



# *National Agromet Advisory Service Bulletin*

*Friday 22<sup>nd</sup> March 2019*  
*(For the period 22<sup>nd</sup> to 27<sup>th</sup> March 2019)*



*Issued by*  
*India Meteorological Department*

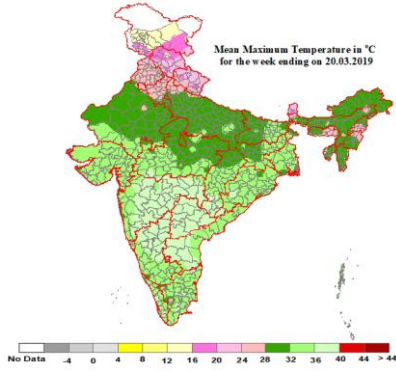
**Weblink For**

District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>

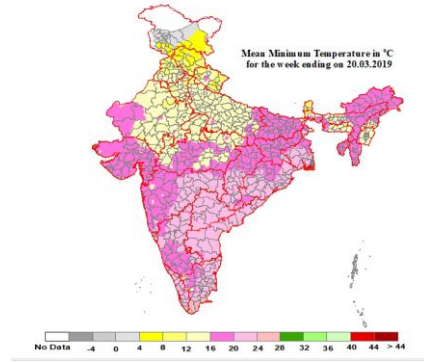
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

**Spatial distribution of weather parameters for the week ending on 20.03.2019**

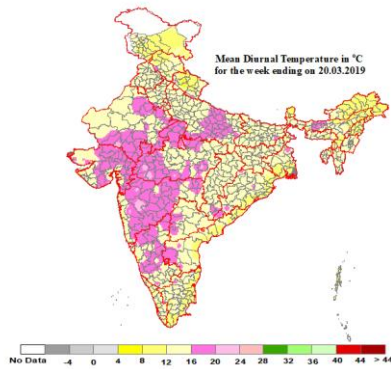
**Mean Maximum Temperature (°C) for the week ending on 20.03.2019**



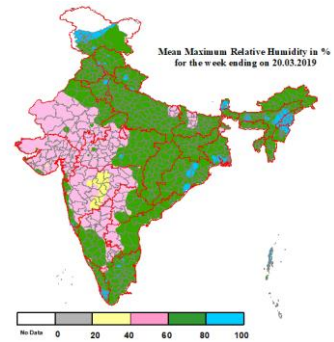
**Mean Minimum Temperature (°C) for the week ending on 20.03.2019**



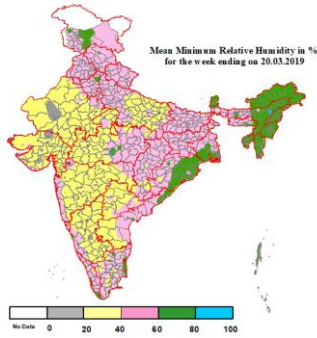
**Mean Diurnal Temperature Variation (°C) for the week ending on 20.03.2019**



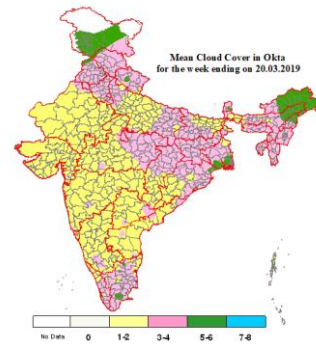
**Mean Maximum Relative Humidity (%) for the week ending on 20.03.2019**



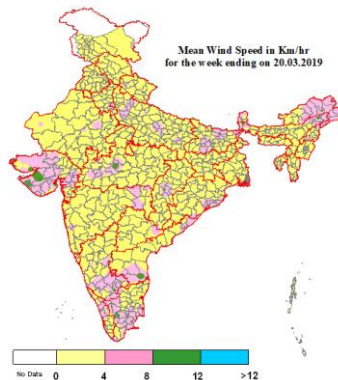
**Mean Minimum Relative Humidity (%) for the week ending on 20.03.2019**



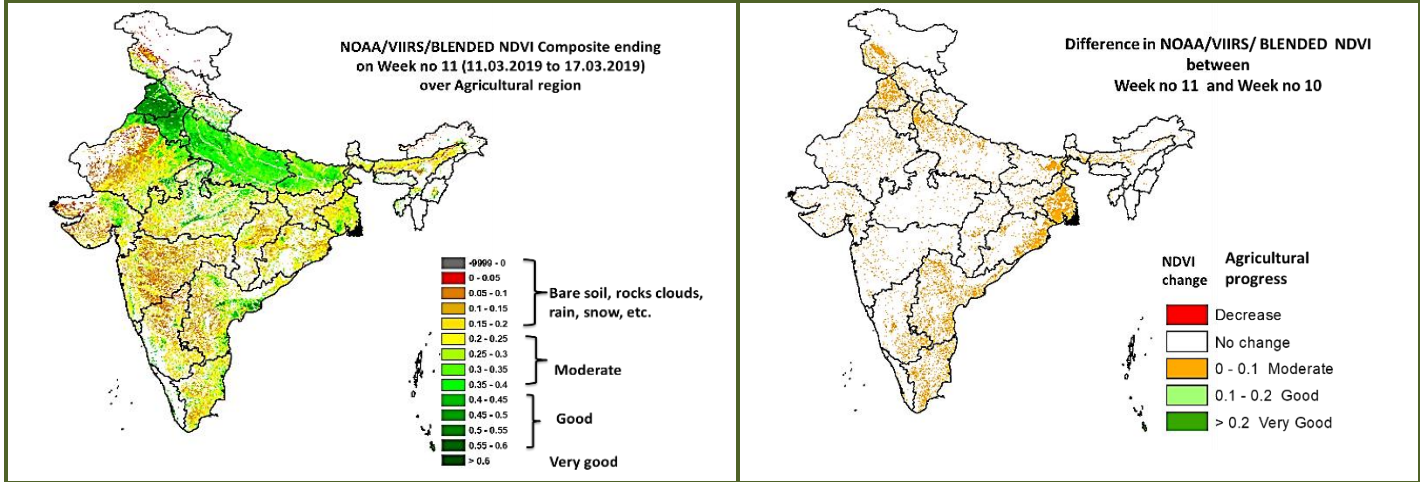
**Mean Cloud Cover (okta) for the week ending on 20.03.2019**



**Mean Wind Speed (km/hr) for the week ending on 20.03.2019**

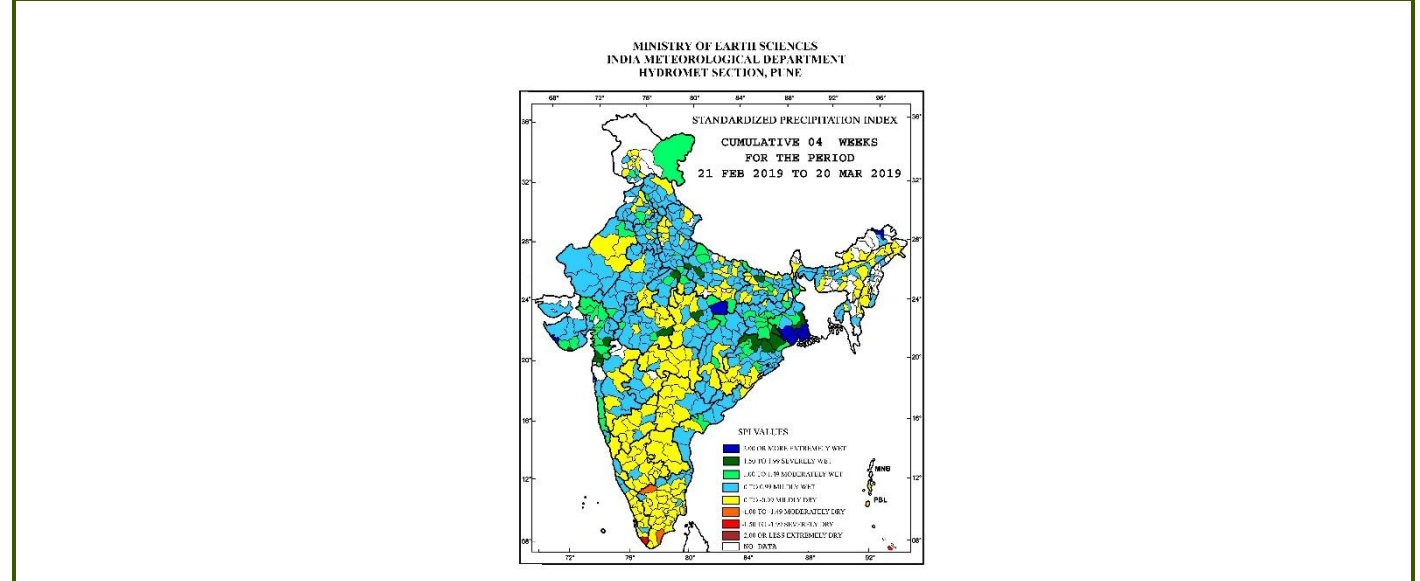


<b>NOAA/VIIRS/BLENDED NDVI composite for the week number 11 (11.03.2019 to 17.03.2019) over Agricultural regions of India</b>	<b>Difference in NOAA/VIIRS/BLENDED NDVI between week number 11 and week number 10</b>
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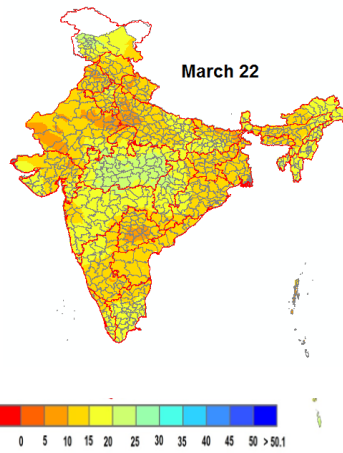
- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Agriculture vigour is good at most places over Punjab, many places over Haryana, at a few places over West Uttar Pradesh and at isolated places over Bihar, East Uttar Pradesh, East Rajasthan, part of Jammu &amp; Kashmir adjoining Punjab, West Madhya Pradesh, Coastal Andhra Pradesh, Southern Kerala. It was moderate over rest of the country.</li> </ul> | <ul style="list-style-type: none"> <li>• Moderate difference in agricultural vigour was noticed at many places over Jammu &amp; Kashmir, Punjab, West Uttar Pradesh, Gangetic West Bengal, Andhra Pradesh, Tamilnadu and South Interior Karnataka. It was scattered to isolated over rest of the country.</li> </ul> |
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### Standardised Precipitation Index Cumulative 4 weeks for the period 21<sup>st</sup> February to 20<sup>th</sup> March 2019

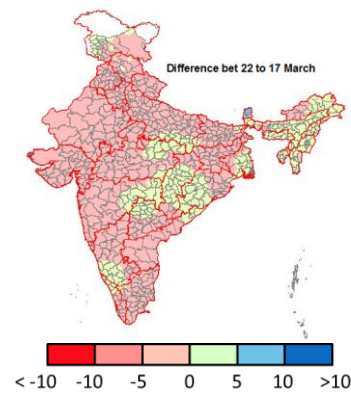
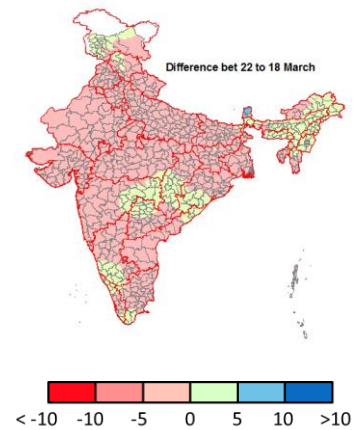
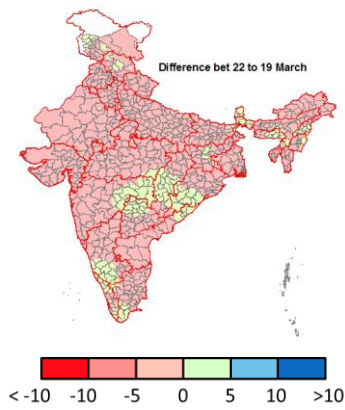
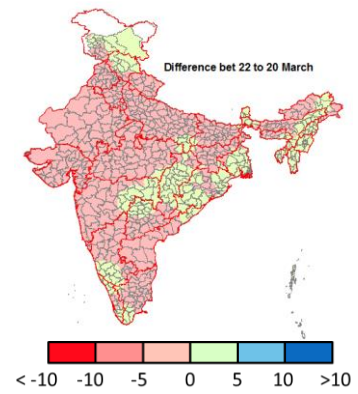
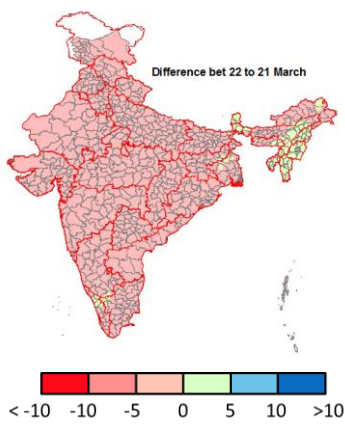


- Extremely/severely wet conditions experienced at a few districts of West Bengal; Upper Siang district of Arunachal Pradesh; Deogarh, Keonjhar, Mayurbhanj, Sundargarh districts of Odisha; East Singbhum district of Jharkhand; Muzaffarpur district of Bihar; Kannauj, Unnao districts of Uttar Pradesh; Bhind, Hoshangabad, Katni, Singrauli districts of Madhya Pradesh.
- Extremely/Severely dry conditions experienced in Trivandrum district of Kerala.
- Moderately dry conditions experienced in Toothukudi district of Tamil Nadu & Puducherry; Chamarajanagar district of Karnataka.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

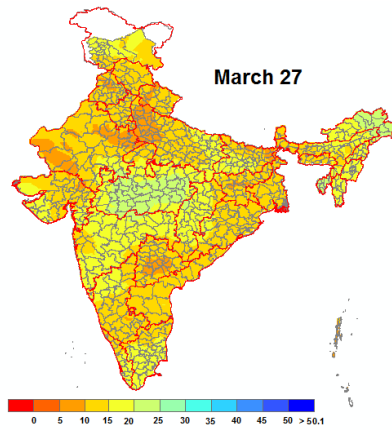
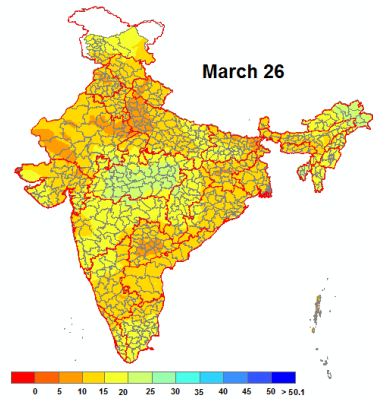
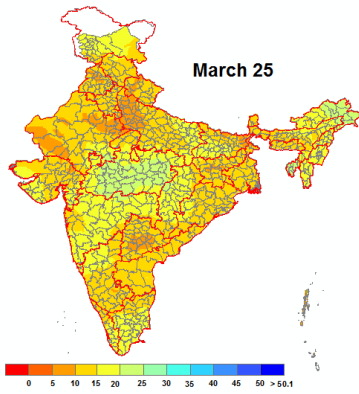
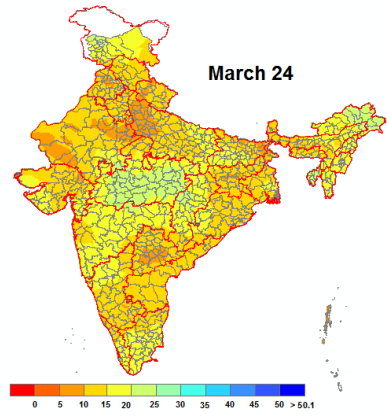
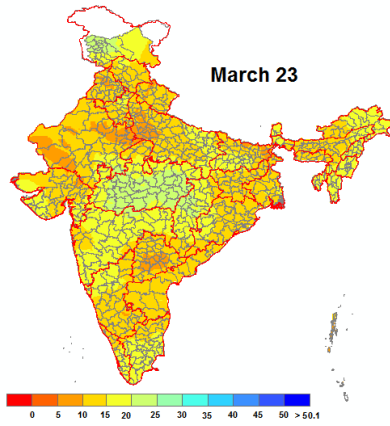
Daily Soil Moisture (mm) for 22<sup>nd</sup> March 2019 (ending at 0830 IST) for 60 cm depth



Difference of Soil Moisture (mm) for 60 cm depth



**Forecasted Soil Moisture (mm) from 23<sup>rd</sup> to 27<sup>th</sup> March 2019 (ending at 0830 IST)  
for 60 cm depth**



## Weather Forecast for next 5 days valid upto 0830 hours of 27<sup>th</sup> March 2019

- Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.
- No significant change in maximum temperatures are likely over northwest India during next 24 hours. They are likely to rise gradually by 2-3°C thereafter. They are likely to rise by 2-3°C over the rest of the country during next 3-4 days.

### 5 Day Rainfall Forecast (Mid-day)

22<sup>nd</sup> March 2019

Met-Sub-Division	22-Mar Today	23Mar Sat	24Mar Sun	25Mar Mon	26Mar Tue
1. Andaman & Nicobar Islands	DRY	DRY	DRY	ISOL	ISOL
2. Arunachal Pradesh	WS	FWS	ISOL	SCT	FWS
3. Assam & Meghalaya	SCT	SCT	ISOL	DRY	ISOL
4. N. M. M. & T.	SCT	SCT	ISOL	DRY	ISOL
5. S.H. West Bengal & Sikkim	ISOL	ISOL	DRY	ISOL	SCT
6. Gangetic West Bengal	ISOL	DRY	DRY	DRY	ISOL
7. Odisha	ISOL	DRY	DRY	ISOL	ISOL
8. Jharkhand	ISOL	DRY	DRY	DRY	ISOL
9. Bihar	DRY	DRY	DRY	ISOL	ISOL
10. East Uttar Pradesh	DRY	DRY	DRY	ISOL	DRY
11. West Uttar Pradesh	DRY	DRY	ISOL	ISOL	DRY
12. Uttarakhand	DRY	DRY	DRY	ISOL	ISOL
13. Haryana, Chd & Delhi	DRY	DRY	ISOL	ISOL	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	DRY	ISOL	DRY	ISOL	ISOL
16. Jammu & Kashmir	DRY	SCT	ISOL	ISOL	DRY
17. West Rajsthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	DRY	ISOL	ISOL	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	ISOL	DRY
20. East Madhya Pradesh	DRY	DRY	DRY	ISOL	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	DRY	DRY	DRY	ISOL	DRY
25. Marathawada	DRY	DRY	ISOL	ISOL	DRY
26. Vidharbha	DRY	DRY	DRY	ISOL	DRY
27. Chhattisgarh	ISOL	DRY	DRY	ISOL	ISOL
28. Coastal Andhra Pradesh	ISOL	DRY	DRY	ISOL	ISOL
29. Telangana	DRY	DRY	ISOL	ISOL	DRY
30. Rayalaseema	DRY	DRY	DRY	DRY	DRY
31. Tamilnadu & Puducherry	ISOL	ISOL	DRY	DRY	DRY
32. Coastal Karnataka	DRY	DRY	DRY	DRY	ISOL
33. North Interior Karnataka	DRY	DRY	DRY	DRY	DRY
34. South Interior Karnataka	DRY	DRY	DRY	DRY	ISOL
35. Kerala	DRY	ISOL	ISOL	ISOL	ISOL
36. Lakshadweep	DRY	DRY	DRY	DRY	DRY

#### % Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

### Weather Warning during next 5 days

- **22 March (Day 1):** Thundersquall accompanied with lightning at isolated places very likely over Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura. Thunderstorms accompanied with lightning at isolated places very likely over Odisha and Gangetic West Bengal.
- **23 March (Day 2):** Thunderstorm accompanied with gusty winds & lightning at isolated places very likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- **24 March (Day 3):** No weather warning.
- **25 March (Day 4):** Thunderstorm accompanied with gusty winds & lightning at isolated places likely over north Coastal Andhra Pradesh.

- **26 March (Day 5):** Thundersquall accompanied with lightning at isolated places likely over Nagaland, Manipur, Mizoram & Tripura. Thunderstorm accompanied with gusty winds & lightning at isolated places likely over Assam & Meghalaya and Arunachal Pradesh.

#### **Weather Outlook for subsequent 2 days from 27<sup>th</sup> to 29<sup>th</sup> March 2019**

- Scattered to fairly widespread rain/thundershowers likely over northeastern States and Andaman & Nicobar Islands and isolated to scattered rain/thundershowers over East and southern most peninsular India.
- Scattered to fairly widespread rain/snow likely over Western Himalayan Region.
- Dry weather likely over the rest of the country.

#### **Salient Advisories**

- As thunderstorm accompanied with gusty winds & lightning at isolated places very likely over **Assam & Meghalaya** on 23<sup>rd</sup> and 26<sup>th</sup>, over **Nagaland, Manipur, Mizoram & Tripura** on 23<sup>rd</sup>, over **Arunachal Pradesh** on 26<sup>th</sup>, over north Coastal Andhra Pradesh on 25<sup>th</sup>, thundersquall accompanied with lightning at isolated places very likely over **Arunachal Pradesh, Assam & Meghalaya, Odisha** and **Gangetic West Bengal** on 22<sup>nd</sup>, over **Nagaland, Manipur, Mizoram & Tripura** on 22<sup>nd</sup> and 26<sup>th</sup> March, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane in north Coastal Andhra Pradesh and Odisha.
- As rain/thundershowers likely at most/many places over **Arunachal Pradesh** on 22<sup>nd</sup>, 23<sup>rd</sup> and 26<sup>th</sup> March, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- Undertake land preparation and sowing of maize and sowing of *Jhum* rice in **Nagaland**. In **North Gujarat**, continue sowing of summer groundnut, pearl millet and sesame crops.
- As dry/mainly dry weather would prevail, continue harvesting of matured wheat crop and castor in **Middle Gujarat**. Continue harvesting of normal sown early varieties of mustard and matured gram and lentil crops in **Chhattisgarh**. Harvest late sown matured mustard crop in **Bihar** and undertake harvesting of matured mustard and rabi pulse crops in **Odisha**.

#### *Detailed Agromet Advisories*

#### **SOUTH INDIA [TAMIL NADU, TELANGANA, ANDHRA PRADESH, KARNATAKA, KERALA]**

- **Realised Rainfall:** Weather remained mainly dry/dry over the region during the week.
- **Advisories:**
  - As thunderstorm accompanied with gusty winds & lightning at isolated places likely over north Coastal Andhra Pradesh on 25<sup>th</sup> March, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane .
  - **Kerala:**
    - As temperature is increasing, apply mulch in coconut gardens. It is desirable to bury fresh or dried coconut husk around the coconut palms to conserve soil moisture. The husk can be buried either in linear trenches taken 3 m away from the trunk between rows of palms or in circular trenches taken around the palm at a distance of 2 m from the trunk. The trenches may be of 0.5 m width and depth. The husks are to be placed in layers with concave surface facing upwards and covered with soil. Instead of husk, coir pith can be buried @ 25 kg /palm/year.
    - In Problem Area Zone, mango is in peak flowering stage. Take precautionary measures against mango fruit fly. Use pheromone traps @ 1 no./25 cents.
    - In High Altitude Zone, this is an ideal time for planting of pepper. Also keep the fields ready for ginger plantation.
    - In Central Zone, there is a chance of aphid attack in vegetables, apply 2% neem oil emulsion or apply 20g *Verticillium lecanii* per one litre of water in ten days intervals. If aphid attack is severe, apply 3 ml

Imidacloprid or 2 g Thiamethoxam per ten litre of water.

- In Southern Zone, tuber crops like elephant foot yam, greater yam can be planted. They should be planted after receipt of summer rains. Also, there is a chance of incidence of leaf spot in banana, spray *Pseudomonas* @ 20 gram per litre of water.
- **Andhra Pradesh:**
  - In North Coastal Andhra Pradesh, weather is congenial for incidence of panicle mite in rice. Spray Prophanaphos @ 1.6 ml per litre of water.
  - In South Coastal Andhra Pradesh, prevailing dry weather and high temperature, maize crop which is at tasseling stage may face moisture stress. Provide irrigation to the crop.
  - In Rayalaseema, undertake harvesting of rabi groundnut when 70-80 % of groundnut plant leaves/ stems turn yellow colour and inside of the pod shell might have turned black colour. Pods which are to be used for sowing purpose should be dried under sun until the moisture content is 9%.
- **Telangana:**
  - Continue sowing of fodder crops like sorghum, bajra and maize can be taken up for fodder with assured irrigation facilities..
  - Prevailing weather conditions are congenial for the incidence of Powdery Mildew in Mango. Spray Wettable Sulphur @ 3 g or Hexaconazole @ 2ml per liter of water.
- **Tamil Nadu:**
  - In Western Zone, immediately after the receipt of summer rainfall, land preparation may be done to plant Tapiaco and cumbu.
  - In Cauvery Delta Zone, mainly dry weather condition is expected in the next five days, harvesting of matured *Samba/Thaladi* paddy may be continued .
  - Increasing temperature with wind speed above 10 km/h may cause severe water stress in standing crops. Provide sufficient irrigation to all crops and do mulch to prevent soil moisture. All irrigated standing crops including coconut.
  - In North Western Zone, to improve the fertility status of soil as well as improve the soil condition apply farm yard manure @ 5 ton / acre for agricultural crops, 10 ton / acre for horticultural crops and 50 kg / tree for trees having an age of more than 5 years and 10 kg / plant for cucurbitaceous plants.
- **Karnataka:**
  - In South Interior Karnataka, undertake planting of ginger and turmeric. Apply irrigation in coffee (flowering stage) plantation through well/borewell/tanks or rain guns/sprinkler irrigation. Continue harvesting of pepper.
  - In Coastal Karnataka, apply one protective irrigation in horticultural crops (coconut, mango, arecanut, banana, cashew etc.) once in 5 to 7 days.
  - In North Interior Karnataka, continue deep ploughing in crop harvested fields. Complete harvesting of sorghum, wheat, chick pea, safflower crops; continue harvesting of cabbage crop. Incorporate crop residue in the soil; this facilitates in situ conservation of water during the pre-monsoon rains and also helps to conserve the soil. Apply irrigation in groundnut, sugarcane, mango (mustard size) crop.
  - In North Interior Karnataka, for management of sunflower Necrosis in sunflower spray super Confidor 200 SL @ 0.5ml or Flonicamide 50 WG @ 0.02 ml/liter of water.
  - In South Interior Karnataka, for management of sheath blight in rice, spray Hexaconazol @ 1 ml/liter of water.
- **Animal Husbandry**
  - In Karnataka, maintain optimum room temperature in sericulture, poultry and dairy unit. Allow animals for grazing early in the morning or later in the evening.

#### NORTHEAST INDIA [ARUNACHAL PRADESH, NMM&T, ASSAM, MEGHALAYA]

- **Realised Rainfall:** Rainfall occurred in Changlang, East Siang, Kurung Kumey, Lohit, Upper Subansari and Upper Siang districts of Arunachal Pradesh, N. C. Hills district of Assam, Dimapur and Kohima districts of Nagaland during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - As thundersquall accompanied with lightning at isolated places very likely over Arunachal Pradesh, Assam & Meghalaya on 22<sup>nd</sup>, over Nagaland, Manipur, Mizoram & Tripura on 22<sup>nd</sup> and 26<sup>th</sup>, thunderstorm accompanied with gusty winds & lightning at isolated places very likely over Assam & Meghalaya on 23<sup>rd</sup> and 26<sup>th</sup>, over Nagaland, Manipur, Mizoram & Tripura on 23<sup>rd</sup>, over Arunachal Pradesh on 26<sup>th</sup> March, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds.
  - **Arunachal Pradesh:**
    - As rain/thundershowers likely at most/many places over Arunachal Pradesh on 22<sup>nd</sup>, 23<sup>rd</sup> and 26<sup>th</sup> March, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the



standing crops. Keep harvested produce at safer places.

- Undertake land preparation of sowing of *Jhum* rice. Continue sowing maize and early *kharif* vegetables. Carry out harvesting of ginger/turmeric and mustard after current spells of rain.
- Undertake foliar spraying of Dinocap (0.2%) or Carbendazim 50WP (0.1%) or Propiconazole (0.1%) after current spells of rain or using sticker in case of heavy infestation of powdery mildew/leaf eating insects in pea crop at pod formation stage.
- **Assam:**
  - In Lower Bramhaputra Valley of Assam, continue land/bed preparation for sowing of transplanted early Ahu rice. Continue land preparation/planting of sugarcane.
  - In Barak Valley Zone of Assam, continue land preparation for sowing of *Ahu* rice. Plant healthy seedlings of summer vegetables in the field.
  - In North Bank Plain Zone of Assam, continue nursery bed preparation for transplanted Ahu rice. Undertake sowing of the seeds of direct seeded Ahu variety like Banglami, Puthichapali, Nilajee, Hasakumra etc. and complete the sowing as early as possible. In intermittent flash flood affected areas, farmers are advised to sow *Bau* varieties namely Dhusuri, Maguri, Kekua, Ranga bao, Negheri etc. during March-April. Carry out land preparation for summer green gram and black gram.
  - In Upper Bramhaputra Valley of Assam, continue nursery bed preparation for sowing of transplanted Ahu rice. Undertake planting of banana and colocasia and land preparation/sowing of maize.
  - In Central Bramhaputra Valley of Assam, take up land preparation for sowing of Capsularis jute, summer pulses and summer vegetables. Undertake harvesting of wheat crop and land preparation and planting of coconut, ginger/turmeric.
  - In Lower Bramhaputra Valley of Assam, spray Carbendazim @ 0.5g/litre or Hexaconazole 2ml/litre for sheath blight and also apply Chloropyriphos 20EC at the concentration of 0.02% solution @ 2ml per 10 litre of water against stem borer during the afternoon period in *Boro* rice on a non rainy day.
  - In Hill Zone of Assam, monitor pod borer in gram crop at flowering/pod formation stage and diamond black moth in cole crops. Install pheromone traps @ 3-4 traps per acre for monitoring of the pest population for diamond back moth in cole crop and pod borer in pea on a non rainy day. In North Bank Plain Zone of Assam, apply protective spray of Chloropyriphos 20 EC @ 1ml/litre of water against potato tuber moth in standing crop as well as against late blight disease on a non rainy day.
- **Meghalaya:**
  - Continue nursery raising/ transplanting of tomato, chilli, brinjal and capsicum. Continue sowing of okra, cole crops (cabbage, cauliflower, broccoli) and root crops (radish, carrot). Continue harvesting of pea and pineapple.
  - Spray Monocrotophos (Nuvacron) @ 2.5 g/litre of water or Dimethoate (Rogor) @ 1.5 ml/litre of water during flush period to control citrus scales on a non rainy day.
- **Manipur:**
  - Complete nursery raising of pre-*kharif* rice and undertake transplanting of 20-25 days old seedling. Maintain 5-8 cm water level in the field of pre-*kharif* rice. Continue transplanting of 4-5 leave stage cucurbits seedlings, planting of tomato, brinjal and sowing of bhindi.
- **Mizoram:**
  - Harvest mature fruits of strawberry, chilli, brinjal and tomato.
  - Rust affected Pea plant should be destroyed or burnt. Spray the crop with Dithane M-45 @ 2 kg/ha in 1000 litres of water. Apply 2-3 sprays at 10 days interval on a non rainy day.
- **Tripura:**
  - Continue sowing of cow pea and transplanting of summer brinjal and tomato. Maintain 4 to 5 cm standing water in the field of *boro* rice.
  - To manage the attack of Stock rot in rabi maize at post silking stage, spray Mancozeb 2ml per litre of water on a non rainy day.
- **Nagaland:**
  - Undertake land preparation and sowing of maize and complete sowing of maize by first week of April. Continue sowing of *Jhum* rice. Short duration pulse crops and green manuring crops like dhaincha, sunnhemp etc should be planted as pre-*kharif* crop in fallow paddy lowland/ Terrace Rice field to enhance the soil fertility Continue sowing of green gram, summer vegetables and nursery preparation of Naga king chilli. Apply neem cake @ 250kg/ha after germination in cucurbitaceous vegetables on a non rainy day.
- **Animal Husbandry**
  - In Assam, start rearing chicks during this season. Collect healthy chicks from some reputed hatchery.
  - In Arunachal Pradesh, vaccinate poultry birds against Ranikhet disease at 4 days of birth and give booster dose after 1 month.
  - In Manipur, vaccinate pigs against swine fever after the age of 3 months and vaccinate cattle against FMD.
  - In Tripura, the weather is conducive for swine fever in pig. Pig may be vaccinated against swine fever.

## EAST INDIA [JHARKHAND, BIHAR, ODISHA, WEST BENGAL & SIKKIM, ANDAMAN & NICOBAR ISLANDS]

- **Realised Rainfall:** Rainfall occurred in East Singhbhum, Gumla, Khunti, Lohardagga, Ranchi, Saraikela and West Singhbhum districts of Jharkhand, Bargarh, Boudh, Deogarh, Keonjhar, Mayurbhanj, Sambalpur, Sonepur and Sundergarh districts of Odisha, East Midnapore, Kolkata, North 24 Paraganas, South 24 Paraganas and West Midnapore districts of Gangetic West Bengal and East Sikkim and North Sikkim districts of Sub-Himalayan West Bengal & Sikkim during the week. Weather remained mainly dry/dry over the region.
- **Advisories:**
  - As thunderstorms accompanied with lightning at isolated places very likely over Odisha and Gangetic West Bengal on 22<sup>nd</sup> March, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane in Odisha.
  - **Odisha:**
    - Summer paddy crop is at tillering to PI stage (six to nine weeks) in main field. Maintain 5 cm water level at PI stage. Sugarcane crop is at germination (two to four weeks) stage in main field. Irrigate the crop at seven days interval. The onion crop is at bulb development (ten to fourteen week) stage. Irrigate the crop at 7 days interval. Undertake harvesting of matured mustard and harvest the rabi pulse crops at 90% pod maturity. Rabi sunflower is at maturity stage. Harvest the heads by sickle when the calyx of the flowers turns yellow and dry them in sun. Summer sunflower crop is at pre-flowering stage. Spray 2-3 g Borax per litre water. Take up sowing of good varieties of sesamum.
    - If dead heart damage in summer paddy crop is more than 5% , spray Chlorantraniliprole 18.5 S.C. 80ml per acre @ 0.4ml/litre water or Cartrap Hydrochloride 50% S.P. 400g per acre @ 2g/litre of water. Aphids and whitefly may infest green gram and black gram crops. Spray 60ml Imidacloprid 17.8%SL or 50ml Thiomethaxome 25%WG mixing with 200litres of water per acre crop area.
  - **Bihar:**
    - Harvest late sown matured mustard crop and potato tubers from the field immediately. In view of dry weather, give irrigation to onion crop at an interval of 10-12 days. Do not apply irrigation to mango at flowering stage. Irrigation may be applied after fruit attaining the size of pea. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and rabi maize and sunflower. Continue sowing of green gram and black gram. Continue sowing of summer vegetables.
    - To protect the mango from the infestation of powdery mildew, spraying of sulphar based fungicide @1.0ml/litre of water on the foliage of the trees is advised. Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spray Imidacloprid @ 1ml/3 liters of water.
  - **Jharkhand:**
    - Maintain 4-5 cm water level in paddy field and carry out weeding at 21-28 days after transplanting. Apply one irrigation to wheat crop at ear head initiation to milky stage. Take up cultivation of summer vegetables if irrigation facility is available. Continue sowing of improved Pant Lobeya-2 variety of summer cowpea. Continue sowing of improved mung variety SML-688. Continue land preparation and sowing of okra (bhindi). Cucurbitaceous vegetables which have achieved vigorous growth may be provided support of bamboo or any other such material, so that leaves and fruits of the plant don't come in contact with soil.
    - If ear head of wheat crop is affected with loose smut disease (in which ear head appears black and does not bear any grain), destroy it carefully after hand picking and burning. This operation is essential for those who will use this crop produce as seed during next year. To control pod borer in gram crop, apply three alternate spraying of Endoxcarb @ 1.5 to 2 ml /litre water solution. To control fruit borer in tomato and shoot & fruit borer in brinjal, fix pheromone traps @ 12 nos. per acre or spray Imidachlorpid @ 1 ml/litre of water.
  - **West Bengal:**
    - In Sub-Himalayan West Bengal, carry out mulching in large cardamom. Harvest mature pods of mustard and garden pea crops. Harvest mature cabbage, cauliflower and other cole crops. Carry out weeding garden pea and potato crops. Carry out land preparation for planting og ginger and turmeric in the main field.
    - In Gangetic West Bengal, maintain 5 cm water level in Boro paddy field. Remove the weeds by hand weeding in the field and Keep the bunds clean. Harvest the wheat crop when grain become fully dry. Keep the groundnut field weed free and drain out excess water at the pre-flowering stage.
    - In Sub-Himalayan West Bengal, for management of winter vegetable pest at early vegetative stage, spray Chlorpyrifos 50% + Cypermethin 5% @ 1.5 ml/litre of water. To control diamond back moth on cruciferous vegetables, spray Dinotefaran 20 SG @ 1g/litre of water.
    - In Gangetic West Bengal, spray Tricyclozole 75WP@ 1g/litre of water for blast disease in Boro paddy. For fruit fly in pointed gourd at vegetative stage, apply Malathion 50 EC 1 ml/litre of water at late afternoon on a non rainy day. For controlling borer attack in sunflower and okra, apply Spinosad @ 1.5 per litre of water.
  - **Andaman & Nicobar Islands:**
    - In Andaman Islands, Give regular irrigation during morning or evening hours to the vegetable and newly sown plots in upland area. Apply Triazophos @ 2 ml/litre along with neem oil 5 ml to control mealy bug in fruits

and vegetables as the weather is conducive for proliferation.

- In Nicobar Islands, make basin around the coconut tree and apply Vermicompost @ 10 kg per tree and provide light irrigation.
- **Animal Husbandry**
- In Bihar, provide clean water to the milch animals and keep them in the shaded place during noon hours in view of increasing temperature.
- In Jharkhand, provide protection to poultry birds against Ranikhet disease, apply 2 drop F-1 strain in nose of one day old chick. After 8 to 10 week apply R2B (Mukteshwer strain) vaccine after consultation with the veterinary doctor.
- In West Bengal, to reduce morbidity and mortality rate in poultry, take care of day old chicks with proper brooding, ventilation and management.
- In Andaman & Nicobar Islands, provide the day old chicks with RD vaccine as eye drops and 10 days old chicks with IBD vaccine as nasal/ eye drops.
- **Fisheries**
- In Odisha, provide feed @ 2-3 % of body mass of fish. Go for false netting to get good growth of fish. To correct acidity, apply 100 kg lime and Cifax 500 ml per acre meter of water.
- In West Bengal, for control of Ulcer disease, apply 13 kg Lime per bigha fish pond. After 7 days, apply 1.3 kg bleaching powder per bigha fish pond. In order to avoid bird menace, give net covering over the fish pond. For new pond preparation cultivate Dhaincha.
- In Jharkhand, as the temperature is rising continuously, the conditions are favourable for growth of fishes. Add cow dung and lime in the pond as natural food for them and alternative feeds may also be added like rice bran and mustard cake (each of 5 kg per day per acre area of pond).

### WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Weather remained mainly dry/dry over the region during the week.
- **Advisories:**
  - **Maharashtra:**
  - In South Konkan, apply third split dose of nitrogen @ 20 kg per ha in rice fields. Apply irrigation to groundnut, vegetables and orchards. Continue harvesting of cowpea and wal.
  - In Madhya Maharashtra, continue harvesting of wheat. Apply irrigation to vegetables and orchards. Undertake mulching in mango orchards.
  - In Marathwada, continue harvesting and threshing of wheat. Apply irrigation to vegetables and orchards. Undertake mulching with dried leaves in sugarcane fields.
  - In West Vidarbha, Continue harvesting of matured wheat and safflower. Apply irrigation to green gram, groundnut, sesame, vegetables and orchards. Undertake mulching in orchards. In East Vidarbha, continue harvesting and threshing of matured wheat.
  - In Madhya Maharashtra, to control stem borer in sugarcane, spray Chlorpyrifos 20 EC @ 25 ml in 10 litres of water.
  - **Gujarat:**
  - In Middle Gujarat, continue sowing of sesame (Gujarat Til 2 or 3) crop. Undertake Sowing of groundnut and bajra crops with assured irrigation facilities. Continue harvesting of matured wheat crop and capsules of castor.
  - In North Gujarat, complete sowing of pearl millet (GHB-526, GHB-558), sesame (Gujarat Til 3), green gram (Gujarat mung -3 or Gujarat mung- 4), cowpea (Gujarat cowpea -3 or 5, Pusa Falguni) and vegetable crops. Apply irrigation in timely sown pearl millet crop. Carry out weeding and intercultural operations in timely sown groundnut. Stop irrigation in wheat crop after hard dough stage to maintain grain quality. Undertake harvesting of matured papaya fruits.
  - In Saurashtra & Kutch, complete sowing of sesame, pearl millet, green gram, cowpea and vegetable crops. Dig out garlic bulbs in time. Stop irrigation in wheat crop after hard dough stage to maintain grain quality. Complete harvesting of matured wheat, chick pea, coriander and castor crops.
  - In South Gujarat, undertake weeding in summer pulses crops. Spray 0.5% Zinc Sulphate or 0.2% Ferrous Sulphate in banana crop for higher yield and good quality. Complete harvesting of matured pigeon pea crop. Continue deep ploughing of fields. As there is increase in temperature, apply irrigation in vegetable and fruit crops.
  - In Saurashtra & Kutch, if population of Diamond back moth insects in cabbage and cauliflower is above ETL, spray Spinosad @ 3.0 ml/10 litres of water.
- **Animal Husbandry**
- In Gujarat, provide more green fodder and 30 to 40 gram mineral mixture per day to animals in summer.

## CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rainfall occurred in Anuppur and Singrauli districts of East Madhya Pradesh, Bemetara, Koriya and Surguja districts of Chhattisgarh during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - **Madhya Pradesh:**
    - In East Madhya Pradesh, apply irrigation in wheat, gram and vegetables. Undertake intercultural operations in Sugarcane. Continue direct sowing for vegetables like pumpkin, bitter gourd, etc. Continue digging up of matured tubers of potato. Continue sowing of okra, maize (baby corn, sweet corn), moong, urad, groundnut and sunflower. In Kymore Plateau and Satpura Hill Zone, undertake seedling preparation for summer vegetables and sowing of watermelon, melon, cucumber etc. Continue sowing of okra. Undertake harvesting of gram.
    - In West Madhya Pradesh, continue transplanting of tomato, chilli and brinjal. Continue harvesting of matured gram. Continue digging up of matured tubers of potato. Continue sowing of green gram and black gram. Continue sowing of cucurbitaceous crops, musk melon and water melon. Continue digging up of matured bulbs of onion and garlic. Continue harvesting of matured wheat.
    - In Central Narmada Valley Zone, there are chances of attack of powdery mildew at flowering/fruit setting stage in mango, spray Sulphex @ 3.0g per litre of water.
    - In Bundelkhand Zone, there are chances of leaf curl disease in papaya, chilli, tomato and brinjal crop, if found, spray Methyl Dematon 25 E.C. @ 2.0 ml/litre of water.
  - **Chhattisgarh:**
    - Continue harvesting of matured gram and lentil crops. Apply irrigation in wheat and vegetables. Farmers having irrigation facility may complete the transplanting of summer rice by end of March. Continue inter-culture, fertilizer application, earthing followed by irrigation in sugarcane crop at knee height stage. Complete sowing of summer moong, til and groundnut crops. Continue sowing of leafy vegetables. Continue sowing of summer vegetables like pumpkin, bitter gourd, bottle gourd, sponge gourd, okra etc.
    - In Bastar Plateau Zone, continue harvesting of matured wheat. Continue sowing of summer moong, urad and sunflower. Continue sowing of okra, cowpea and coriander and planting of summer sweet potato, arvi and bunda. Undertake sowing of sponge gourd, cucumber, ridge gourd watermelon, muskmelon and bitter gourd.
    - In Plain Zone, attack of stem borer may be seen in summer rice, use pheromone traps @ 10 Nos/acre and collect and destroy the egg clusters.
  - **Animal Husbandry**
    - In Madhya Pradesh, keep animals in dry and shaded place and provide green fodder, fresh and clean water three times a day. Provide mineral mixture and fresh and clean water to birds.
    - In Chhattisgarh, special attention should be given to milch animals with regard to feed and water looking to high temperature. Give lot of clean water to the animals and keep them in the shaded place.

## NORTH INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]

- **Realised Rainfall:** Rain/snow occurred in Chamba, Kinnaur and Kullu district of Himachal Pradesh, all districts of Jammu & Kashmir except Bandipore, Jammu, Kargil, Kathua, Ladakh(Leh), Pulwama, Sambha, Srinagar and Udhampur during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - **Jammu & Kashmir:**
    - In Sub Tropical Zone, the weather condition is favourable for yellow rust disease in late sown wheat crop. Farmers are advised to regularly monitor the crop. If noticed, apply Propaconazole @ 25ml in 25 litres of water/kanal. To control collar rot and root rot in gram, rogue out the severely infected plants and drench affected areas with Thiram @ 0.2% or Carbendazim @ 0.1% on a non rainy day.
    - In Intermediate Zone, if attack of blight is observed in wheat crop, apply combination of Mancozeb + Carbendazim @ 2 gm/litres of water on a non rainy day.
    - Weather is favourable for the outbreak of sucking pest in mustard. Farmers are advised to monitor the attack of aphids on mustard crop. If observed, install 3 - 5 yellow sticky traps/kanal for the control of aphids. Spray neem oil @ 2 ml/litres of water during aphid infestation. If attack of aphids is severe, spray Rogor (Dimethoate) 30 EC @ 1 ml/litre of water or Chlorpyrifos 20 EC @ 2 ml/litre of water on a non rainy day and repeat at fifteen days interval.
    - In Valley Temperate Zone, carry out weeding followed by hoeing in rabi crops like wheat, oats, lentil, pea, gram.
  - **Uttarakhand:**
    - In Bhabar and Tarai Zone, apply irrigation in wheat crop. Carry out weeding and hoeing operations in onion. Undertake transplanting of tomato, capsicum and brinjal.

- In Hill Zone, prevailing weather is favourable for aphid infestation in mustard. If symptoms are above ETL, spray Imidacloprid @ 1ml/litre of water during non-rainy days in evening time. Continue sowing of potato in high altitude. Carry out earthing up operation in potato in valley area. Carry out weeding in wheat, onion and garlic.
- In Sub-Humid Sub-Tropic Zone, continue harvesting of sugarcane crop. Undertake harvesting of matured mustard crop. Maintain proper soil moisture in wheat crop.
  - **Himachal Pradesh:**
  - In Sub-Montane and Low Hills Sub-Tropical Zone, to control blight in potato and tomato due to high relative humidity, spray Carbendazim @ 1.0 gm / litre of water or Dithane-M-45 @ 2.0 gm / litre of water. Carry out weeding operation in potato.
  - In Mid-Hills Sub-Humid Zone, carry out hoeing and weeding operations in garlic crop. Continue nursery bed preparation for sowing tomato, chilly and capsicum.
  - **Punjab, Haryana & Delhi:**
  - In Western Zone, prevailing weather is favourable for incidence of Yellow rust in wheat. Monitor the crop fields. If symptoms of yellow rust are noticed, spray the crop with Nativo @ 120g or Tilt or Shine or Compass or Markzole @ 200 ml in 200 litres of water per acre.
  - In Haryana, continue transplanting of matured seedlings of tomato, cauliflower, & cabbage in prepared field. Monitor mustard and vegetable crops for sucking pests.
  - In Delhi, continue planting of sugarcane and complete transplanting of onion. Continue sowing of spinach, coriander, fenugreek. Continue preparation of seedling of early cucurbitaceous crops in small polythene bags and nursery preparation of chilli, tomato and brinjal crops in poly house. Continue sowing of lady finger (A-4, Parbani Kranti and Arka anamika). Monitor the vegetable and mustard crops against attack of aphid. If pest population is above ETL than, spraying of Imidacloprid @ 0.25 to 0.5 ml per litre of water.
  - **Uttar Pradesh:**
  - In East Uttar Pradesh, continue harvesting of matured barley. Continue planting of spring sugarcane and continue sowing of lady finger, moong and lobia as intercrop in sugarcane. Apply irrigation in onion.
  - In West Uttar Pradesh, continue sowing of green gram. Undertake irrigation to wheat crop in milking and grain filling stage. Undertake harvesting of the matured mustard. Continue sowing of lady finger and cucurbits.
  - In West Uttar Pradesh, present temperature is suitable for incidence of powdery mildew disease in cucurbitaceous crops and late pea, spray Carbendazim @ 1.0 g/litre of water. Install bird perches in tomato, pea, brinjal and gram crops to control fruit borer insect.
  - **Rajasthan:**
  - Harvest the matured crop of gram, mustard and well riped barley. Completely dry grains and store them in gunny bags, drums or kothis after cleaning. Undertake sowing of bottle gourd.
  - In Sub Humid Southern Plain and Aravali Hill Zone, late sown wheat is at milking stage and the day temperature increased so irrigation should be applied at this stage. For control of rodents/rats Use of 2 cake of aluminum phosphide/one hole of rats.
  - In Irrigated North Western Plain Zone, complete planting of sugarcane. Also on availability of free field and two irrigations, farmers are advised to do sowing of summer moong.
  - In Flood Prone Eastern Plain Zone, the rising temperature increases infestation of powdery mildew in mango resulting into flower and fruit drops. Spray Karathane @ 1ml/l water to manage the disease. Spray 3g copper oxy chloride dissolved in one litre on citrus plants after pruning operation.
  - **Animal Husbandary**
  - In Uttar Pradesh, provide mineral mixed diet to cattle. Vaccinate cattle against foot and mouth disease. Vaccinate poultry birds against Ranikhet disease.
  - In Semi Arid Eastern Plain Zone of Rajasthan, Foot & Mouth Disease may spread in cows and buffaloes. Vaccinate the animals against FMD. If animal is affected then isolate the affected animal and wash its mouth with 0.1% potassium permanganate solution.
  - **Floriculture**
  - Farmers are also advised to prepare their fields and undertake planting of gladiolus in Himachal Pradesh.
  - In Jammu & Kashmir, Marigold fields should be kept clean and provision for drainage should be made by making proper channels.
  - **Apiculture**
  - In Sub Tropical Zone of Jammu & Kashmir, shift the bee colonies near mustard field. Keep the colony under cover during night time to protect it from cold.

The Agromet Products in this Bulletin are generated by Agrimet Division, weather forecast issued by NWFC, New Delhi and AgrometAdvisories are prepared based on the DAAS Bulletins issued by different Agrometeorological Field Units.