

POST-AMPHAN AGRO-ADVISORY TO GROWERS OF JUTE AND ALLIED FIBRES

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ICAR-Central Research Institute for Jute and Allied Fibers**

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**Agro-advisory to Farming Community of Jute and Allied Fibres
(26 May to 04 June, 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 is expected on during 26-29 May, 2020 (total rain upto 18 mm). Maximum temperature (T_{max}) is expected to be around 32-37°C, and minimum temperature (T_{min}) of around 26-28°C. In Birbhum – T_{max} will be 37-42°C and T_{min} of 25-28°C, light rainfall is expected (total upto 13 mm).
Sub-Himalayan West Bengal (Cooch Behar, Alipurduwar, Jalpaiguri, North Dinajpur, South Dinajpur and Malda)	Light to heavy rainfall is expected during 26-29 May, 2020 (total rain upto 135 mm). Maximum temperature (T_{max}) is expected to be around 22-35°C, and minimum temperature (T_{min}) of around 19-25°C. In Malda and South Dinajpur - T_{max} will be 31-41°C and T_{min} of 23-27°C, light to moderate rainfall is expected (total upto 50 mm).
Assam: Central Brahmaputra Valley Zone (Marigaon, Nagaon)	Heavy rainfall is expected during 26-29 May, 2020 (total rain upto 143 mm). Maximum temperature is expected to be around 21-27°C, minimum temperature of around 19-22°C.
Assam: Lower Brahmaputra Valley Zone (Goalpara, Dhubri, Kokrajhar, Baongaigaon, Barpeta, Nalbari, Kamrup, Baksa, Chirang)	Heavy rainfall is expected during 26-29 May (total rain upto 272 mm). Maximum temperature is expected to be around 20-30°C, minimum temperature of around 19-23°C.
Bihar: Agro-climatic Zone II (Northern East, (Purnea, Katihar, Saharsa, Supaul, Madhepura, Khagaria, Araria, Kishanganj)	Light to moderate rainfall is expected during 26-29 May, 2020 (total rain upto 53 mm). Maximum temperature is expected to be around 27-41°C, minimum temperature of around 21-27°C.
Odisha: North Eastern Coastal Plain (Balasore, Bhadrak, Jajpur)	No rainfall is expected during 26-29 May, 2020. Maximum temperature is expected to be around 34-40°C, minimum temperature of around 25-26°C.
Odisha: North East and South Eastern Coastal Plains Region: Kendrapara, Khurda, Jagatsinghpur, Puri, Nayagarh, parts of Cuttack, and parts of Ganjam	No rainfall is predicted during 26-29 May. Maximum temperature is expected to be around 33-41°C, minimum temperature of around 24-26°C.

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

II. Post Cyclone (Amphan) Agro-advisory for Jute Farmers

The very severe cyclone “Amphan” made landfall on 20th May, 2020, lashing with maximum wind speed of 155 kmph. Parts of West Bengal like North 24-Parganas, South 24-Parganas, Kolkata, East and West Midnapore, Howrah and Hooghly and some districts of Odisha like Balasore, Jagatsinghapur were the severely affected and wrecks havoc on life and properties. Thousands of trees were uprooted in the gales, electricity and telephone lines brought down, many houses were flattened and standing crops like jute and rice were affected.

The cyclone severely affected the standing jute crop (20-70 days old crop) in various jute growing areas in West Bengal as well as in Assam. Due to cyclonic storm and heavy rainfall, jute fields are severely waterlogged and plants are lodged which may affect the fibre production. The damage can be minimized by adopting following corrective measures.

Immediate Corrective measures

- Immediately remove the water by making suitable drainage path on the field bund towards downward slope. After removing the stagnant water from the field, make field ditch (20 cm wide and 20cm depth at 10 meter interval) for removing the remaining water.
- Straighten the lodged plants of 4 feet and above height by tying 8-10 plants together, if possible, after removing the water.
- Crops upto 30 days age, first remove the excess water from the field and then one protective spray with Copper Oxychloride @ 0.25% or [Mancozeb @0.2%](#) is advocated to control seedling blight, damping off diseases during cloud free weather.



III. Agro-advisory for Jute Crop

1. Timely sown jute crop at 25 March-10 April (Crop age: 60-70 days)

- Excess rain and wind due to 'Amphan' jute field are waterlogged in most of the jute growing areas in West Bengal and Assam that adversely affect crop growth. Remove excess water from field immediately by creating field ditches (20 cm wide and 20 cm depth) along the gradient at 10 m intervals.
- Just after the impact of 'Amphan' due to high wind speed and heavy rainfall, all the stages of insect will be washed out. At least 8-10 days after the cyclone if the weather clears up, the insect pest infestation may gradually increase depending on the prevailing crop and weather condition.
- In 'Amphan'- free areas, infestation of hairy caterpillar after rain when the temperature and relative humidity raises may occurs. Eggs and young larvae are seen in cluster on the leaf surface. The pest spreads quickly and damage the leaves. Early monitoring to spot early infestation is required. Remove the egg masses and newly emerged larvae in bunch. Spray Lambda Cyhalothrin 5EC@ 1ml/lit or Indoxacarb 14,5 SC@ 1.0 ml/litre in extreme cases.
- On the other hand if drought prevails mite infestation with the symptom of thickening and interveinal crinkling in the terminal young leaves which later turn coppery-brown. Avoid water stress and 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
- Another insect, semilooper causes foliar damage in almost all the jute growing tracts. Slender, greenish larvae with light yellow head, narrow dark green dorsal lines are easily noticed when they crawl by producing a loop in the middle. The crop is most susceptible at 50-80 DAS. Damage starts in all cases from unopened leaves in upper part of the plant which represent the most susceptible portion. Damage is restricted to 9 fully opened leaves of the crop. The edges of the tender leaves are eaten, serrated, diagonal cuts occurs in apical leaves. Sometimes damaged stem induce branching. Whenever, the damage by semilooper reaches 15% then any contact insecticide such as Profenophos 50 EC @2 ml/litre, Fenvalerate 20EC @ 1.0 ml/litre or Cypermethrin 25EC @ 0.5 ml/litre may be applied. The insecticidal sprays need to be targeted towards the apical portion of the plant rather than covering the whole plant.
- Under warm and humid condition leaf infection by *Macrophomina phaseolina* may occurs which ultimately infect the stem through petioles and leaf margin causing stem rot diseases. One protective foliar spray with Mancozeb @0.2% or Copper Oxychloride @ 0.3% may apply. Waterlogging may increase the stem rot infection, therefore, proper drainage is essential.
- First harvesting of mung (intercrop with jute) may be done if pods are fully matured. Avoid harvesting in bad weather condition.



60-70 days old crop at different places of North and South Bengal



Under warm humid condition leaf infection by *Macrophomina phaseolina* may occurs which ultimately causing stem rot diseases. Protective foliar spray with Mancozeb @0.2% or Copper Oxychloride @ 0.25% may apply at 20 days interval. Avoid waterlogging and improve drainage



Hairy caterpillar infestation with high temperature and humidity after rainfall. The pest spreads very quickly. Monitor early infestation and remove the egg masses and newly emerged larvae in bunch. Spray lambda cyhalothrin 5EC@ 1ml/lit or indoxacarb 14,5 SC@ 1.0 ml/l in extreme cases.

If damage by semilooper reaches 15% then any contact insecticide such as Profenophos 50 EC @2 ml/litre, Fenvalerate 20EC @ 1.0 ml/litre or Cypermethrin 25EC @ 0.5 ml/litre may be applied. The insecticidal sprays need to be targeted towards the apical portion of the plant rather than covering the whole plant.



Avoid water stress, maintain soil moisture and 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



Intercropping
mung with jute



2. Jute sown after 15 April (Crop Age: 50-60 days)

- During excess rain due to 'Cyclonic Depression' some field may be waterlogged that adversely affect crop growth. Remove excess water from field immediately by creating field ditches (20 cm wide and 20 cm depth) along the gradient at 10 m intervals. At optimum condition maintain plant population (55-60 plants/square meter).
- Closed tender leaves of 30-50 day old jute crop may be damaged by grey weevils usually after rain. The damage portions in leaves broaden as the plant grows. Weevils are grey in colour with dark white spots, elongated head, visible on plants. Spray combination of (Chlorpyrifos 50EC+Cypermethrin 5EC) @ 1-1.5 ml/l or Chlorpyrifos 20EC @2ml/litre or Quinalphos 25 EC@1.25 ml/litre
- Farmers should also be remain alert about infestation of hairy caterpillar after rain when the temperature and relative humidity raises. Eggs and young larvae are seen in cluster on the leaf surface. The pest spreads quickly and damage the leaves. Early monitoring to spot early infestation is required. Remove the egg masses and newly emerged larvae in bunch. Spray Lambda Cyhalothrin 5EC@ 1ml/lit or Indoxacarb 14,5 SC@ 1.0 ml/litre in extreme cases.
- If drought prevails mite infestation with the symptom of thickening and interveinal crinkling in the terminal young leaves which later turn coppery-brown. Avoid water stress and 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
- Another insect, semilooper causes foliar damage in almost all the jute growing tracts. Slender, greenish larvae with light yellow head, narrow dark green dorsal lines are easily noticed when they crawl by producing a loop in the middle. The crop is most susceptible at 50-80 DAS. Damage starts in all cases from unopened leaves in upper part of the plant which represent the most susceptible portion. Damage is restricted to 9 fully opened leaves of the crop. The edges of the tender leaves are eaten, serrated, diagonal cuts occurs in apical leaves. Sometimes damaged stem induce branching. Whenever the damage by semilooper reaches 15% then any contact insecticide such as Profenophos 50 EC @2 ml/litre, Fenvalerate 20EC @ 1.0 ml/litre or Cypermethrin 25EC @ 0.5 ml/litre may be applied. The insecticidal sprays need to be targeted towards the apical portion of the plant rather than covering the whole plant.



Timely sown (50-60 days old) jute crop

Control of grey weevils with Spray combination of Chlorpyrifos 50EC+cypermethrin 5EC @ 1-1.5 ml/l or Chlorpyrifos 20EC @2ml/l or Quinalphos 25 EC@1.25 ml/l





Hairy caterpillar infestation with high temperature and humidity after rainfall. The pest spreads very quickly. Monitor to spot early infestation and remove the egg masses and newly emerged larvae in bunch. Spray lambda cyhalothrin 5EC@ 1ml/lit or indoxacarb 14,5 SC@ 1.0 ml/l in extreme cases.



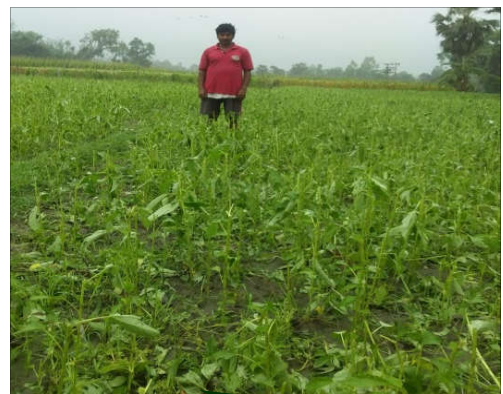
If damage by semilooper reaches 15% then any contact insecticide such as Profenophos 50 EC @2 ml/litre, Fenvalerate 20EC @ 1.0 ml/litre or Cypermethrin 25EC @ 0.5 ml/litre may be applied. The insecticidal sprays need to be targeted towards the apical portion of the plant rather than covering the whole plant.



Avoid water stress, maintain soil moisture and 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



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



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

3. Jute sown after 20 April (Crop Age: 30-40 days)

- If last top dressing is due, apply 20 N/ha under assured moisture condition or apply one irrigation after top dressing and maintain 50-55 plants/square meter.
- During excess rain due to 'Cyclonic Depression' the field may be waterlogged that adversely affect crop growth. Remove excess water from field immediately creating field ditches (20 cm wide and 20 cm depth) along the gradient at 10 m intervals.
- Unopened tender leaves of 30-50 day old jute crop may be damaged by grey weevils usually after rain. The damage portions in leaves broaden as the plant grows. Weevils are grey in colour with dark white spots, elongated head, visible on plants. Spray combination of (Chlorpyrifos 50EC+Cypermethrin 5EC) @ 1-1.5 ml/l or Chlorpyrifos 20EC @2ml/litre or Quinalphos 25 EC@1.25 ml/litre
- Farmers should be alert about the initial infestation of hairy caterpillar after rain when the temperature raises with high humidity. Eggs and young larvae are seen in bunch on the leaf surface. The pest spreads quickly and damage the leaves. Monitor to spot early infestation. Remove the egg masses and newly emerged larvae in bunch. Spray Lambda Cyhalothrin 5EC@ 1ml/lit or Indoxacarb 14,5 SC@ 1.0 ml/litre in extreme cases.
- 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
- The farmers are also advised to be vigilant about the infestation of indigo caterpillar at 30-40 days crop, spray Chlorpyrifos 20EC @ 2ml/Litre of water in the afternoon if infestation persists.



35-40 days old
crop at different
places of North
and South
Bengal



Hairy caterpillar infestation with high temperature and humidity after rainfall. The pest spreads very quickly. Monitor early infestation and remove the egg masses and newly emerged larvae in bunch. Spray lambda cyhalothrin 5EC@ 1ml/lit or indoxacarb 14,5 SC@ 1.0 ml/l in extreme cases.



Control grey weevils infestation with spray combination of Chlorpyrifos 50EC + cypermethrin 5EC @1-1.5 ml/l or Chlorpyrifos 20EC @2ml/l or Quinalphos 25 EC@1.25 ml/l

Avoid water stress, maintain soil moisture and 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



4. Jute sown last week of April (Crop age: 25-35 days)

- If weeding and thinning operation is not done at 3rd week stage, operate mechanical weeders with scraper or ICAR-CRIJAF Nail Weeder or Single Wheel Weeder to remove established weeds. Maintain the plant population (50-55 plant/square meter) by thinning. In extreme drought apply one shallow irrigation (3 cm) and top dress 2nd nitrogen dose @ 20 kg/ha
- After weeding and thinning, apply top dressing of Nitrogen fertilizer @ 20kg/ha in medium and high fertile soil (20 DAS) and irrigate the crop. In low fertile soil it is @ 27 kg/ha.
- During excess rain due to 'Cyclonic Depression' the field may be waterlogged that adversely affect crop growth. Remove excess water from field immediately creating field ditches (20 cm wide and 20 cm depth) along the gradient at 10 m intervals.
- Unopened tender leaves of 30-50 day old jute crop may be damaged by grey weevils usually after rain. The damage portions in leaves broaden as the plant grows. Weevils are grey in colour with dark white spots, elongated head, visible on plants. Spray combination of (Chlorpyrifos 50EC+Cypermethrin 5EC) @ 1-1.5 ml/l or Chlorpyrifos 20EC @2ml/litre or Quinalphos 25 EC@1.25 ml/litre
- If drought persists mite infestation may appear at 30-35 DAS. Avoid water stress and 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 persists beyond 10 days. In case of rain, wait for at least 5-6 days to initiate the Acaricide spray if symptoms initiate/persist.
- 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.



30 days old crop
at different
places of North
and South
Bengal



Avoid water stress 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

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.



Control grey weevils infestation with
spray combination of Chlorpyriphos
50EC + cypermethrin 5EC @ 1-1.5
ml/l or Chlorpyriphos 20EC @2ml/l
or Quinalphos 25 EC@1.25 ml/l



Drain the excess rain water through
surface drainage as early as possible

5. Jute sown in first week May (Crop age: 20-25 days)

- During excess rain due to 'Cyclonic Depression' the field may be waterlogged that adversely affect crop growth. Remove excess water from field immediately creating field ditches (20 cm wide and 20 cm depth) along the gradient at 10 m intervals.
- Operate mechanical weeders with scraper of ICAR-CRIJAF Nail Weeder or Single Wheel Weeder to remove established weeds at 20-25 days after sowing. During continuous rains in some areas, weeding by Nail weeder may not be possible. In that situation, apply Quizalofop Ethyl 5EC @ 1.5-2.0 ml/Litre for grass weed control followed by one hand weeding to kill the other weeds.
- Under extreme drought condition apply one shallow irrigation (3 cm).
- Apply 1st top dressing of Nitrogen @20 kg /ha at 20 DAS after final weeding and thinning.
- The farmers are also advised to be vigilant at this stage on the infestation of indigo caterpillar. Spray Chlorpyrifos 20EC @ 2ml/Litre of water in the afternoon if infestation persists.
- If heavy rainfall occurs, first remove the excess water from the field and then one protective spray with Copper Oxychloride @ 0.25% or [Mancozeb @0.2%](#) is advocated to control seedling blight and damping off at a convenient time.



Use scraper of Nail Weeder at 20-21 days after sowing



Use of Single Wheel Weeder at 20-21 days after sowing



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

Drain the water through surface drainage as early as possible



IV. Agro-Advisory for Allied Fibres

A) SISAL

- **Maintenance of primary nursery:** Intercultural operations, spraying and lifesaving irrigation should be provided.
- **Preparation of Secondary nursery:** Well-drained fertile land should be selected for raising secondary nursery. Prepare land by 2-3 deep ploughing and keep free from weeds and other residues. 5 tonnes/ ha sisal compost or FYM should be applied at the time of preparation of nursery.
- **Maintenance of New Sisal Plantation:** Bush cleaning and weeding in 1-2 years old sisal plantation along with spraying of Copper oxy-chloride @ 3.0 g / lit or Mancozeb 64 % + Metalaxyl 8 % @ 2.5 g / lit of water at 10-15 days interval against zebra disease.
- **Activities for taking New Preparation:** The field should be well drained and atleast should have 15 cm soil depth. Demarcation of land for the main field, cleaning of bushes and weeds and pitting of 1ft³ size with spacing of 3.5m + 1m x 1m for Double row sisal plantation should be taken up and completed before onset of monsoon for in-situ rainwater harvesting.
- **Hybrid Sisal Plantation:** Hybrid sisal variety Bamra Hybrid-1 can be grown profitably for higher fibre yield compared to *Agava sisalana* but more maintenance and care is required in case of hybrid sisal and can be adopted for large scale plantation.
- **Intercropping in Sisal Plantation:** Raising of different spices, vegetables and maize in interspaces of sisal and maintenance of existing intercrops.



Harvesting of sisal leaves

Bush Cleaning & Weeding in 2 years old plantation



Pit digging and plantation in double row system

Zebra disease of sisal
Spraying of Copper Oxychloride @ 2-3 g/litre water



Inter cropping with Turmeric



Raising of vegetable in inter row spacing



Inter cropping with maize

B) RAMIE



- As per forecast, medium to heavy/ thunder showers are very likely to occur in Assam (Barpeta district) , therefore, provision of draining out of rain water is very much essential as the crop is very sensitive to waterlogging.
- Timely harvesting of ramie crop is most important operation, which is to be done after every 45-60 days old plant. Stem colour turns green to brown beyond this period, which is indication of over maturity of fibre and poor quality as well. Ramie farmers must be attentive to avoid this situation.
- Stage back operation is recommended in old plantation for uniform crop stand and followed by application of recommended dose of fertilizers i.e. 30-15-15 kg/ha of NPK.
- For new plantation gap filling may be done if uniformity in crop stand is not achieved.
- Application of Quizalofop Ethyl 5% EC @ 40 g a.i./ha significantly reduces all grassy weeds. Application should be based on intensity of weeds more especially grassy weeds.
- Insect pests like Indian red admiral caterpillar, Hairy caterpillar, Lady bird beetle, Termites, Leaf beetle and Leaf roller may be seen in the field. Based on the incidence of these pests spraying of 0.04% Chlorpyrifos is recommended.
- Diseases like Cercospora leaf spot, Sclerotium rot, Anthracnose leaf spot, Damping off and yellow mosaic may be seen during these times. Based on the occurrence of these diseases foliar spraying of fungicides such as Mancozeb @2.5 ml/litre or Propiconazole @1 ml/litre is recommended.



New ramie plantation

Ramie fibre both degummed and gummed



Harvesting of ramie crop

C) SUNNHEMP

1. Farmers sown sunnhemp crop during mid April (Crop age: 40-45 days)

- The farmers are advised to be vigilant on leaf curl and phyllody infection. If infection observed, uprooting and burning of heavily infected plants followed by spraying of Imidacloprid 17.8 SL @ 0.5-1ml/lit is recommended to minimise vector population.
- If dry condition persists flea beetle infestation may occurs which feeds on the leaves making small holes. Farmers are also advised to be vigilant on the infestation of hair caterpillar, if substantial infestation observed, spraying of Chloropyriphos 20EC @ 2ml/litre any Neem based formulations @ 3-4ml /litre is recommended
- Under extreme heat condition one irrigation is recommended.



45-50 Days old crop



Flea beetle infested crop

2. Farmers sown the crop after 20 April (Crop age: 35-40 days)

- If no rainfall occurs or water stress is observed one light irrigation is advocated at 35 days after sowing. Maintain plant population (55-60 plant/square meter).
- If dry condition persists flea beetle infestation may occurs which feeds on the leaves making small holes. Farmers are also advised to be vigilant on the infestation of hair caterpillar, if substantial infestation observed, spraying of Chloropyriphos 20EC @ 2ml/litre any Neem based formulations @ 3-4ml /litre is recommended.



30-40 Days old crop



Crop affected by hairy caterpillar

3. Farmers sown sunnhemp crop in last week of April (Crop age: 25-35 days)

- Under water stress, one light irrigation is advocated. One hand weeding after irrigation is required at 25 days after sowing for better growth and maintain plant population (55-60 plant/square meter).
- If weeding is not done, one scrapper/ wheel hoe or hand weeding may be given between rows to control weeds, thinning of excess plants need to be done to maintain optimum plant population (55-60 plant/square meter).
- Under drought stress, flea beetle infestation may occurs which feeds on the leaves making small holes. Farmers to be vigilant on the infestation of hair caterpillar, if substantial infestation observed, spraying of Chloropyriphos 20EC @ 2ml/litre or any Neem based formulations @ 3-4ml /litre is recommended.



25-30 days
old crop



Flea beetle infested crop

4. Farmers sown the crop in first week of May (Crop age: 20-25 days)

- After irrigation one scrapper/ wheel hoe or hand weeding may be given after 15-25 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).
- If drought condition persist after sowing, leaf hopper infestation may observed which weaken the young seedlings by sucking the sap from leaf. Therefore, one light irrigation is needed.
- The farmers are advised to be vigilant on the infestation of stem girdler or hairy caterpillar. In case of infestation observed, spraying of Chlorpyriphos 20 EC @ 2ml/litre is recommended.



Wheel hoe for weed control and
soil mulching



Crop affected by hairy caterpillar

D) Mesta



1. Sowing of mesta during last week of May

- Farmers are suggested to go for land preparation and the sowing process of Mesta (Roselle and Kenaf). For Roselle, Variety like AMV-5, MT-150 and HS-4288 and for Kenaf variety like JRM-3 (Sneha) and JBM81 (Shakti) should be used to get good yield. The seed should be treated with Carbendazim @2g kg⁻¹ seed at least 4 hours before sowing.
- Seed Rate for Broadcasting should be 15 kg ha⁻¹ and 12 kg ha⁻¹ for Line sowing. Line sowing should be at spacing of 30 x 10 cm and at a depth of 2-3 cm to obtain desired plant population. 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.
- The recommended fertilizer for rainfed conditions is N:P₂O₅:K₂O::40:20:20 kg ha⁻¹ and N: P₂O₅:K₂O::60:30:30 kg ha⁻¹ under irrigated conditions. Nitrogenous fertilizer needs to be applied in 2-3 spilt dose. However, phosphorus and potash should be applied as basal along with 5t FYM/ha. Farmers can also refer Soil Health Card for actual NPK requirement as per their soil test report.
- Under rainfed conditions, pre emergence application of Butachlor 50% EC @ 4 ml/Litre water after 24-48 hrs of sowing to control weeds and pre emergence application of Pretilachlore 50 EC @ 3 ml/Litre water after 40-48 hrs of sowing to control weeds under irrigated conditions and spray solution of 500-600 litres water/ha is necessary.
- For crop insurance strip cropping (4:4) of mesta/roselle with ground nut, blackgram and maize are advocated



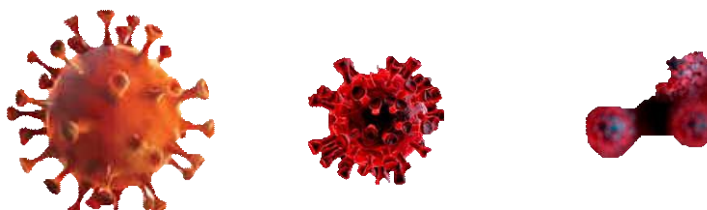
Land preparation and basal dose of NPK fertilizer application for mesta cultivation



Seed treatment with Carbendazim (1g per kg seed), at least 4 hours before

Open furrows developed by nine tye cultivators for rainfed sowing for in situ soil water conservation

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 in your mobile to know the essential health services related to COVID-19

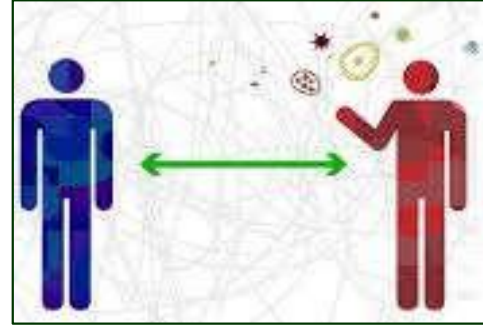


Aarogya Setu

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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, livers 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

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