

AGRO-ADVISORY TO GROWERS OF JUTE AND ALLIED FIBRES

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**Agro-advisory to Farming Community of Jute and Allied Fibres
(22-28th April, 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)	Light to moderate rainfall (6-14 mm) is expected. Maximum temperature is expected to be around 34-36°C, and minimum temperature of around 24-27°C.
Sub-Himalayan West Bengal (Cooch Behar, Alipurduwar, Jalpaiguri, North Dinajpur, South Dinajpur and Malda)	Very light to moderate rainfall (2.8 to 17.2 mm) is expected. Maximum temperature (Tmax) is expected to be around 27-34°C, and minimum temperature (Tmin) of around 18-21°C. In Malda and South Dinajpur - Tmax will be 29-36°C and Tmin of 19-23°C, light to heavy rainfall is expected.
Assam: Central Brahmaputra Valley Zone (Marigaon, Nagaon)	Light to medium rain (upto 60 mm)/thunder showers are very likely to occur. Maximum temperature is expected to be around 29-31°C, minimum temperature of around 17-18°C.
Assam: Lower Brahmaputra Valley Zone (Goalpara, Dhubri, Kokrajhar, Baongaigaon, Barpeta, Nalbari, Kamrup, Baksa, Chirang)	Moderate to heavy rain/thunder showers are very likely to occur. Maximum temperature is expected to be around 28-32°C, minimum temperature of around 18-20°C.
Bihar: Agro-climatic Zone II (Northern East, (Purnea, Katihar, Saharsa, Supaul, Madhepura, Khagaria, Araria, Kishanganj)	Light rainfall (up to 12 mm) is expected. Maximum temperature is expected to be around 32-36°C, minimum temperature of around 20-23°C. In Kishanganj, Tmax will be around 27-29°C and Tmin of 17-20°C, rainfall will be around 20 mm.
Odisha: North Eastern Coastal Plain (Balasore, Bhadrak, Jajpur)	Light rain (up to 8 mm) is expected. Maximum temperature is expected to be around 34-38°C, minimum temperature of around 24-26°C.
Odisha: North East and South Eastern Coastal Plains Region: Kendrapara, Khurda, Jagatsinghpur, Puri, Nayagarh, parts of Cuttack, and parts of Ganjam	Light rainfall (up to 6 mm) is expected. Maximum temperature is expected to be around 34-37°C, minimum temperature of around 25-26°C.

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



II. Agro-advisory for jute crop

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

- They are suggested to 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 Carbenidazim (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 NJ7010 variety can be grown for fibre production. This 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 machine and required seed rate will be only 350 - 400 gm/bigha. 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 800g /bigha (6.0 kg/ha) followed by weeding operation with ICAR-CRIJAF Nail Weeder strictly at field capacity field capacity (4-5 days after sowing for alluvial soil and 7-8 days after sowing for clay soil) is recommended for maintaining the proper spacing (plant-to-plant & row-to-row). This nail weeder needs to be operated at 4-8 days after sowing depending upon the soil, keeping 10 cm gap in between two successive runs for automatic line arrangement, weeding and thinning.
- 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:P₂O₅:K₂O : : 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.
- Under irrigated condition, spray Pretilachlore 50EC @ 3 ml/L water after 48 hrs of sowing with irrigation to control weeds. Under rainfed condition (no irrigation), spray Butachlore 50EC @ 4ml/L water after 48 hrs of sowing to control weeds.
- In drought like situation persist 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 (25 March-10 April): Those who already completed sowing

- Those who have sown the crop in first week of April (crop age, 3 weeks); apply one light irrigation followed by (after 2-3 days depending on soil moisture condition) mechanical weeding with scraper of ICAR-CRIJAF Nail Weeder or Single Wheel Weeder. Maintain the plant population (50-60 plant/m²) by thinning. After weeding and thinning, apply top dressing of Nitrogen fertilizer @ 20kg/ha in medium and high fertile soil (20 DAS). In case of low fertile soil apply Nitrogen @ 27kg/ha.
- For post emergence grass weed control, spray Quizalofop ethyl 5 EC @ 1.0 ml/L of water at 8-10 days after sowing or Quizalofop ethyl 10EC @ 0.75 ml/lit at 15 days after sowing.
- The farmers are advised to be vigilant on the infestation of indigo caterpillar particularly in the newly emerged seedlings which are cut from the ground level. The infestation will be more after rain or irrigation. The larva hides below the clods in the base of the plant. For control of indigo caterpillar, Chlorpyrifos 20EC @ 2ml/L of water may be sprayed in the afternoon. Repeat it at 8 - 10 days interval, if the problem persists.

II. Agro-advisory for jute crop

3. Jute sown after 15 April

☐ Jute (Irrigated)

- Operate ICAR-CRIJAF Nail Weeder at field capacity (4-5 days after sowing for alluvial soil and 7-8 days after sowing for clay soil). This acts as soil mulching which maintains 5 – 6% more moisture in the soil even at 5 – 10 cm of soil depth and keeps the soil cool, helps the jute seedling to escape the early drought stress if no rain occurs till 30 days after sowing.
- Make final thinning and try to keep about 50-55 plants per square meter.
- Spray Quizalofop ethyl 5EC @ 2.0 - 2.5 ml/L of water to control grass weeds at 21 to 22 Days after sowing. Quizalofop 10EC can also be sprayed @ 1 ml/L of water.
- Operate scraper of nail weeder to remove established weeds (mutha, durba, gadamoni, etc.) if any in between jute rows.
- After final weeding and thinning, top dressing of nitrogen @ 20 kg/ha for medium to high fertile and 27 kg/ha for low fertile land should be given (20 DAS) followed by irrigation.
- The farmers are advised to be vigilant on the infestation of indigo caterpillar. Spray Chlorpyrifos 20EC @ 2ml/L of water in the afternoon.

☐ Jute (Rainfed)

- To mitigate drought stress condition, operate ICAR-CRIJAF Nail Weeder at field capacity (4-5 days after sowing for alluvial soil and 7-8 days after sowing for clay soil). This acts as soil mulching which maintains 5 – 6% more moisture in the soil even at 5 – 10 cm of soil depth and keeps the soil cool, helps the jute seedling to escape the early drought stress if no rain occurs till 30 days after sowing.
- Spray Quizalofop ethyl 5 EC @ 2.0- 2.5 ml/lit to control grass weeds at 21 to 22 Days after sowing. Quizalofop 10 EC can also be sprayed @ 1 ml/L of water.
- Applications of elemental sulphur @ 30 kg/ha may be given under drought condition.
- Provide lifesaving irrigation under water stress condition. Apply top dressing of nitrogen @20 kg/ha after light irrigation.
- There may be chances of Coller rot 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%. Sprayer nozzle should be directed towards base of the plants.

☐ For jute-green gram intercrop

- Spray Imidacloprid @ 0.5/L to control white fly against spread of yellow mosaic virus in mung (green gram) crop.
- To control dry rot of green gram or minimise fungal attack, spray SAAF @ 2 g/L of water.

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

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



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



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



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



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/L 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/L water after 48 hrs of sowing to control weeds.

2. Timely sown jute crop (25 March - 10 April)



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



Maintain plant population of 50-60 plant per square meter



Farmers are to be vigilant on the infestation of indigo caterpillar particularly in the newly emerged seedlings which are cut from the ground level.

Chloropyriphos 20EC @ 2ml/l may be sprayed in the afternoon. Repeat it at 8 - 10 days interval, if the problem persists.

3. Jute sown after 15 April



Use of Nail Weeder at 8 days after emergence of jute plants for composite weed control and soil moisture conservation



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

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



IV. Agro-Advisory for mandates Allied Fibres

A) SISAL

- Harvesting of sisal leaves can be done from more than 3 years old sisal plantation. Decortication should be completed within 24 hours of cutting of leaves for better fibre recovery.
- In 1-2 years old planation of sisal with inter crops (okra, cow pea, beans, etc.), intercultural operation, mulching and lifesaving irrigation should be done.
- Collect bulbils from buds of the flowering spikes produced on the pole of 10-12 years old sisal plants. The freshly collected bulbils should be planted in primary nursery with a spacing of 10 x 7 cm on flat raised beds of 1 m width. The collected bulbils should be treated with mancozeb 64% + metalaxyl 8% @2.5 g/L of water for 20 min. before planting.
- FYM or sisal compost @2500 kg/ha with N:P2O5:K2O :: 30:15:30 kg/ha should be applied with irrigation for rapid development of sisal plantlets in nursery.



Harvesting of sisal leaves can be done from more than 3 years old sisal plantation



Plantation of freshly collected bulbils in primary nursery

Inter crops with mulching in 1-2 years old planation of sisal



B) RAMIE



- Planting of rhizomes or plantlets of R1411 (Hazarika) variety of Ramie should be completed by end of April month. Make a furrow of about 4-5 cm deep with row to row distance of 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 N:P₂O₅:K₂O :: 20:10:10 kg/ha is recommended for those who already completed planting of Ramie by mid-March. Application of FYM or Ramie compost @ 2000 kg/ha is recommended for maintaining good soil health and ramie fibre yield.
- Application of quinalofopethy 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. Ramie crop is very much sensitive to waterlogging, therefore field should be well drained during heavy rains.



Land preparation for
plantation of ramie plantlets



Ramie plantation done in the
month of March

C) SUNNHEMP



1. Farmers who have not yet sown

- Maximum and minimum temperatures are predicted to be 35-39OC and 22-24OC, respectively and negligible rainfall is likely to occur during next one 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.
- 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

- In case of drought situation prevailing after sowing, one light irrigation needed be given.
- If sowing already done during mid-April, thinning of excess plants need to be done to maintain optimum plant population.
- The farmers are advised to be vigilant on the infestation of stem girdler. In case of infestation observed, spraying of chlorpyrifos 20 EC @ 2ml/l is recommended.



Seed treatment with Carbendazim/SAAF @2g/kg seed before sowing

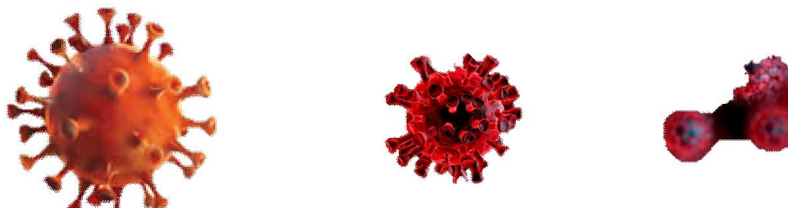


Land preparation and sowing of improved varieties of sunnhemp.

Weeding and thinning of excess plants to maintain optimum plant population.



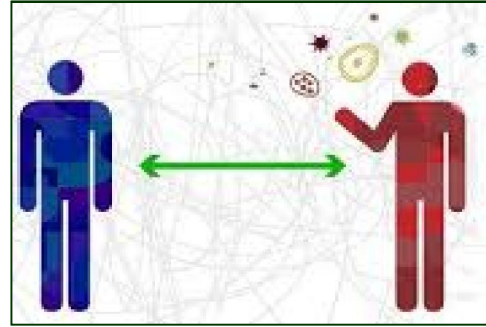
V. Safety and preventive measures to be taken to prevent spread of COVID-19 virus



- 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.



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