

AGRO-ADVISORY TO GROWERS OF JUTE AND ALLIED FIBRES

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29 April to 5 May, 2020 (Issue No: 05/2020)



भा.कृ.अ.प. -केन्द्रीय पटसन एवं समवर्गीय रेशा अनुसंधान संस्थान
ICAR-Central Research Institute for Jute and Allied Fibers

An ISO 9001: 2015 Certified Institute

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**Agro-advisory to Farming Community of Jute and Allied Fibres
(29 April to 5 May , 2020)**

I. Likely weather in the coming week in jute and allied fibre growing states

State/Agroclimatic Zone/Region	Weather Forecast
Gangetic West Bengal (Murshidabad, Nadia, Hoogly, Howrah, North 24-Prganas, Purba Burdwan, Paschim Burdwan, South 24-Parganas, Bankura, Birbhum)	Moderate to rather heavy rainfall is expected in next 4 days (upto 118 mm). Maximum temperature is expected to be around 31-32°C, and minimum temperature of around 20-23°C.
Sub-Himalayan West Bengal (Cooch Behar, Alipurduwar, Jalpaiguri, North Dinajpur, South Dinajpur and Malda)	Light to moderate rainfall is expected in next 4 days (upto 46 mm). Maximum temperature (T_{max}) is expected to be around 25-28°C, and minimum temperature (T_{min}) of around 16-21°C. In Malda and South Dinajpur - T_{max} will be 29-30°C and T_{min} of 21-23°C, light to moderate rainfall is expected (upto 33 mm).
Assam: Central Brahmaputra Valley Zone (Marigaon, Nagaon)	Light rainfall is expected in next 4 days (upto 8 mm). Maximum temperature is expected to be around 27-29°C, minimum temperature of around 19-20°C.
Assam: Lower Brahmaputra Valley Zone (Goalpara, Dhubri, Kokrajhar, Baongaigaon, Barpeta, Nalbari, Kamrup, Baksa, Chirang)	Light to moderate rainfall is expected in next 4 days (upto 34 mm). Maximum temperature is expected to be around 25-28°C, minimum temperature of around 19-21°C.
Bihar: Agro-climatic Zone II (Northern East, (Purnea, Katihar, Saharsa, Supaul, Madhepura, Khagaria, Araria, Kishanganj)	Light to moderate rainfall is expected in next 4 days (upto 40 mm). Maximum temperature is expected to be around 26-29°C, minimum temperature of around 19-23°C.
Odisha: North Eastern Coastal Plain (Balasore, Bhadrak, Jajpur)	Light to moderate rainfall is expected in next 4 days (up to 50-80 mm). Maximum temperature is expected to be around 30-35°C, minimum temperature of around 19-24°C.
Odisha: North East and South Eastern Coastal Plains Region: Kendrapara, Khurda, Jagatsinghpur, Puri, Nayagarh, parts of Cuttack, and parts of Ganjam	Light to moderate rainfall is expected in next 4 days (upto 25 mm). Maximum temperature is expected to be around 33-34°C, minimum temperature of around 22-24°C.

Source: IMD (<https://mausam.imd.gov.in/>) and www.weather.com

II. Agro-advisory for jute crop

1. Late sown jute crop: Those farmers have not yet sown

- Complete the land preparation and sow immediately utilizing “Norwester rainfall”. To get good yield and quality fibre, use JRO 204 (Suren) variety of jute seed and treat the seed with Carbendazim (Bavistin) 50 WP (2g per kg seed), at least 4 hours before sowing. If JRO 204 variety is not available then JRO 524, IRA, Tarun and NJ 7010 variety can be grown for fibre production. These can also be used as leafy vegetable purpose if harvested at early stage.
- Sowing should be done in line through ICAR-CRIJAF Multi-row seed drill and required seed rate will be only 350-400 g/bigha (2.5-3.0 kg/ha). Line sowing with row spacing of 20-25 cm and sowing at depth of 3 cm are recommended.
- In case of extreme emergency and non-availability of seed drill machine, broadcasting of the seed with maximum seed rate of 800 g/bigha (6.00 kg/ha) followed by weeding operation with ICAR-CRIJAF Nail Weeder strictly at field capacity (4-5 days after sowing for alluvial soil, 7-8 days after sowing for clay soil) is recommended for maintaining the proper spacing. CRIJAF Nail Weeder operation at 5-8 days after sowing both under irrigated and rainfed conditions, maintains 5-6 per cent more moisture in root zone (0-15 cm), keeps the soil (0-10 cm) cooler by 1-3 degree celsius, helps to fight early drought stress by young jute seedlings even under no rain fall condition upto 30 days.
- Laddering of field after sowing which will act as dust mulch for conservation of soil moisture which will be helpful for better germination of seed.
- For medium and high fertility land, the recommended fertilizer will be $N:P_2O_5:K_2O :: 60:30:30$ kg/ha. For low fertility land it will be 80:40:40 kg/ha. Nitrogen needs to be applied in 2-3 split doses. However, phosphorus and potash should be applied as basal. Farmer can also refer Soil Health Card for actual NPK application as per their soil test. Effort needs to be given to provide 20-25% nutrient through FYM or organic manure
- Under irrigated condition, spray Pretilachlore 50EC @ 3 ml/Litre water after 48 hrs of sowing with irrigation to control weeds. Under rainfed condition (no irrigation), spray Butachlore 50EC @ 4ml/Litre water after 48 hrs of sowing to control weeds.
- If drought like situation persists at 5-6 DAS, sprinkler irrigation can be given. Where moderate to heavy rainfall is forecasted, wait for irrigation application to crops.

2. Timely sown jute crop at 25 March-10 April (Crop age: 35-40 days)

- If weeding and thinning operation is not done at 3rd week stage, apply one light irrigation if required followed by mechanical weeding with scraper or ICAR-CRIJAF Nail Weeder or Single Wheel Weeder. Maintain the plant population (50-55 plant/m²) by thinning.
- During excess rain due to ‘Norwester’ the field may be waterlogged that adversely affect crop growth. Provision for field drainage should be made to drain out excess water from the crop field.
- The mite insect appears at 30-35 DAS with the symptom of thickening and interveinal crinkling in the terminal young leaves which later turn coppery-brown. Avoid water stress, maintain soil moisture at field capacity to reduce the damage by mite infestation. Foliar spray of Fenpyroximate 5 EC @ 1.5 ml/litre or Spiromesifen 240 SC @ 0.7 ml/litre or Propargite 57 EC @ 2.5 ml / litre alternatively in rotation at 10 days interval if infestation persist beyond 10 days. In case of rain, wait for at least 5-6 days to initiate the Acaricide spray if symptoms initiates/persists.

II. Agro-advisory for jute crop

3. Jute sown after 15 April (Crop Age- 14-20 days)

- Operate ICAR-CRIJAF Nail Weeder attaching scrapper behind it or Single wheel Jute weeder in between jute lines for controlling established weeds. Remove the remaining weeds in between rows manually.
- Maintain optimum plant population of 50-55 jute seedlings / square meter
- Spray Quizalofop Ethyl 5 EC @ 1.5 ml/litre or Quizalofop Ethyl 10 EC @ 0.7 ml/l to control grass weeds. Add spreader chemical like Dhanuvit @ 1ml/litre for better herbicidal efficiency. Remaining other weeds needs to be removed manually. For spraying of one bigha, 80 litre of water is required.
- Provide lifesaving irrigation under water stress condition (rainfed). Apply top dressing of nitrogen @20 kg/ha at 20days after sowing with light irrigation. Elemental sulphur @ 30 kg/ha will reduce the impact of drought condition.
- Collar rot might appear at this stage caused by fungi like Rhizoctonia or Macrophomina or both due to dry soil condition. Irrigate the field and subsequently spray Copper Oxychloride (Blitox 50WP) @ 0.5% solution if incidence is more than 5%. For this sprayer nozzle should be directed towards base of the plants.
- The farmers are advised to be vigilant at this stage on the infestation of indigo caterpillar also. Spray Chlorpyrifos 20EC @ 2ml/Litre of water in the afternoon if infestation persists.
- If farmers grow mung bean (green gram) with jute as intercrop spraying of Imidacloprid @ 0.5 ml/Litre to control white fly against spread of yellow mosaic virus in mung crop will be effective.
- To control dry rot of green gram or minimize fungal attack, foliar spray with Carbendazim 12% + mancozeb 63 % @ 2 g/Litre of water can be followed.

4. Jute sown after 20 April (Crop age; 10-12 days)

- Spray Quizalofop Ethyl 5 EC @ 1.5 ml/litre + dhanuvit 1ml/litre at 10 days after sowing to control grass weed. Eighty litre water is required to spray one *bigha* of land. Remove other remaining weeds manually.
- If nail weeding is not yet done, it should be done immediately based on existing soil moisture for both in broadcast and line sown crop to remove germinating composite weeds, aerate the soil, keep the soil cool and conserve 5-6% more moisture. This helps young jute seedlings to fight early drought stress.
- Collar rot might appear at this stage caused by fungi like Rhizoctonia or Macrophomina or both due to dry soil condition. Irrigate the field and subsequently spray Copper oxychloride (Blitox 50WP) @ 0.5% solution if incidence is more than 5%. For this sprayer nozzle should be directed towards base of the plants.

III. Application of Agro-Advisory in Jute at different growth stages

1. Late sown jute crop: Those farmers have not yet sown particularly for Bihar and Odisha



Step-1: Land preparation and basal dose of NPK fertilizer application for jute field

Step-2: Seed treatment with Bavistin 50 WP or Carbendazim (2g per kg seed), at least 4 hours before



Step-3a: Line sowing of fungicide treated jute seed using CRIJAF Multi-row seed drill



Step-3b: Sowing of treated jute seed by broadcasting method followed by nail weeding at 4-8 days after sowing



Step-4: Under irrigated condition, spraying of Pretilachlore 50EC @ 3 ml/Litre water after 48 hrs of sowing with irrigation to control weeds. For 1 bigha land 80 litre water is required

Under rainfed condition (no irrigation), spray Butachlore 50EC @ 4ml/Litre water after 48 hrs of sowing to control weeds.



2. Timely sown jute crop, 25 March - 10 April (Crop age 30-40 days)



Timely sown (30-35 days old) crop
A. Broadcasted
B. Line sown



A. Mite infested crop at 30-35 days after sowing
B. Avoid water stress, maintain soil moisture and foliar spray of Fenpyroximate 5 EC @ 1.5 ml/litre or Spiromesifen 240 SC @ 0.7 ml/lit or Propargite 57 EC @ 2.5 ml / lit alternatively in rotation at 10 days interval



Crop affected by water logging. Drain the excess water through surface drainage



Damaged caused by hailstrom. If damage is > 50-60% resowing may be done otherwise improve the field condition through inter cultural operation



It's the damage of grey weevil. The farmers may spray Hamla (cyper+chlor) combination @ 1 ml/l or chloepyrphos @ 2ml/l

3. Jute sown after 15 April (Crop age : 14-20 days)



Use scraper of Nail Weeder or single wheel weeder at 20-21 days after sowing





Collar rot caused by fungi due to dry soil condition. Apply copper oxychloride @0.5% solution if incidence is >5%.



To control Indigo cater pillar, at 15 DAS, Chloropyriphos 20EC @ 2ml/litre may be sprayed in the afternoon. Repeat it at 8 - 10 days interval, if the problem persists.

4. Crop sown after 20 April (crop age: 10-15 days)



Use of Nail Weeder at 4-8 days after emergence depending on soil type of jute for composite weed control, soil moisture conservation and line maintenance

For post emergence grass weed control, spraying of Quizalofop Ethyl 5 EC @ 1.0 ml/lit of water at 8-10 days after sowing or 1.5 ml/litre at 15 days after sowing.



Collar rot caused by fungi due to dry soil condition. Apply Copper Oxychloride @0.5% solution if incidence is >5%.

Drain the water through surface drainage as early as possible



IV. Agro-Advisory for Allied Fibres

A) SISAL

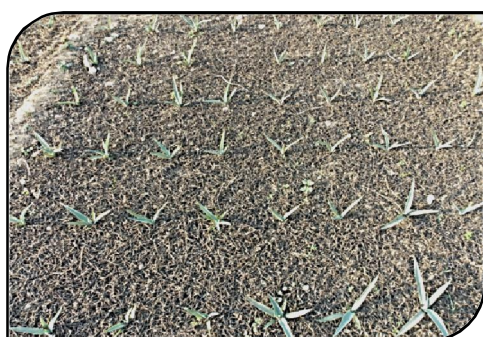
- Harvesting of sisal leaves and fiber should be completed without further delay for better fibre recovery and to avoid injury to the sisal plant.
- Collection of bulbils and raising primary nursery produced from the buds of flowering stalk (pole) emerging in 10-12 years old sisal plants after grading as per the size.
- Application of 2500 kg of FYM or sisal compost with $N:P_2O_5:K_2O::30:15:30$ kg/ha in primary nursery at a spacing of 10 cm x 7 cm of one meter bed width after treatment with Mancozeb 64% + Metalaxyl % @ 2.5 g per litre of water for 20 minutes.
- Proper maintenance of primary nursery and life saving irrigation should be provided for proper establishment of the plantlets in the nursery.
- Intercultural operations like Weeding, hoeing and mulching should be taken for the intercrops grown in interspaces of double row sisal plantation for conservation of soil moisture including application of life saving irrigation under moisture stress.



Harvesting of sisal leaves from >3 years old sisal plantation



Sisal bulbil



Plantation of freshly collected bulbils in primary nursery



Management of primary nursery



Inter crops with fodder



Harvesting of Inter crops (cucumber)

B) RAMIE



- Those farmers have not yet sown, they are suggested to complete the planting immediately using quality rhizomes/ plantlets of R1411 (Hazarika) variety of ramie.
- Make a furrow of about 4-5 cm deep with row to row distance 60-75 cm. Pieces of 10-15 cm length rhizome/ plantlet/ stem cutting are to be planted in the furrow at a distance of 30 cm.
- Application of 20:10:10 kg NPK/ha after is recommended those completed sowing during 1st fortnight of march.
- Integrated applications of organic (FYM or Ramie compost about 20-25%) and inorganic sources of nutrients are recommended for balanced nutrition to the crop and for maintaining good soil health.
- Application of Quisalofof Ethyl 5% EC @ 40 g a.i./ha at 20 days of sowing as well as after each cutting significantly reduces all grassy weeds.
- Stage back operation is recommended for old Ramie plantation for uniform crop stand.
- As per weather forecast of Assam, medium to heavy/ thunder showers are very likely to occur. Ramie crop is very much sensitive to waterlogging, therefore field should be well drained during heavy rains.



Planting of ramie in well prepared soil by furrow method

Harvesting of rhizome for planting



Stage back operation for uniform crop stand and growth

C) SUNNHEMP



1. Farmers who have not yet sown

- Maximum and minimum temperature are predicted to be 34-39°C and 23-26°C, respectively and negligible rainfall is likely to occur during next one week week in sunnhemp growing areas of U.P.
- The farmers are advised for land preparation and sowing of sunnhemp with a pre-sowing irrigation.
- Sowing must be done with certified seed of improved varieties of sunnhemp such as Prankur (JRJ 610), Ankur (SUIN 037), Shailesh (SH-4), Swastik (SUIN 053) and K-12 (Black)
- Seed treatment with Carbendazim @ 2g/ kg seed before sowing is recommended as it protects the crop from seed borne diseases.
- Line-sowing with row to row spacing of 20 cm and plant to plant spacing of 5 – 7 cm at the depth of 2-3 cm. A seed rate of 25 kg/ha for line sowing and 35 kg/ha for broadcasting is recommended.
- Basal dose of N: P₂O₅: K₂O :: 20:40-50:40 kg/ha (Urea: SSP: MOP @ 20: 312.5:66.7 kg/h) is recommended for sowing and should be mixed thoroughly with soil during final tilth. At least 20-25% nutrient requirement will come from organic source.
- When sowing of sunnhemp is done for the first time in that land, seed need to inoculated with rhizobium culture and dried in the shade for 30 minutes before sowing.

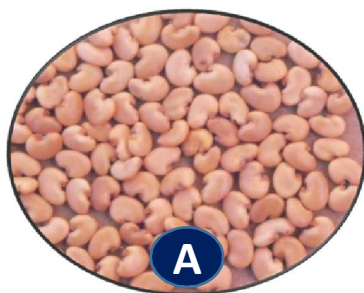
2. Farmers already completed sowing during mid April (Crop age: 15-20 days)

- In case of prolong drought after sowing, leaf hopper infestation may happens. Therefore, one light irrigation is needed.
- After irrigation one scrapper/ wheel hoe or hand weeding may be given after 15-20 days of sowing in between rows to control weeds, thinning of excess plants need to be done to maintain optimum plant population (55-60 plant/square meter).
- The farmers are advised to be vigilant on the infestation of stem girdler or hairy caterpillar. In case of infestation observed, spraying of Chlorpyrifos 20 EC @ 2ml/l is recommended.

3. Farmers sown the crop after 20 April (Crop age: 10-15 days)

- Irrigation and drainage channel to be prepared
- One scrapper may be given around 15 days after sowing to reduce weed growth as well as soil mulching
- The farmers are advised to be vigilant on the infestation of stem girdler. In case of infestation observed, spraying of Chlorpyrifos 20 EC @ 2ml/litre is recommended.

3. Farmers who have not yet sown



Sunnhemp seed
A. K-12 yellow
B. Shailesh (SH 4)



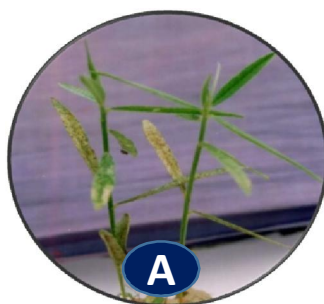
A. Seed treatment
with carbendazim
@2g/kg seed or
carbendazim 12%
+ mancozeb 63 %
B. Land preparation
and sowing



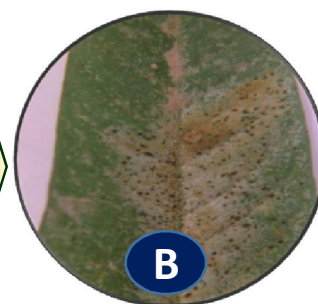
2. Crop sown during mid April (Crop age: 15-20 days)



A. Weeding and
thinning
B. Protective spraying
with chlorpyrifos
20 EC @ 2ml/l



A. Leaf hopper affected seedlings under
prolonged drought condition
B. Adult and nymph seen under surface

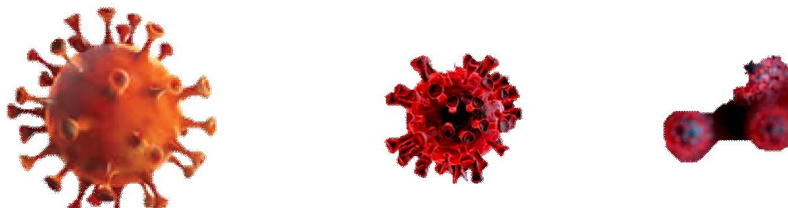


3. Farmers sown the crop after 20 April (Crop age: 10-15 days)



Preparation of irrigation and drainage
channel and one scrapping /hand weeding
at around 15 days after sowing to reduce
weed growth as well as soil mulching

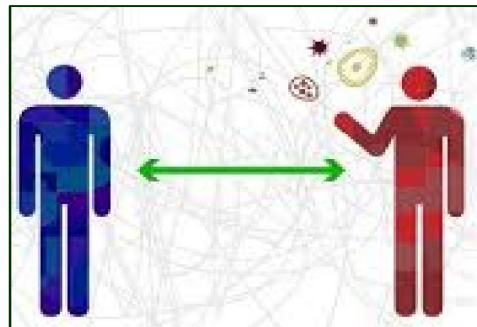
V. Safety and preventive measures to be taken to prevent spread of COVID-19 virus



- 1) Farmers should follow social distancing, safety measures and to maintain personal hygiene by washing hands with soap, wearing of face mask and protective clothing at each and every step in the entire process of field operations like land preparation, sowing, weeding, irrigation.
- 2) Prefer sowing operations by CRIJAF seed drill over the broadcasting wherever feasible. Also stagger the field operations wherever possible and avoid engaging more number of persons for sowing and land preparation on the same day.
- 3) Proper sanitation and cleanliness of machine like seed drill, nail weeder, irrigation pump, tilling equipment, tractor etc. are to be maintained especially when machines are shared and used by farmer groups.
- 4) Also maintain safe distance of 3-4 feet during rest, taking of meals, seed treatment at home, loading/unloading of manures and fertilisers.
- 5) Engage only familiar persons to the extent possible and after reasonable enquiry as to avoid the entry of any suspect or likely carrier during field activity.
- 6) Collect the seed, fertilizer, pesticides and other inputs from known shop and after returning from market immediately wash your hands and exposed parts of the body. Always use face masks while going market for seed purchase.
- 7) Install Aarogya Setu app n your mobile to know the essential health services related to COVID-19



VI. Advisory for jute mill workers



- The workers staying inside the mills may be engaged in multiple numbers of short duration shifts (with minimum number of workers/shift) for running the mills in staggered manner.
- In general adequate numbers of washing points are to be given inside the mills so that the workers can wash hands more frequently. During the duty the workers should not smoke.
- The toilets must be cleaned, sanitized for more number of times to check the spread of virus infection.
- The workers are advised to use gloves, face mask, shoes, proper protective clothing while working in the mill.
- Inside the mill, the working points are to be relocated so that sufficient distances are maintained among the personnel as per the need of social distancing to suppress the transmission of the virus.
- The workers who are exposed to working surfaces more frequently, most of the time touch and handle important points of machines like switches, levers etc. should be extra precautions in hand sanitization and hand washing with soap. Besides, such surfaces and machine parts should be cleaned with soap water to remove the infective virus.
- The aged high risk workers should be allowed to work in more isolated places inside the mill premises so that their chances of exposure to others is reduced to great extent.
- The mill workers must avoid gathering during tiffin/lunch hours, must maintain 6-8 ft distance between two individuals and wash their hands properly before taking foods.
- The workers must report the doctor or the mill owners immediately in case any type of symptoms related to the COVID infection

Wish you all a healthy and safe stay

Published by

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