

Lesson 14

JUTE

Corchorus capsularis

C. olitorius

Importance

- Raw jute in the trade & industry refers both jute and meta
- It is one of the best fibres in India
- Plays vital role in Economy
- Employment, industry, foreign exchange are three spheres
- States like WB, Bihar, Orissa & E. UP
 - 4 million small and marginal farmers are engaged
 - Labour intensive during processing
- It was tried an alternate to hemp
- Next to cotton
- Fibre for manufacture of packaging materials
 - Package materials to food grains, sugar, cement, fertilizers, cotton, salt, vegetables etc
- It is gaining importance again since there is awareness in eco-friendly
 - Meaning discouraging synthetic materials

Area, Production, Productivity of allied fibres of Jute – World (Million ha, tonne & t/ha)

Country	Area	Production	Productivity
India	0.96	1.66	1.73
Bangladesh	0.52	0.83	1.60
China	0.23	0.44	1.94
Thailand	0.09	0.13	1.45
Indonesia	0.01	0.01	1.00
World	1.93	3.27	1.69

Area, Production, Productivity of allied fibres of Jute – India (Million ha, tonne & t/ha)

State	Area	Production	Productivity
WB	0.57	1.192	2.10
Bihar	0.14	0.214	1.57
Assam	0.90	0.150	1.68
Orissa	0.01	0.002	1.58
India	0.96	1.660	1.73

Origin

- *C. olitorius*
 - Primary origin – Africa
 - Secondary origin – India
- *C. capsularis*
 - Indo-Burma

Capsularis vs Olitorius

Characters	Capsularis	Olitorius
Height	5-12 feet tall	5-15feet
Waterlogging	Can withstand	Normally Cannot
Duration	3-5 months	4-5 months
Stem	Cylindrical	Cylindrical
Branches	Branched or unbranched	Branched but less vigorous
Capsule	Rounded, 5 locular, seeds 7-10 in two rows in each locules, without transverse partitions, 35-40 in each fruit	Elongated, 5-6 locules, seeds 25-40 in single row in locule, with transverse partitions, 125-200 seeds/pod
Seed wt	300 seeds/g	500seeds /g

Climate

- Hot and humid climate
 - Temp 27 – 40°C
 - Humidity 65-90%
- Short day and low temp leads to
 - premature flowering in olitorius
- Jute growing areas are divided into zones
 - 9 Zones according to climate

Soils

- Well drained fertile light textured soil
 - for olitorius
- Heavy soils and wetland soils
 - for capsularis
 - Alluvial is more suitable for capsularis
- All soils except sandy and heavy clay

Season

- Best season for higher fibre yield is:
 - when the day is longer
 - In Northern hemisphere Mar- Sep
- Winter season is less favourable for fibre
- Jute seeds are sown anytime between March - May
- The crop prefers a hot & humid climate and low laying areas

Field preparation

- Deep ploughing
- Dry seed bed

Methods of sowing

- Broadcasting
- Line sowing by seed drill

Seed rate, Spacing, Plants

Jute type	Line sowing (kg)	Broadcasting (kg)	Spacing (cm)	Plants/m ² (No)
Olitorius	5	7	25 x 5	80

Capsularis	7	10	30 x 5	67
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Varieties

Olitorius

- JRC 212, JRC 321, JRC 7447

Capsularis

- JRO 524, JRO 878, JRO 7835

Intercultural operations

- Raking
 - Or harrowing twice for broadcast crop
 - 5-6cm height and a week later
 - Raking improves tilth, reduces weed and thin the stand
- Hoeing
 - May be wheel hoeing for row cropping
- Weeding
 - 3-4 weeks after sowing, depending upon the intensity
 - Fluchloralin 1.5kg/ha sprayed 3 DAS

Manures and fertilization

- 5 t compost / FYM
- 20:20:20 N, P₂O₅ & K₂O kg /ha
- For traditional area
 - N may be 40 kg in two splits
 - Basal plus top at 3-4 weeks after germination

Irrigation

- Generally rainfed
- Irrigation is needed if sown in March
 - One pre-sowing irrigation
 - Followed by 2-3 irrigations

Harvesting

- Any time between 100-150 days
- Better quality when harvested early
- Higher quantity if harvested later
- Ideal harvest when the crop is in small pod stage (120-135 days)
- The plants are cut close to ground with sickle
- Plants are cut from the bottom
- Leaves are stripped off from the top
- Accumulated in bundles

Retting

- Retting is the process of extraction of the fibre
- Bundles are then submerged in water for 7 to 10 days
- Retting takes place due to joint action of water, aquatic and plant surface organisms, mostly bacteria
- The cambium and the cortex gets decomposed

Stripping

- The labourer holds the stem in one bunch and taps the root end lightly with a mallet.
- This frees the fibre at the foot of the stalk.

- The fibre is then grasped & by lashing & jerking the stem in the water the rest of the fibre loosens and comes off

Drying

- Jute fibres are kept hanging on makeshift hangers for drying
- This process takes about 2 to 3 days
- Now the fibre is ready to be marketed. Here Grading becomes imperative depending on the fineness, color, density, clearness etc, they are all score. Higher the score the better the price.

Grading

- Jute is then brought to JCI godowns
- The bundles are scanned and jute fibres are categorized as per grades (TD1 to TD7)
- Grade wise these are stocked at separate locations

Pressing

- Grade wise bundles are subjected to machine press to convert them in Bales
- Even the ropes used to tie the bales are prepared from the jute wastes
- The bales are finally stored in the warehouse as per their grades for sale

Cropping Systems

- Followed with rabi season winter crops
- Wheat, rice, millets, chickpea etc