

# Jute

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## Introduction

Jute is the most important long vegetable fiber in the world and is surpassed only by cotton. It was called the 'golden fiber of Bangladesh'. It the first ranking fiber crop in Bangladesh.

## Growing countries

Bangladesh, India, China, Myanmar, Nepal, Brazil.

## Jute growing region in Bangladesh

Mymensingh, Comilla, Faridpur, Dhaka, Rangpur, Bogra, Jessore. But almost all of the districts produce jute more or less.

## Area and production in Bangladesh

- Average land area under jute cultivation: 803000 ha
- Production: 1200600 metric ton
- Total number of Jute Mills: 187 (closed 31)

Worldwide 2801000 metric tones of jute produced every year.

## Cultivated species

There are about forty species of jute of which two are cultivated-

- Corchorus capsularis* (Deshi, white or Tita pat)
- Corchorus olitorius* (Tossa or Mitha pat)

## Difference between *Corchorus capsularis* and *Corchorus olitorius*

<i>Corchorus capsularis</i>	<i>Corchorus olitorius</i>
Their leaves are flowers are smaller than <i>Corchorus olitorius</i> .	Their leaves and flowers are larger than <i>Corchorus capsularis</i> .
Leaves are bitter tested	Leaves are tasteless
Pods are round shaped	Pods are cylindrical shaped
Seeds are chocolate-brown in color	Seeds are grey, even black in color
Fiber is white, hard.	Fiber is yellow-grey or reddish. Soft and strong.
It can be grown both in low or high land.	It cannot tolerate water logging condition, so should be grown in high land.

## Varieties

**Deshi pat (*Corchorus capsularis*):** D-154(2), CVL-1 (BJRI Deshi-2), CVE-3 (BJRI Deshi-3), CC-45 (BJRI Deshi-4), BJC-7370 (BJRI Deshi-5), BJC-83 (BJRI Deshi-6), Dhobdobe (BJRI Deshi Pat-7).

**Tosha pat (*Corchorus olitorius*):** O-4 (BJRI Tosha-1), O-9897 (BJRI Tosha-2), OM-1 (BJRI Tosha-3), O-72 (BJRI Tosha-4), Laltosha ((BJRI Toshapat-5).



## Production Technologies

### Climate

Jute is a crop of tropical and sub-tropical region. Atmospheric temperature of 25-35°C, high relative humidity (65-95%) and high rainfall (125-200 cm/year) is suitable for jute production. During vegetative growth, 24-35°C and 30 cm monthly rainfall is suitable.

### Soil

Jute can be grown in almost all soil. Silty-loam soil carried out by flood is suitable for its cultivation. It may also be grown in clayey soil while physical condition is good. So, jute is mostly and well-grown in the region of Brahmaputra.

### Land preparation

Jute land should be well tilled right after the pre-monsoon shower. The land, depending on the previous crops and its soil texture, may be ploughed deeply 2-4 times. Jute seed being very small requires fine bed for better emergence of the seedlings. Clay soil needs more ploughings than sandy-loam.

### Manures and fertilizers application

Fertilizers/Manures	Doses
Cowdung	5 t ha <sup>-1</sup>
Urea	20 kg ha <sup>-1</sup>
TSP	25 kg ha <sup>-1</sup>
MOP	25 kg ha <sup>-1</sup>

Cowdung should be applied before land preparation and rest fertilizer should be applied during last ploughings. Additional urea should be applied after 5-6 weeks after seeding. For seed production, the rate of TSP will be double and rest will remain same.

### Sowing time and method

The suitable for sowing of *Corchorus capsularis* is mid April while for *Corchorus olitorius* it is mid April-mid May. Normally jute seed are broadcast but if seeded in lines better yield and reduced costs are assured. Better yield is obtained when lines are spaced 30 cm apart with a plant to plant distance from 5 to 7 cm.

### Seed rate

Seed rate depends on germination percentage and soil moisture. The seed rates of two species are as follows:

	Line sowing	Broadcasting
<i>Corchorus capsularis</i> :	6-7 kg ha <sup>-1</sup>	8-10 kg ha <sup>-1</sup>
<i>Corchorus olitorius</i> :	4-5 kg ha <sup>-1</sup>	6-8 kg ha <sup>-1</sup>

### Intercultural operations

**Gap Filling:** Gap should be filled with transplantation of new seedling when no. of plant is reduced.

**Thinning and mulching:** For deshi and tosha jute 67 and 80 plants per square meter is optimum. Timely thinning of excess plants with simultaneous loosening of soil is beneficial for healthy growth.

**Weeding:** Two or three weedings from third to sixth week of growth depending on weed infestation is necessary for optimum growth. One is at 20 - 25 DAS and another is at 35 - 40 DAS.

**Water management:** Neither excess water should be allowed to stand in the field at growing stages, nor should the crop be allowed to suffer from water deficiency. Jute crop requires 500 mm of water. First irrigation is to be given after sowing and life irrigation on fourth day after sowing. Afterwards irrigation can be given once in 15 days.

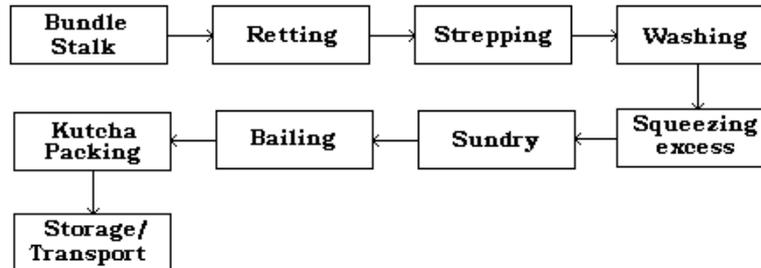


## Harvesting

In Bangladesh, jute is harvested at June-October depending on the sowing time and variety. At 50% of flowering it gives better yield and quality.

## Fiber extraction

The jute plant's fibers lie beneath the bark and surrounded the woody central part of the stem. To extract the fibers from the stem, the process is carried out in the following stages:



## Retting

Retting is a process in which the tied bundles of jute stalks are taken to the tank by which fibers get loosened and separated from the woody stalk. In general, the practice of retting jute plants in the jute growing regions is to immerse the jute bundles in clear slow flowing water, in canals, rivulets, tanks, ponds or ditches. The bundles are steeped in water at least 60 cm to 100 cm depth. The minimum ratio of plant material to water in stagnant water should be 1:20. The retting process is completed in 8 to 30 days. The important conditions for good retting are:

- The water should be non-saline and clear.
- The volume of water should be enough to allow jute bundles to float.
- Bundles, when immersed, should not touch the bottom.
- The same retting tank or ditch should not be used when water becomes dirtier.

A development in recent years is adoption of ribbon retting technology in jute growing trade of the country.

## Washing and drying

Extracted fibers are washed in clean water. The dark color of fibers can be removed by dipping them in tamarind water for 15 to 20 minutes and again washed in clean water. After squeezing excess water the fibers are hang on bamboo railing for sun drying for 2-3 days.

## Bailing and packing

The jute fiber is graded into tops, middles, B, C and X-bottoms. Packing into Kutchha bales about 250 pounds for use in the home trade. They are transported to jute market or direct to jute mills.

- Top - Very strong fibers, good luster and color.
- Middle - Strong fiber and average color and luster.
- Bottom - Sound fiber, medium strength.
  - B-Bottom - Sound fiber, medium strength, not suitable for higher grades.
  - C-Bottom - Medium strength fiber, any color.
  - X-Bottom - Weak jute.