ha}^{-1}$  of seed cotton. Seed:fibre ratio is 2:1.

Price of per kilogram is seed cotton is 65-70 taka.

### Ginning

Separation of lint of fiber from seed cotton is called ginning. Ginning is done just after harvesting. Yield of lint varies according to variety, location, intercultural operation etc. on an average; 30-40% of lint is separated by ginning.

#### Ginning is done by two ways-

- Manually: In this case, fibers are separated from seed by hand.
- Mechanically: In this case, in ginning mill, lints are separated from seed. In this case, 78-84% fibre can be separated. After ginning, seed and lint ratio stands 2:1.

