



National Agromet Advisory Service Bulletin



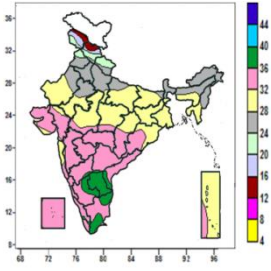
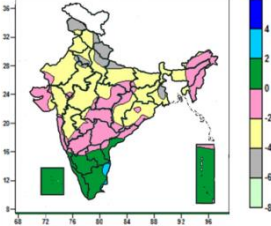
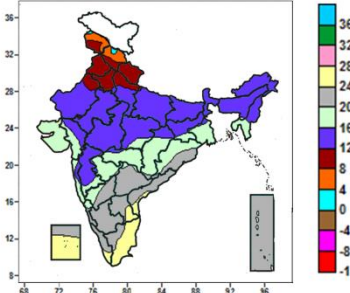
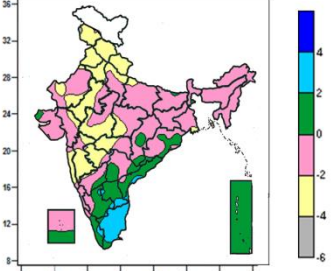
Friday 17th March 2017
(For the period 17th to 21st March 2017)



Issued by
National Agrometeorological Advisory Service Centre,
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Weblink For
District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 15.03.2017

Actual Mean Maximum Temperature (°C) in India for the week ending 15.03.2017	Mean Maximum Temperature (°C) Anomaly in India for the week ending 15.03.2017
	
<ul style="list-style-type: none"> • Mean maximum temperature was between 36 to 40°C over Rayalaseema, some parts of Coastal Andhra Pradesh, South Interior Karnataka, Tamil Nadu and isolated pockets of North Interior Karnataka, Telangana and Kerala. • Mean maximum temperature was between 32 to 36°C over Marathwada, Vidarbha, Goa, Coastal Karnataka, Lakshadweep, many parts of Gujarat, Madhya Maharashtra, Chhattisgarh, Telangana, Coastal Andhra Pradesh, Interior Karnataka, Kerala, Tamil Nadu, some parts of Madhya Pradesh, Odisha, Konkan and isolated pockets of Andaman & Nicobar Islands. • Mean maximum temperature was between 24 to 32°C over rest of the Country except many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, some parts of Punjab and isolated pockets of Arunachal Pradesh where it was between 16 to 24°C and some parts of Jammu & Kashmir and Himachal Pradesh where it was between 12 to 16°C. 	<ul style="list-style-type: none"> • Mean maximum temperature was above normal by 2 to 4°C at isolated pockets of Tamil Nadu. • It was normal to near normal over rest of the country except Punjab, Sikkim, Tripura, many parts of Haryana & Delhi, Himachal Pradesh, Uttar Pradesh, Bihar, West Bengal, Jharkhand, Rajasthan, West Madhya Pradesh, Madhya Maharashtra, Chhattisgarh, Odisha, some parts of Jammu & Kashmir, Saurashtra & Kutch, Assam, East Madhya Pradesh, Marathwada and isolated pockets of Uttarakhand, Arunachal Pradesh where it was below normal between 2 to 4°C and many parts of Jammu & Kashmir, Uttarakhand, some parts of Himachal Pradesh, Haryana & Delhi, Uttar Pradesh, Gangetic West Bengal and isolated pockets of Rajasthan Jharkhand and Sub Himalayan West Bengal where it was below normal between 4 to 6°C.
Actual Mean Minimum Temperature (°C) in India for the week ending 15.03.2017	Mean Minimum Temperature (°C) Anomaly in India for the week ending 15.03.2017
	
<ul style="list-style-type: none"> • Mean minimum temperature was between 0 to 4°C at isolated pocket of Jammu & Kashmir and Himachal Pradesh. • Mean minimum temperature was between 4 to 8°C over many parts of Jammu & Kashmir and Himachal Pradesh. • Mean minimum temperature was between 8 to 12°C over Punjab, Uttarakhand, many parts of Haryana & 	<ul style="list-style-type: none"> • Mean minimum temperature was above normal by 2 to 4°C over many parts of Tamil Nadu, some parts of Rayalaseema, Kerala and isolated pockets of Coastal Andhra Pradesh and south Interior Karnataka. • Mean minimum temperature was normal to near normal over rest of the country except over Himachal Pradesh, Uttarakhand, Punjab, many parts

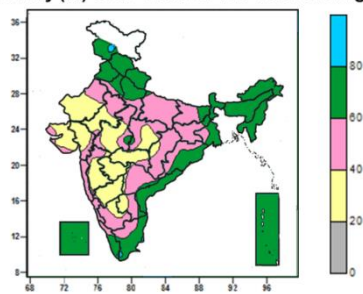
Delhi, some parts of Jammu & Kashmir, Himachal Pradesh, West Uttar Pradesh and isolated pockets of East Uttar Pradesh and Rajasthan.

- Mean minimum temperature was between 12 to 20⁰C over rest of the Country except over Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, Kerala, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, many parts of Telangana, North Interior Karnataka, Coastal Karnataka, some parts of Odisha and isolated pockets of Chhattisgarh and Marathwada where it was between 20 to 28⁰C.

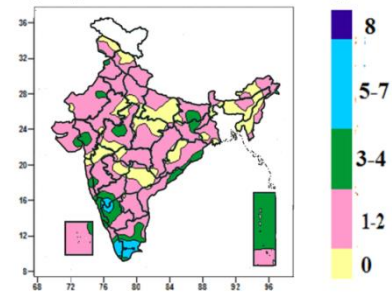
of Haryana & Delhi, East Rajasthan, West Madhya Pradesh, Konkan & Goa, Madhya Maharashtra, Marathwada, some parts of West Uttar Pradesh, West Rajasthan, East Madhya Pradesh, Gujarat Region, Vidarbha and isolated pockets of East Uttar Pradesh, Gangetic West Bengal and North Interior Karnataka where it was below normal by 2 to 4⁰C.

Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 15.03.2017

Relative Humidity (%) over India for the week ending 15.03.2017



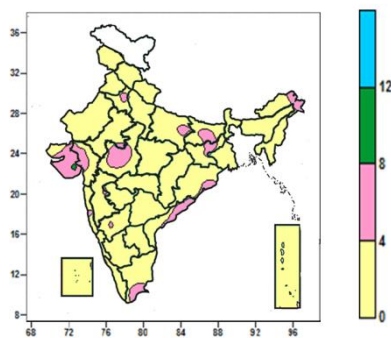
Cloud amount (okta) over India for the week ending 15.03.2017



- Mean Relative Humidity was above 80% at isolated pockets of Jammu & Kashmir, Kerala and Tamil Nadu.
- Mean Relative Humidity was between 60 to 80% over Himachal Pradesh, Uttarakhand, Sub Himalayan West Bengal & Sikkim, North East India, Lakshadweep, Andaman & Nicobar Islands, many parts of Jammu & Kashmir, Punjab, Haryana & Delhi, West Uttar Pradesh, Gangetic West Bengal, Odisha, Coastal Andhra Pradesh, Kerala, Tamil Nadu, some parts of Bihar, Rayalaseema and isolated pockets of East Uttar Pradesh, Madhya Pradesh and Telangana.
- Mean Relative Humidity was between 40 to 60% over rest of the Country except over Marathwada, many parts of Rajasthan, Gujarat, West Madhya Pradesh, Madhya Maharashtra, Vidarbha, North Interior Karnataka, some parts of East Madhya Pradesh, South Interior Karnataka, Rayalaseema and isolated pockets of Chhattisgarh and Telangana where it was between 20 to 40%.

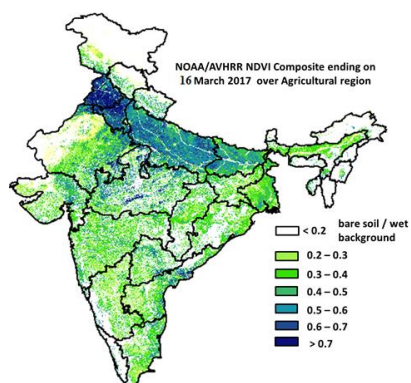
- Sky remained cloudy (8 okta) at isolated pockets of Tamil Nadu.
- Sky remained cloudy (5-7 okta) over some parts of Kerala, Tamil Nadu and isolated pockets of Karnataka.
- Sky remained partly cloudy (3-4 okta) over many parts of Coastal Karnataka, South Interior Karnataka, Andaman & Nicobar Islands, some parts of Bihar, Jharkhand, Gujarat, Odisha, Coastal Andhra Pradesh, Konkan & Goa, North Interior Karnataka, Kerala, Tamil Nadu and isolated pockets of Jammu & Kashmir, Punjab, Rajasthan, West Madhya Pradesh and Lakshadweep
- Sky remained mainly clear/clear sky (1-2 okta/0 okta) over rest of the country.

Wind speed (knots) over India for the week ending 15.03.2017



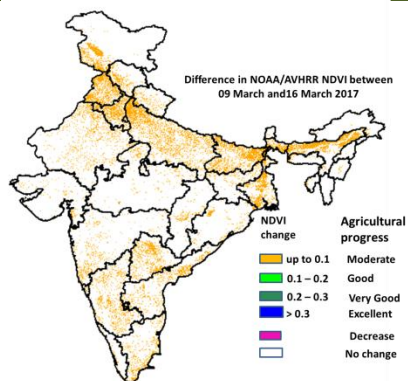
- Mean wind speed was between 0 to 4 knots over rest of the country except over many parts of Saurashtra & Kutch, some parts of Arunachal Pradesh, Haryana & Delhi, Bihar, Jharkhand, Gujarat Region, West Madhya Pradesh, Tamil Nadu and isolated pockets of Uttar Pradesh, Gangetic West Bengal, Odisha, East Rajasthan, Konkan, Madhya Maharashtra, Marathwada and North Interior Karnataka where it was between 4 to 8 knots.

NOAA/AVHRR NDVI composite ending on 16th March 2017 over Agricultural region of India



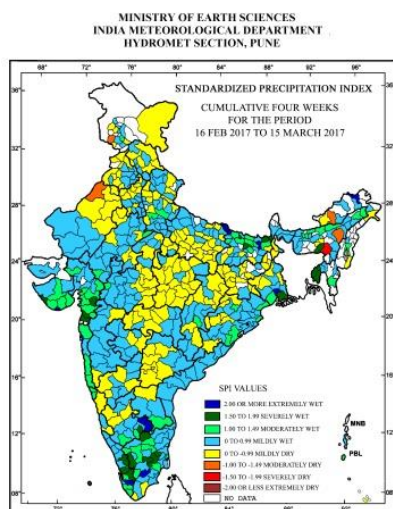
- Agricultural vigour is good to very good in Haryana & Delhi, Punjab, patches in Madhya Pradesh, Uttar Pradesh, Bihar, Gujarat, Central Tamil Nadu, Costal Andhra Pradesh, Telangana, Kerala, Maharashtra, south-east Rajasthan and costal Karnataka, where NDVI value varies from 0.5 to 0.7. NDVI is moderate in west Rajasthan, East Madhya Pradesh, Uttar Pradesh, Bihar, North-East Region, West Bengal, Madhya Maharashtra, southern region of Andhra Pradesh, Telangana and Tamil Nadu (NDVI 0.2 to 0.5).

Difference in NOAA/AVHRR NDVI between 9th March and 16th March 2017



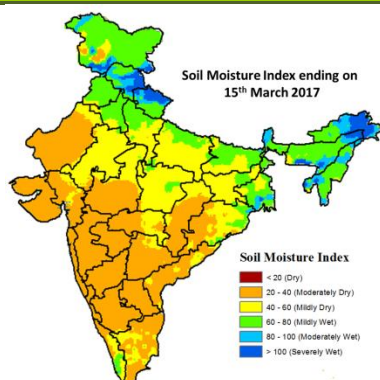
- Moderate progress in NDVI was observed in Punjab, Haryana & Delhi, Madhya Pradesh, Rajasthan, Uttar Pradesh, Bihar, and patches in Maharashtra, Gujarat, Karnataka, Kerala, Tamil Nadu, Telangana, Andhra Pradesh, North-East Region, Jharkhand, West Bengal and Chhattisgarh. Good progress was observed in few patches of Southern Part of Jammu & kashmir.

Standardised Precipitation Index Four Weekly for the period 16th February to 15th March 2017



- More extremely/severely wet conditions experienced in many districts of Tripura; few districts of Saurashtra, Kutch & Diu; Upper Siang district of Arunachal Pradesh; East Khasi Hills district of Meghalaya; Howrah and Kolkata districts of West Bengal; Araria, West Champaran, Kishanganj, Madhepura, Samastipur, Sheohar, districts of Bihar; Valsad, Narmada and Navsari districts of Gujarat Region; Mumbai Suburban district of Konkan & Goa; Coimbatore, Karur, Madurai, Perambalur, Trichy, Krishnagiri and Karaikal districts of TamilNadu & Puducherry; Bangalore Urban, Kolar and Chickballapur districts of Karnataka; Ernakulam, Palakkad, Idukki and Pathanamthitta districts of Kerala and Lakshadweep district of Lakshadweep.
- Severely dry conditions experienced in Jaintia Hills district of Meghalaya.
- Moderately dry conditions experienced in East Kameng district of Arunachal Pradesh; Karbi Anglong district of Assam; Rajouri district of Jammu & Kashmir and Sri Ganganagar district of Rajasthan.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions. Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

Soil Moisture Index for the week ending on 15th March 2017



- Soil moisture index indicates severely and moderately wet condition in some parts of Jammu & Kashmir, Uttarakhand, Himachal Pradesh, West Bengal and North-East Region. Mild wet condition in many parts of North-East Region, Punjab, Haryana, Himachal Pradesh, Uttarakhand and some parts of Uttar Pradesh, Bihar, West Bengal. Kerala, Odisha. Rest of the country shows Moderate and Mild dry condition.

Weather Forecast for next 5 days valid upto 0830 hours of 22nd March 2017

- **Meteorological sub-division wise detailed 5 day rainfall forecast is given below.**
 - Maximum temperatures and the Minimum temperatures likely to rise by 1-2°C over central India during next 2-3 days.
 - No significant change in temperatures over rest parts of the country during next 3 days.

5 Day Rainfall Forecast (mid day)

17th March 2017

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

% 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

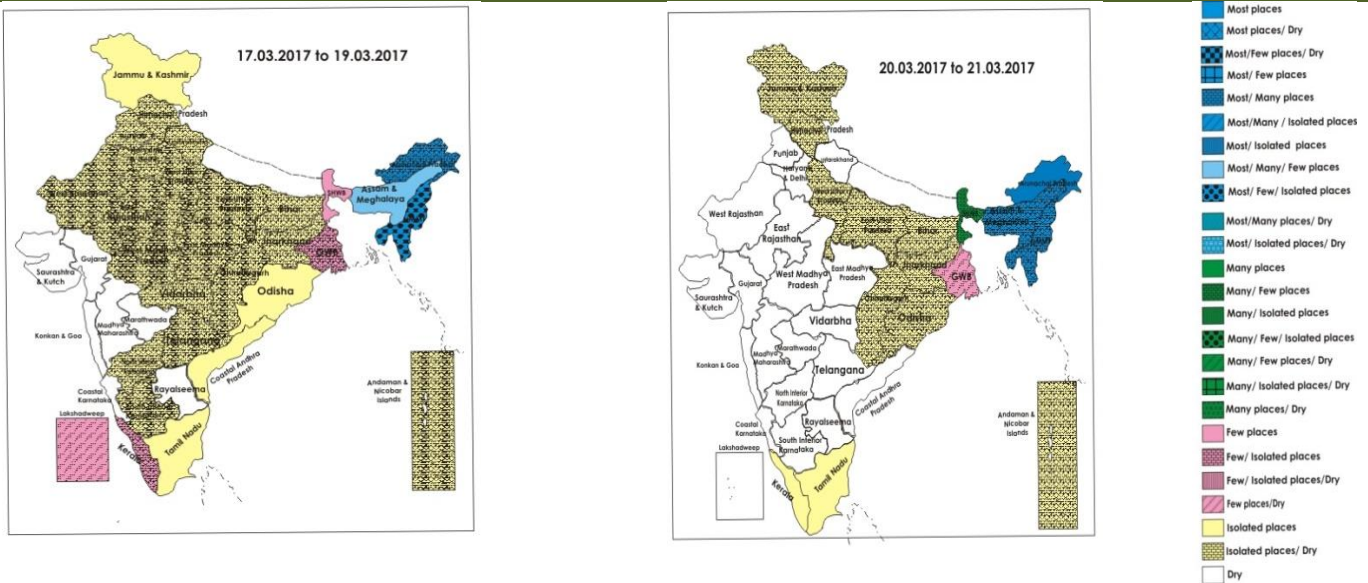
- **17 March (Day 1):**
 - Thunderstorm accompanied with squall/hail very likely at isolated places over Sub Himalayan West Bengal & Sikkim.
 - Thunderstorm accompanied with squall very likely at isolated places over Assam & Meghalaya, east Arunachal Pradesh, Mizoram & Tripura, north Coastal Andhra Pradesh and Kerala.

- Heat wave conditions very likely at isolated places over coastal areas of Saurashtra & Kutch.
- Heavy rainfall very likely at isolated places over east Arunachal Pradesh.
- **18 March (Day 2):**
 - Thunderstorm accompanied with squall very likely at isolated places Rajasthan, Gangetic West Bengal, Assam & Meghalaya, Mizoram & Tripura and Kerala.
 - Thunderstorm accompanied with squall/hail very likely at isolated places over Odisha.
 - Heat wave conditions very likely at isolated places over coastal areas of Saurashtra & Kutch.
 - Heavy rainfall very likely at isolated places over Assam & Meghalaya and east Arunachal Pradesh.
- **19 March (Day 3):**
 - Thunderstorm accompanied with squall/hail very likely at isolated places over Sub Himalayan West Bengal & Sikkim and Odisha.
 - Heat wave conditions very likely at isolated places over coastal Saurashtra & Kutch.
- **20 March (Day 4):**
 - Thunderstorm accompanied with squall/hail very likely at isolated places over Bihar and Sub Himalayan West Bengal & Sikkim.
 - Thunderstorm accompanied with squall very likely at isolated places Gangetic West Bengal.
- **21 March (Day 5):**
 - No weather warning.

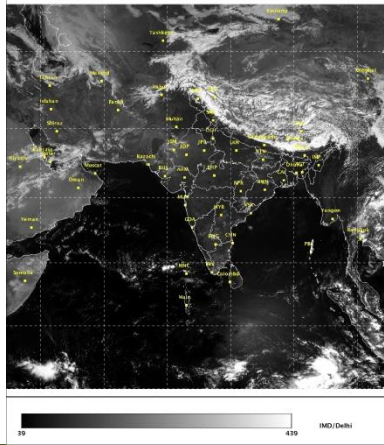
Weather Outlook for subsequent 2 days from 22nd to 24th March 2017

- Rain / thundershower likely at a few places over northeastern states and at isolated places over adjoining east India and Kerala.

Weather Forecast Map (valid upto 0830 hours of 22nd March 2017)



Satellite image dated 17.03.2017, 0600 UTC



Salient Advisories

- As thunder squall accompanied with squall/ hail very likely at isolated places over **Sub-Himalayan West Bengal & Sikkim** on 17th , 19th & 20th , over **Odisha** on 18th & 19th and over **Bihar** on 20th March, use hail net or hail cap for orchard crops and fruit vegetables to protect from mechanical damage. Provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake harvesting of matured crops immediately and keep harvested produce at safer places.
- As thunderstorm accompanied with squall very likely at isolated places over **Assam, Meghalaya, east Arunachal Pradesh, Mizoram and Tripura** and **Kerala** on 17th & 18th , over **north Coastal Andhra Pradesh** on 17th , over **Rajasthan** on 18th and over **Gangetic West Bengal** on 20th March, farmers are advised to arrange support to banana, young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane and keep already harvested produce at safer places.
- As heat wave conditions very likely at isolated places over coastal areas of **Saurashtra & Kutch** from 17th to 19th March, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave, mulching with straw/polythene or do soil mulching or to conserve soil moisture.
- As rain/thundershowers likely at most/many places over **Arunachal Pradesh** during the period, over **Assam and Meghalaya** on 17th , 18th , 20th & 21st , over **Nagaland, Manipur, Mizoram and Tripura** on 18th , 20th & 21st , at many places over **Sub Himalayan West Bengal & Sikkim** on 20th March, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- As heavy rainfall very likely at isolated places over **east Arunachal Pradesh on 17th & 18th** and over **Assam and Meghalaya** on 18th , provide adequate drainage in standing crop fields to avoid water stagnation.
- **In Madhya Maharashtra and in Beed and Latur districts of Marathwada**, due to squally wind/ hail, if fruit dropping has occurred in orchards, clean the orchards, collect the dropped & infested fruits like mango, pomegranate, papaya and destroy it to avoid spread of pest and diseases.
- In **South Gujarat Zone**, in present dry weather condition, farmers are advised to spread plastic or fodder as mulch in vegetable fields for conserving moisture. The weather conditions are favorable for unripe fruits dropping in mango orchards; spray Naphathelene Acitic Acid @ 2 g/litre of water or Gebrelic acid @ 1 g/litre of water + 2 Kgs urea/ 100 litre of water.
- In **Konkan**, as dry weather would prevail, maintain water level up to 5-7 cm in transplanted rabi rice. In mango

orchards, apply 80-100 litres of water per tree at 7 days interval and undertake mulching with grass to avoid the water loss. Apply mulch with crop residue to vegetables and orchards to conserve soil moisture.

Detailed Zonewise Agromet Advisories

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



Banana



Rice



Sugarcane



Maize

- **Realised Rainfall:** Significant rainfall occurred over Coimbatore, Dharmapuri, Karur, Madurai, Nilgiris, Perambalur, Pudukkottai, Salem, Theni, Tirunelveli and Trichy districts of Tamil Nadu; over Ernakulam, Idukki, Kollam, Kottayam and Pathanamthitta districts of Kerala; Vizianagaram district of Coastal Andhra Pradesh. Weather remained dry over rest of the region during the week.
- **Advisories:**
 - As thunderstorm accompanied with squall very likely at isolated places over **north Coastal Andhra Pradesh** on **17th March** and over **Kerala** on **17th and 18th March**, farmers are advised to arrange support to banana and young fruit plants, propping up in sugarcane and staking of vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places.
 - **Andhra Pradesh:**
 - In the Krishna Godavari Zone, provide light irrigation to rice fallow green gram and black gram, sugarcane crops as per requirement.
 - In the North Coastal Zone, continue planting of sugarcane and harvesting of maize and groundnut.
 - In Anantapur district of the Scarce Rainfall Zone, prevailing high temperatures may cause damage to the newly planted banana. Farmers are advised to protect by covering mulch or any other measures. Continue harvesting of chilli.
 - In the Krishna Godavari Zone, prevailing dry weather condition is congenial for incidence of bud necrosis in groundnut. To control, spray the Monochrotophos @ 1.5 ml/ litre of water.
 - In the North Coastal Zone, prevailing weather condition (increase in temperature) is congenial for incidence of tea mosquito in cashew (nut formation stage). To control, spray Imidacloprid @ 0.3 ml /litre of water.
 - In the High Altitude Tribal Zone, prevailing temperature is congenial for incidence of fungal diseases like blast and brown spots in rabi rice (maximum tillering stage). To control, spray Tricaclozole @ 0.6g/litre of water.
 - In the Southern Zone, due to increase in temperature, there is possibility of incidence of early shoot borer in sugarcane. To control shoot borer, go for frequent irrigation at regular intervals and spray Chloripyriphos @ 2.5 ml/litre of water.
 - **Telangana:**
 - In North Telangana Zone, continue harvesting of matured maize and groundnut. Keep harvested produce at safer places.
 - In South Telangana Zone, incidence of blast is noticed in rice. To control, apply Tricyclazole @ 0.6 g Kasugamycin @ 2.5 ml per litre of water twice in 10-15 days interval.
 - In North Telangana Zone, incidence of leaf blast was noticed in rice at panicle initiation stage in some parts of district. Spraying with Tricyclazole @ 0.6 g or Isoprothiolane @ 1.5 ml/litre of water (alternating, twice at 15 days interval)
 - **Tamil Nadu:**
 - In the Cauvery Delta Zone, continue nursery preparation for summer rice.
 - In the Western Zone, dry land may be brought under summer ploughing, undertake land preparation for cultivation of planting of rainfed tapioca and sowing *cumbu* in irrigated fallow land. Apply 166 kg Urea and 63 kg MOP per hectare for early season planted sugarcane followed by earthing up and fill up gaps in the mid-season planted cane fields with sprouted setts utilising the realized rainfall. If rainfall is insufficient, provide irrigation.
 - In the North Western Zone, prevailing weather conditions favors “mealy bug” attack in tapioca. To control, release

Acerophagus papayae @100 nos/acre.

- In the High Rainfall Zone, store harvested banana bunches and jackfruits in dry places to prevent disease incidence due to rain.
- In the Cauvery Delta Zone, leaf caterpillar damage was noticed in rice fallow black gram. To manage this, spray Profenophos 50 E.C. 400ml/acre.
- In the High Altitude Zone, due to light rainfall expected and high humid conditions, to prevent soft rot disease in lettuce, spray Propiconazole 1ml/litre of water.
- In the Southern Zone, prevailing hot weather condition is congenial for incidences of grey mould disease in tomato and vascular wilt disease in cucumber. To control grey mould disease, ensure good drainage facility in the field during the night, remove decaying plant material from the plant bed. To control vascular wilt disease, protect larger plantings by insecticides and spray Carbaryl (Sevin).
- In the South Zone, fruit borer incidence is noticed in brinjal. For control, remove the affected fruit and destroy it and spray Chlorpyrifos 20% EC @ 1 ml / litre of water on a non rainy day.

▪ **Kerala:**

- In the Problem Area Zone, undertake planting of bananas, mulching in pepper fields to avoid water logging due to rains and continue harvesting of *puncha* rice on non rainy days and planting of pepper.
- In the High Altitude Zone, continue nursery preparation for cardamom and land preparation for ginger cultivation.
- In the Central Zone, undertake land preparation for planting of ginger and turmeric. Provide adequate shade to transplanted coconut seedlings
- In Pathanamthitta district, undertake land preparation for planting of ginger utilizing the realized rainfall.
- In the High Altitude Zone, leaf rust disease may become severe in coffee (flowering stage) due to increase in relative humidity. To control, apply growth regulators like Planofix (50 ml in 200 litres of water) and swab the main stem and branches with 1% Carbaryl.
- In the Northern Zone, apply organic manure @ 50kg/palm and neem cake @ 5kg / palm/year and drench the palm basin (2m radius) with 40 litres of 1% Boradaux mixture at quarterly intervals to control basal stem rot in coconut on a non rainy day.
- In Thiruvananthapuram district of the Southern Zone, spray Dinocap @ 1 ml/ litre of water to control powdery mildew in bottle gourd and bitter gourd on a non rainy day.

▪ **Karnataka:**

- In the Southern Dry Zone, dry land farmers may take up land preparation, ploughing across the land slope and keep ready the land for pre-monsoon sowing of pulses after receipt of sufficient rain. While sowing of pulse crops, treat the seeds with appropriate strain of rhizobium culture. Select the banana suckers from disease and pest free gardens for planting.
- In North East Dry Zone, continue sowing of Bt cotton under irrigation facility. As dry weather is prevailing, provide irrigation to rice, groundnut, watermelon and mango (marble stage). Taking advantage of dry weather, undertake summer deep ploughing to expose the pupae and eggs of insects/pests and weed seeds.
- In Southern Transition Zone, continue hand weeding in already transplanted rice. Continue harvesting of matured arecanut, coconut and rhizomes of ginger, turmeric. Continue sowing of short duration pulses and land preparation for planting of Ginger/turmeric.
- In North East Transition Zone, complete harvesting of sorghum, wheat and safflower. To increase size and quality of the watermelon fruit, dip the lemon fruit size watermelon into 20 ppm (20 mg in 1 litre water) Gibberellic acid.
- In North Transition Zone, complete harvesting of the crops (wheat, Bengal gram, sorghum) immediately after the maturity, to avoid reduction in quality of the produce due to exposure to unfavorable weather condition. Undertake deep ploughing which will reduce weeds and pest incidence in the next season.
- Continue harvesting of matured black pepper in Hill Zone.
- In the Eastern Dry Zone spray sulphur dust @2g/litre of water for management of powdery mildew in mangoes.
- Incidence of hoppers is noticed in mango crop in North East Transition Zone; for effective control, take up spraying of Carbaryl 50WP @4 gm or Malathion 50EC @2 ml or Monocrotophos 36SL @1.5 ml or Phosphamidon 40EC @0.5 ml in one litre of water.
- Infestation of mealy bug in papaya plantations observed in Central Dry Zone; take up spraying of Dimethoate @2 ml/liter of water to control.

• **Animal Husbandry**

- In the Scarce Rainfall Zone of Andhra Pradesh, in poultry, in view of the increase in temperatures, cover water tank and lines with gunny bags to provide cool water, ensure that cool drinking water is available throughout the day, use foggers and sprinklers to reduce temperature, cover roof with coconut tree leaves or grass, white wash roof and water tank to reduce heat absorption, ensure proper cross ventilation to avoid ammonia accumulation, use pedestrian fans to increase air flow and distribute feed in cooler parts of the day (early morning or late evening).
- In the Northern Zone of Kerala, heat stress causes reduced feed intake, panting reduced production and weight gain, onset of infectious diseases, deficiency diseases, diarrhoea and sudden death among the birds. To combat heat

stress, the poultry sheds should be protected from direct sunlight, roofing should be painted white to reflect heat, fans can be fitted, cool water can be sprayed, plenty of clean water can be provided with ice, glucose and 0.1 % sodium bicarbonate, feed offered during the cooler parts of the day can be supplemented with 20% extra vitamins, phosphorous and vitamin C.

- Maintain optimum room temperature in dairy unit, silkworm and poultry rearing houses in Southern Dry Zone. Provide mineral supplements to animals based on the deficiency in the region. Keep the animal habitation dry to avoid hoof infection and to prevent fly breeding. It is the right time for de-worming of animals. Conserve fodder in the form of hay / silage for the lean period.

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



Mustard



Rice



Cauliflower



Wheat

- **Realised Rainfall:** : Rainfall occurred during the week in Changlang, Dibang Valley, East Siang, Lohit, Lower Dibang Valley, Tirap, Upper Siang, Upper Subansari and West Siang districts of Arunachal Pradesh; Baksa, Barpeta, Bongaigaon, Cachar, Dibrugarh, Dhubri, Goalpara, Hailakandi, Kokrajhar, N.C.Hills, Nowgaon, Nalbari, Sibsagar, and Tinsukia districts of Assam; East Khasi Hills, South Garo Hills and West Garo Hills districts of Meghalaya, Aizwal, Champhai, Lawngtlai and Saiha, districts of Mizoram; Bishnupur, Chandel, Churachandpur, Senapati and Thoubal districts of Manipur; Dimapur, Kephire, Kohima, Mon, Paren and Wokha districts of Nagaland and North Tripura district of Tripura.

- **Advisories:**

- Thunderstorm accompanied with squall very likely at isolated places over east Arunachal Pradesh on 17th & over Assam & Meghalaya, Mizoram & Tripura on 17th and 18th March, farmers are advised to arrange support to banana, young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds. Keep already harvested produce at safer places.
- As rain/thundershowers likely at most/many places over Arunachal Pradesh during the period, over Assam and Meghalaya on 17th, 18th, 20th & 21st, Nagaland, Manipur, Mizoram and Tripura on 18th, 20th & 21st March, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- As heavy rainfall very likely at isolated places over east Arunachal Pradesh on 17th & 18th and over Assam & Meghalaya on 18th March, farmers are advised to arrange for adequate drainage to avoid water stagnation in the standing crop fields.

- **Assam, Meghalaya & Arunachal Pradesh:**

- In Upper Brahmaputra Valley Zone of Assam, continue land preparation and planting sugarcane in upland fertile land. Continue land preparation for sowing of *baou* rice in lowland.
- In Barpeta, Bongaigaon, Dhubri and Goalpara districts of Lower Brahmaputra Valley Zone of Assam, continue transplanting of summer rice (early *ahu*).
- In Dhemaji, Lakhimpur, Sonitpur, Dibrugarh, Golghat, Jorhat and Sibsagar districts of North Bank Plain Zone of Assam, as temperature condition are favorable, continue sowing of summer green gram and black gram and sowing of okra, ridge gourd and sponge gourd. Continue land preparation and sowing of directed seeded *ahu* rice. Continue nursery bed preparation for transplanted early *ahu* rice. Undertake land preparation for transplanting of early *ahu* (transplanted rice).
- In Hill Zone of Assam, continue land preparation for sowing of early *ahu* (direct seeded) and summer green gram/black gram. Continue land preparation and sowing of jute. Undertake nursery raising of transplanted normal *ahu* rice and land preparation for sowing summer sesame, planting of ginger and spring sugarcane.
- In Barak Valley Zone of Assam, continue land preparation for summer vegetables like okra, cucumber, ridge gourd, sponge gourd. Continue sowing of early *ahu* (direct seeded) rice.
- In Central Brahmaputra Valley Zone of Assam, continue sowing of summer green gram and black gram; nursery bed preparation for early *ahu* rice and land preparation for sowing of summer vegetables and Capsularis jute. Undertake harvesting of matured wheat crop immediately in clear weather and keep in safer places.
- In Arunachal Pradesh, continue transplanting of seedling of chillies, tomato, capsicum.
- In Meghalaya, continue nursery raising of brinjal and transplanting of tomato. Continue planting of ginger and spring potato.

- In Upper Brahmaputra Valley Zone of Assam, soil and air temperatures are becoming favourable for the outbreak of stem borer in *boro* rice. Spray Dursban at recommended dose against stem borer after current spells of rain.
- In Central Brahmaputra Valley Zone, North Bank Plain Zone and Barak Valley Zone of Assam, there is chance of attack of stem borer in *boro* rice at tillering stage. To control the pest spray Chlorpyrifos 50 EC @ 2 ml per litre of water or apply Darsban or Monocrotophos at the rate of 2 tea spoonful per 5 litre of water after current spells of rain.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Nagaland, short duration pulse crops and green manuring crops like dhaincha, sunhemp etc should be cultivated as pre-*kharif* crop in fallow paddy lowland/ terrace rice field to enhance the soil fertility. Continue land preparation and sowing of summer maize, okra and green gram.
- In Manipur, continue nursery sowing and transplanting of pre-*kharif* rice. Continue land preparation for planting of ginger and turmeric.
- In Mizoram, continue harvesting of early cole crops, carrot and radish in clear weather. Continue land preparation and sowing of maize (*jhum*), okra, cow pea, ginger and turmeric.
- In Tripura, undertake transplanting the young seedlings of summer brinjal & tomato to the main field. Continue sowing of cowpea. Maintain 4-5 cm standing water in the field of *boro* rice at maximum tillering stage.
- In Nagaland, in mandarin, to kill the trunk borer grubs, clean the bored holes of the infested trunk with iron wire and insert a cotton swab soaked in the mixture of kerosene and water (1:1) and plug with mud. Also spray with Bordeaux mixture @ 1% per litre of water or spray Neem oil @ 10ml in 1 litre of water against scab or canker after current spells of rain.
- In Manipur, to control the infestation of leaf minor in onion/garlic, spray Dichlorovos 36 EC @ 0.5ml/litre of water or Monocrotophos 76EC @ 1ml/litre of water to protect the crop from infestation after current spells of rain.
- **Animal Husbandry**
- As heavy rainfall very likely at isolated places over east Arunachal Pradesh on 17th & 18th and over Assam & Meghalaya, keep the cattle under shed during heavy rainfall period.
- In Northeastern states, undertake regular immunization of cattle & buffaloes against Foot & Mouth disease, Hemorrhagic Septicemia & Black Quarter.
- In Barak Valley Zone of Assam, poultry growers are advised to feed Tetracycline powder to poultry with rice to protect from diseases.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Mustard



Sugarcane



Wheat

- **Realised Rainfall:** Weather remained mainly dry over Vidarbha and dry over rest of the region during the week.
- **Advisories:**
- **Maharashtra:**
- In Konkan, as dry weather prevailed, maintain water level up to 5-7 cm in transplanted *rabi* rice. Apply irrigation for alphonso mango @ 150 to 200 litres of water at fortnight interval to reduce fruit drop and increase the size of fruits. Apply irrigation in sunflower and mustard crop timely and also undertake plant protection measures. Undertake picking of cashew nuts. Harvest the mature nuts and store it after drying in sun.
- In Madhya Maharashtra and in Beed and Latur districts of Marathwada, due to squally wind/ hail, if fruit dropping has occurred in orchards, collect dropped & infested fruits like mango, pomegranate, papaya and destroy it to avoid spread of pest and diseases. Clean the orchards.
- In Madhya Maharashtra, continue harvesting of matured wheat and Maize. Apply mulch with crop residue or plastic sheet to vegetables and orchards like pomegranate and banana. Continue cultivation of summer vegetable crops like bitter gourd, cucumber, ridge gourd, bottle gourd, water melon, musk melon.
- In Marathwada, as dry weather prevailed, apply mulch in vegetable crops and orchards and for soil moisture conservation. Apply trash mulching in sugarcane crop. Continue harvesting of matured wheat and Maize. Undertake sowing of fodder crops (Maize- African Tall, Sorghum- Pusa Chari, MP Chari).
- In Vidarbha, maintain water level of 3-5 cm in summer rice field in East Vidarbha. Continue harvesting of *rabi* crops in clear weather and keep the produce in safer place. Undertake sowing of green moong. Undertake

cultivation of leafy vegetables like fenugreek, spinach and summer vegetables like okra, bitter gourd, tinda, gourds, cowpea, cluster bean and coriander.

• **Gujarat:**

- As heat wave conditions very likely at isolated places over coastal areas of **Saurashtra & Kutch** from 17th to 19th March, or apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave, mulching with straw/polythene or do soil mulching to conserve soil moisture.
- In South Gujarat Heavy Rainfall Zone, maintain water level of 2-3 cm in transplanted rice. Apply irrigation in already sown groundnut and pulses crop fields as per requirement ; keep the crops weed free. Install pheromone trap for fruit & shoot borer monitoring in brinjal. Spray Naphthalene Acetic Acid (NAA) @ 2 g + Urea @ 2 kg in 100 litre of water to minimize mango fruit dropping at pea stage of fruit.
- In North Gujrat Zone, as weather conditions are suitable, complete sowing of green gram, sesame, pearl millet, cowpea and vegetables crop. Carry out weeding and inter culturing operations in timely sown groundnut. Continue sowing of castor and amaranth.
- In South Sourashtra Zone of Gujarat, continue sowing of green gram, black gram and summer sesame.
- In South Gujarat Zone, in present dry weather condition, farmers are advised to spread plastic or fodder as mulch in vegetable fields for conserving moisture. The weather conditions are favorable for unripe fruits dropping in mango orchard; spray Naphathelene Acitic Acid @ 2 g or Gebrelic acid @ 1 g + 2 kgs urea / 100 litre of water solution.
- In Middle Gujarat Zone of Gujarat, continue sowing of green gram, bhindi and cowpea.
- In North Sourashtra Zone of Gujarat, complete sowing of green gram, black gram, summer sesame, lady finger, ridge gourd, bottle gourd, sponge gourd, bitter gourd, cluster bean and water melon.
- Continue sowing of sesame, sowing of summer groundnut, okra, cluster bean and cowpea for summer season vegetables in North West Zone of Gujarat. Apply irrigation in wheat.
- Due to increase in temperature thrips attack may be possible in garlic and onion in Middle Gujarat Zone of Gujarat. Spray Spinosad 48 SC 2 ml or Clorfenpyre 10 EC 7.5 ml in 10 litres of water. Keep irrigation interval short.
- Due to increase temperature in North Gujrat Zone, for control of powdery mildew disease in mango, spray Dinocap (48%) 5 ml in 10 litre of water after evaporation of dew. To control mango hopper, spray Cypermithrin 25 % EC @ 1.6 ml. or Fenvalerate @ 4.5ml adding in 10 litres water at flowering initiation stage.
- Thrips infestation is observed above ETL in summer groundnut in North Saurashtra Zone; spray 500 ml of 5 % neem seed extract or neem seed oil @50 ml with Profenofos 20 ml or Imidacloprid 30.5 SC @ 3 ml or Lemda Cyhelothrin @10 ml / 10 liter of water.

• **Animal Husbandry**

- In view of the heat wave conditions very likely at isolated places over coastal areas of **Saurashtra & Kutch**, grazing /feeding of cattle/goats may be done during morning/ evening hours. Keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed & adopt vaccination schedule. Make arrangement of curtains and proper ventilation in poultry house. Protect the animals from afternoon heat. For protection of poultry birds from heat, provide curtains from outside the poultry shed and sprinkle it with water. Apply layer of grass or gunny bags on the roof of poultry shed and sprinkle water on it. Provide fresh and cool drinking water for the poultry birds and chicks.

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



Rice



Okra



Maize



Wheat

- **Realised Rainfall:** Significant Rainfall occurred in Burdwan, East Midnapore, Howrah, Kolkata, North & South 24parganas and West Midnapore districts of Gangetic West Bengal; Cooch Behar, Darjeeling, Jalpaiguri & North Sikkim districts of Sub-Himalayan West Bengal & Sikkim; Balasore, Cuttack, Gajapati, Ganjam, Jagatsingpur, Jajpur, Kendrapara, Khurda, Mayurbhanj, Nayagarh and Rayagada districts of Odisha; Araria and Begusarai, Dharbhanga, East Champaran, Kishanganj, Madhepura, Purnea, Saharsha, Samastipur, Sheohar and West Champaran districts of Bihar; Weather remained mainly dry/dry over the region during the week.

- **Advisories:**

- As thunderstorm accompanied with squall/hail very likely at isolated places over Sub Himalayan West Bengal & Sikkim on 17th, 19th and 20th March, on 17th, over Gangetic West Bengal on 18th March, over Odisha on 18th and 19th and over Bihar on 20th March, use hail net or hail cap for orchard crops and fruit vegetables to protect from mechanical damage. Provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake harvesting of matured crops immediately and keep harvested produce at safer places.
- As thunderstorm accompanied with squall very likely at isolated places over Gangetic West Bengal on 20th March, provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds.
- As rain/thundershowers likely at many places over Sub Himalayan West Bengal & Sikkim on 20th March, postpone irrigation, application of fertilizers and plant protection methods to standing crops. Undertake harvesting of matured crops immediately and keep harvested produce at safer places.

- **Odisha:**

- In Eastern Ghat High Land Zone, continue preparation of nurseries of cauliflower for mid season (variety - Pusa Sharad, Pusa Hybrid-2, Pant Shubra). Transplanting of brinjal, tomato, chilli, cauliflower and cabbage are advised on raised bed if seedlings are ready.
- In East and South Eastern Coastal Plain Zone, high temperature increases the water requirement of rabi sunflower. Irrigate the crop at flowering stage.
- In North Eastern Coastal Plain Zone, due to sunny weather and rise in temperature, apply irrigation in the maize and sunflower. In North Eastern Ghat Zone, continue sowing of cowpea.
- In Eastern Ghat High Land Zone, current temperature favours thrips infestation in groundnut. Spray Dimethoate @ 400 ml or Imidachloprid @ 50 ml in 200 litres of water per acre. If Tika disease and white ant attack are noticed, spray Blitox – 50, 500 g in 200 litres of water per acre for Tika disease and spray Chloropyriphos @ 2 ml/ litre of water for controlling white ant attack.
- In Eastern Ghat High Land Zone, now the temperature is favourable for sowing of summer Sunflower. Complete sowing of sunflower.
- In South Eastern Ghat Zone, due to variation in day and night temperature, there may be build up of stem borer on summer rice. Monitoring may be done for the pest visually or through pheromone trap. When the insect incidence crosses the ETL level (ETL: one egg mass or 1-2 moths/m² or 4-5 male moths /trap/day), then apply granular insecticide Carbofuran 3G @ 12 kg/acre or Cartap hydrochloride 4G @ 10 kg/acre.
- In North Eastern Ghat Zone, Mango is at fruiting initiation stage. Mango thrips infestation occurs at this crop stage leading to shedding of flowers and fruits. Spray imidacloprid 17.8 SL or Thiomethaxome 25% WG 0.3ml/lit of water for its control. Spray Planofix @ 0.2ml/litre of water after one month of flowering or at fruit initiation stage. Irrigate the orchard once in a week as dry weather is forecasted during this period
- In Western Undulating Zone, spray Planofix 0.2ml/litre of water after one month of flowering or at fruit initiation stage of Mango.
- In Western Undulating Zone, there is chance of thrips infestation in onion during bulb formation stage. Spray Acephate 75% SP 400g or Imidacloprid 17.8% SL 50ml or Thiomethaxome 25% WG 60g mixing in 200 litres of water per acre. Also to control, purple blotch disease, spray Chorothalonil 75% WP 400g or Iprodione 50% WP 400g per acre with 200 litres of water.

- **West Bengal:**

- As rain/thundershowers likely at many places over West Bengal & Sikkim on 20th & 21st March, postpone irrigation, application of fertilizers and plant protection methods to standing crops. Undertake harvesting of matured crops immediately and keep harvested produce at safer places.
- In Burdwan, Murshidabad, Nadia, North 24 Parganas districts of New Alluvial Zone, undertake sowing of improved variety sesame and moong with seed rate 3.5 Kg per Bigha. Apply 3 kg Urea and 16 kg SSP before seed sowing. First weeding operation should be done in rice 21 days after transplanting. After weeding apply @ 15 kg urea per bigha as top dressing.
- In Purba Mednipur and South 24 Parganas district of Coastal Saline Zone, apply last top dressing by urea@7kg/bigha and potash @3kg/bigha at panicle initiation stage of rice.
- In Hill Zone, undertake land preparation for sowing of maize and planting of round chilli.
- In Coastal Saline Zone, due to high day temperature and low night temperature, blast disease may be found in rice. Apply tricyclozole @5-6g/10liter of water at 10 days interval on a non rainy day.
- In Laterite and Red soil Zone, in this weather condition, stem borer attack may be found in rice. Spray Chlorpyriphos 20% EC @ 2 ml/lit of water to control stem borer. To control aphids in groundnut, Spray Chlorpyrifos 20% EC @ 1.5 ml/lit of water on a non rainy day.
- In Old Alluvial Zone, in the present weather condition, there is chance of attack of Mango hopper in mango, spray Carbaryl 50 W.P @ 2.5g /liter of water at pea stage of fruit set for control. To control Cercospora leaf spot of chilli,

spray Carbendazim @ 1 g per liter of water. To control Tikka disease of ground nut, spray Carbendazim @ 1gm/liter of water on a non rainy day.

- **Andaman and Nicobar Islands:**

- In North, Middle and South Andaman, spray Mancozeb @ 0.2 % at 15-20 days intervals to control downy mildew in cauliflower and cabbage. Mulch the interspaces of vegetables with crop residue or paddy straw to conserve soil moisture as no rainfall is expected during next five days.
- In North, Middle and South Andaman, Nicobar islands, apply tar or white wash around the base of the coconut and arecanut tree and provide drip irrigation to save the tree.

- **Bihar:**

- In Araria, Katihar, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, continue sowing of summer maize and green gram and continue land preparation for sowing of *Sada Jute*. Complete the sowing of sunflower up to this week and planting of spring sugarcane as soon as possible. Undertake preparation of seedling of early cucurbitaceous crop, chilli, tomato and brinjal should be done in small polythene bags in poly house. Continue harvesting of early sown potato.
- In South Bihar Alluvial Zone of Bihar, undertake land preparation for sowing of green gram and continue sowing of early crop of lady finger. Complete the transplanting of young seedlings of tomato, chilli and cole crop.
- In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, undertake land preparation for sowing of green gram, black gram, summer maize, sunflower, vegetables such as okra, bottle gourd, sponge gourd, bitter melon, cucumber, elephant foot yam, and fodder crop such as sorghum, maize, bajra and undertake harvesting of matured mustard crop.

- **Jharkhand:**

- In Jharkhand, normal sown wheat crop is at grain filling stage and this stage is very much sensitive of moisture stress. Hence, irrigate the field as per the status of soil moisture. Complete transplanting of summer rice in main field.
- In Central and North Eastern Plateau Zone, continue sowing of green gram and land preparation for sowing of okra. Undertake sowing of high yielding variety of maize (Birsak Makka-1, Birsak Vikash Makka-2, Suwan-1(Hybrid),HQPM (Hybrid)) with assured irrigation. Continue harvesting of matured mustard. Apply irrigation to mango and litchi at a regular interval. Spray Harmone Planofix @ 5 ml per 10 litres of water to check dropping of tiny fruits.
- In South Eastern Plateau Zone, dry with cool and low atmospheric temperature during morning time, favours the attack of variant leaf eating and sucking pests on pigeon pea crop. Hence, are advised to spray Monochrotophos @ 1 ml per liter of water or Ndoxcarb or Acocarb @ 0.5 – 1ml per liter of water by skipping one row or alternate row.
- In South Eastern Plateau Zone, monitor the wheat crop against loose smut because prevailing high wind speed coupled cloudy weather, which favours the movement of loose smut spores hence, there is a chance of spread of disease in a more speedy way. So remove the affected plants and bury it very carefully inside the soil.
- In South Eastern Plateau Zone, present weather condition is favourable for the spread of Powdery mildew disease and leaf hopper attack on Mango/ Litchi/Jack fruit. Hence before flowering and after fruit formation, spray Lamda Cyhalothrin 5EC@ 5 ml/10 litre of water against the Powdery mildew disease and for leaf hopper, spray Carbaryl, 50WP @2 g/litre of water or Imidachlorprid @ 4ml/ 10 litre of water.

- **Animal Husbandry**

- In Terai Zone of West Bengal, vaccination is the principal way to protect animals from Black Quarter (BQ) and Foot and Mouth Disease (FMD). Vaccinate to poultry bird against Fowl pox and Ranikhet/ ND disease.

CENTRAL INDIA [M.P., CHHATTISGARH]



Gram



Cabbage



Mustard



Wheat

- **Realised Rainfall:** Weather remained mainly dry over the region during the week.

- **Advisories:**

- **Madhya Pradesh:**

- In Betul and Chhindwara districts of Satpura Plateau Zone, continue land preparation and sowing of moong and groundnut at the earliest. Continue harvesting of matured wheat, oilseeds and gram crops.

- In Malwa Plateau Zone, apply irrigation in wheat at milk/ grain filling stage as per requirement. Undertake sowing of cucurbits and okra.
- In Jhabua, Alirajpur and Dhar districts of Jhabua Hills Zone, apply irrigation in wheat at milk/dough stage. Undertake sowing of green gram, groundnut. Continue sowing of cucurbitaceous crops, okra. Undertake nursery sowing of tomato, chilli, brinjal. Stop the irrigation of mature garlic and onion crop and dig it.
- In Gwalior, Bhind, Morena, Guna, Ashoknagar and Shivpuri districts of Gird Zone, give irrigation to normal sown wheat at milk stage. Undertake harvesting of matured sarson crop. Continue sowing of cucurbitaceous crops in the polythene bags and nursery preparation for summer vegetables. Continue sowing of okra.
- In Bundelkhand Zone, continue harvesting and threshing of mature crops (lentil, mustard and linseed crops and potato) in clear weather and store in safe place. Continue sowing of vegetables like pumpkin, bitter gourd etc. Continue direct sowing of summer vegetables like pumpkin, bitter gourd, water melon, muskmelon, cucumber, ladyfinger, bottle gourd.
- In Nimar Valley Zone, continue sowing of summer moong and vegetables.
- In Sehore_Vindhya Plateau Zone, undertake harvesting of matured gram and mustard crop. Apply irrigation to late sown wheat crop. Undertake sowing of urad and mung, cucurbitaceous crops, bhindi and maize. Undertake nursery sowing of chilli, tomato, brinjal.
- In Kymore Plateau and Satpura Hill Zone, undertake sowing of green gram/ black gram in fallow fields after harvested of rabi crops. Apply irrigation at milking and grain filling stages in wheat crop. Undertake harvesting of matured mustard and potato crops.
- In Nimar Valley Zone, due to present weather condition there may be chances of attack of seedling pests of cucurbit vegetables, for control spray Neem oil @ 20 ml per litre of water.
- In Jhabua, Alirajpur and Dhar districts of Jhabua Hills Zone, due to present weather there may be chances of attack of sucking pest in vegetable, for control spray Thiamethoxam or Acetameprid @0.35-0.45 gm per litre of water.
- In Gwalior, Bhind, Morena, Guna, Ashoknagar and Shivpuri districts of Gird Zone, due to present weather there may be chances of attack of aphid in cabbage, for control spray Neem oil @ 1.5 to 2 litres in 500 to 600 litres of water per ha.
- In Malwa Plateau Zone, due to present weather there may be chances of attack of pod borer in gram crop, for control spray Quinalfos 25 EC @ 2 ml per litre in sufficient amount of 600 litres of water.
- **Chhattisgarh:**
 - In North Hill Zone, as mainly dry weather in the forecast period, undertake harvesting of matured wheat, gram, pea, mustard and lentil crops. As increasing temperature, farmers are advised to apply irrigation in summer rice, sugarcane, wheat and summer vegetable crops as per requirement. Late sown crops are at milking to dough stage and at this stage, moisture deficiency may cause heavy reduction in yield. Hence, farmers are advised to irrigate crop during night as per the requirement. Undertake land preparation for sowing of summer crops. Undertake sowing of summer moong, til and groundnut crops. Continue harvesting of matured potato crop. Undertake sowing of spring-planted sugarcane. Continue sowing of cucurbitaceous crop.
 - In Bastar Plateau Zone, as temperature conditions are favourable, continue sowing of summer moong, til, summer vegetables like okra, sponge guard, cucumber, ridge guard watermelon, muskmelon and bitter gourd. Continue planting of summer sweet potato and harvesting of mustard.
 - In Chhattisgarh Plain Zone, as forecast of clear weather condition farmers are advised for harvesting of matured oilseed and linseed crop before scattering of the grain. Continue sowing of summer green gram. Apply nitrogenous fertilizers after light irrigation in one month old transplanted vegetables. Undertake sowing of summer fodder and hybrid Napier after preparation of field
 - In Chhattisgarh Plain Zone, present weather is conducive for attack of red pumpkin beetle in cucurbitaceous vegetables, for control spray Savin @ 2 gram per litre of water at root zone in morning time.
 - In North Hill Zone and Chhattisgarh Plain Zone, in summer paddy, farmers are advised to fix pheromone traps and light traps in the fields for the control of stem borer. Also farmers are advised to spray Saaf fungicide @ 2 g per liter of water to control of purple blotch in onion.
- **Horticultutre**
 - In Jhabua, Alirajpur and Dhar districts of Jhabua Hills Zone, of **Madhya Pradesh**, due to present weather there may be chances of attack of gamossis & anthecnose disease in citrus, for control spray Blitox or Phytolon @ 2.5gm per litre of water.
 - In North Hill Zone of Chhatisgarh, presently mango crop is at flowering/fruit setting stage, at this stage powdery mildew is commonly observed in mango, which causes poor fruit setting and later on fruit dropping. Hence, it is advised to keep watch over the crop and whenever the symptoms appears, spray Carbendizim (Bavistin) @1.5g or Sulphex @3.0g per litre of water.
 - In Bastar Plateau Zone, of Chhatisgarh, at present there is more infestation of sucking pests in mango, for control mix Diesel 10 parts and Malathian 1 part and smoke to irradiate the pest. To avoid flower drying due to tea mosquito bug in cashew spray Lamedasayalothrin.

- In North Hill Zone of Chhatisgarh,, at present mango crop is at flowering/ fruit setting stage. At this stage, infestation of mango hopper is commonly observed. Therefore farmers are advised to keep the mango orchards clean and smoking should be done during evening time to control mango hopper.
- **Animal Husbandry**
- In Betul and Chhindwara districts of Satpura Plateau Zone, control of Ranikhet disease in bird vaccinates F-1 or Lasota strain vaccine. Vaccinate the cattle's for H.S and B.Q. Given cool drinking water three times a day to cattles/ birds. Sun stroke symptom present in cattle salt + sugar mix water should be given.
- In Bastar Plateau Zone of Chhattisgarh, to protect livestock from diseases like Heamorrhagic Septicaemia (H.S.), Black quarter (B.Q.), Anthrax, Theileriosis etc. consult the veterinary Doctor and vaccinate. Undertake de worming in cattle with medicines like Piparagen, Benminth & Panaraquar.

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



Mustard



Maize



Cauliflower



Wheat

- **Realised Rainfall:** Rainfall occurred at Anantnag, Badgam, Baramula, Doda, Ganderbal, Jammu, Kathua, Kulgam, Kupwara, Pulwama, Rajori, Ramban, Reasai, Samba, Srinagar and Udhampur districts of Jammu & Kashmir; all districts except Lahaul and Spiti districts of Himachal Pradesh; Gurdaspur, Jalandhar, Ludhiana, Nawashahar, Ropar districts of Punjab; Yamunanagar district of Haryana and Aligarh district of West Uttar Pradesh. Weather remained mainly dry/dry over the region during the week.
- **Advisories:**
 - As thunderstorm accompanied with squall very likely at isolated places over **Rajasthan** on 18th March, provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake harvesting of matured crops immediately and keep harvested produce at safer places.
 - **Jammu & Kashmir:**
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue transplanting of tomato/Brinjal/chilli, direct sowing of cucurbits like cucumber, bottle ground, bitter gourd, pumpkin and okra in clear weather. Continue harvesting of matured mustard and gram. Continue sowing of lady's finger, French bean, cluster bean and summer radish.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, continue nursery preparation of summer vegetables. Continue planting of cucurbits in main field.
 - In Valley Temperate Zone of Jammu and Kashmir, continue sowing of leafy vegetables in poly house.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, weather is congenial for the attack of aphid on very late sown wheat and early sown mustard. So place one yellow sticky trap per kanal to manage aphid population. If aphids are not controlled spray Rogor (Dimethoate 30EC) @ 1ml/litre of water on a non rainy day.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, weather is favourable for infestation of yellow rust on wheat, Aphid on mustard, Wilt and blight on gram and pea monitor the crops and take appropriate plant protection measures to control above pest/disease.
 - **Uttarakhand:**
 - In Udham Singh Nagar district of Bhabar and Tarai Zone, complete sowing of urad, groundnut, sunflower crop and sowing of bottle gourd, bitter gourd, ridged gourd and pumpkin. Undertake sowing of moong.
 - In Nainital district of Bhabar and Tarai Zone, continue nursery sowing of tomato, capsicum and brinjal for transplanting in mid and high hills. In valley region, continue planting of Kufri jyoti variety of potato. Continue harvesting of mustard crop in clear weather.
 - In TehriGarhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, continue the weeding and hoeing in vegetable crops. Undertake transplanting of chilli, tomato and brinjal in poly houses. Undertake sowing of French Bean and lobia and planting of ginger and turmeric in High to Mid altitude areas. Prepare seedlings of early cucurbitaceous crops in small polythene bags in poly houses.
 - In Udham Singh Nagar district of Bhabar and Tarai Zone, there may be attack of fruit borer to tomato, fruit should be used only after 3 days and 5 days of spraying of Chlorantraniliprole 18.5 SC @ 150ml/Ha and Indoxacarb 14.5 SC @ 500ml/Ha respectively on a non rainy day.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, continue sowing of sunflower, continue sowing of sunflower in low and mid-hill areas. In lower regions, undertake sowing of green gram and black gram and sowing of cucurbits crops, early okra, spinach, coriander, fenugreek. It is optimum time for nursery sowing of tomato, brinjal, chillies and capsicum crops in poly house. Continue sowing of French bean, cluster bean, summer radish as present temperature is suitable for germination of seeds. Continue transplanting of young seedlings of tomato, chilli and cole crop. In mid hill region continue raising of cucurbits viz. cucumber, bitter gourd, bottle guard and summer squash in polytubes inside polyhouse. Continue sowing of early crop of okra with seed rates 10-15 kilogram per acre. Sow chari and bajra for summer green fodder.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, lose the polyhouse properly as temperature will decrease and maintain temperature around 20°C.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti districts, in polyhouse there may be chances of attack of aphid in vegetables, for control spray Acetamiprid 20 SP @ 1 gm or Lambdaialotrina 5 EC @ 0.8 ml per liter of water.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmaur districts, undertake direct sowing of summer vegetables, French bean, pumpkin, bitter gourd and kheera.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh, in Kullu and Mandi districts, undertake pruning up to half branch and paste with Chaubatia paints to prevent the infection in apple and per orchards and stone fruits. Continue preparation of tree basins and start pruning by removing diseased and dense unwanted branches etc. in pomegranate orchards.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of late blight in potato and tomato crops in lower regions, for control, spray Carbendazim @ 1.0 gm / litre of water or Dithane-M-45 @ 2.0 gm / litre of water on a non rainy day.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmaur districts, present weather is conducive for attack of San jose Scale & Mite Disease in apple, for control. spray oil @ 4 litres per 200 litres of water on a non rainy day.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of thrips in onion crop, damping off disease in vegetable crop, powdery mildew in pea, for control thrips in onion, spray Carbaryl @ 2 gm per litre of water with sticky material (Tipol 1 gm per litre), for control of damping off disease in vegetable crop, mix thoroughly Dithane M 45 dust 10-15 g in 1X 3metre beds, for control of powdery mildew in pea, spray Celfex @ 25 g per 10 litres of water or Karathane @ 5 ml per 10 litres of water. Undertake plant protection methods on a non rainy day.

▪ **Punjab, Haryana and Delhi:**

- In Western Plain Zone of Punjab, weather is suitable for sowing of summer moong (varieties SML-668 and SML 832) and summer mash (varieties Mash -1008 or Mash-218). Undertake transplanting of CH-1, CH-3, Punjab Sindhuri, Punjab Tej, Punjab Guchhedar and Punjab Surakh varieties of Chilli in Western Plain and Western Zone of Punjab. Harvest mature vegetables and other crop and provide support to the mustard, sugarcane, banana, papaya, if lodging has occurred after rainfall.
- In Western Zone of Punjab, prepare the field for sowing of Okra. Varieties recommended for sowing are Punjab Padmini, Punjab-7 and Punjab-8.
- In Central Plain Zone of Punjab, undertake sowing of sugarcane with recommended varieties Co-118, CoJ-85, CoJ-64 and CoPb-92 (early maturity group), Co-238, CoPB-91, CoS-8436, CoJ-88, CoPb-93, CoPb-94 and CoJ-89 for mid late maturity.
- In Western Zone of Haryana, complete the sowing of green gram and black gram with certified seed. Undertake harvesting of matured early sown mustard crop. In Eastern Zone of Haryana, undertake planting of spring season sugarcane.
- In New Delhi, continue sowing of ladies finger- A-4, ParbaniKranti and Arkaanamika cultivars. Seed rates should be 10-15 kilogram per acre. Undertake sowing of French bean, cluster bean, summer radish as present temperature is suitable for germination of seeds. Undertake transplanting of young seedlings of brinjal and chilli. Complete sowing of green gram and black gram. Variety: - Green gram – PusaVisal, PusaBaisakhi, PDM-11, SML-32 and Black gram – Pant Urd 19, Pant Urd 30, Pant Urd 35, PDU-1.
- In New Delhi, in present weather condition, constant monitoring of the wheat crop against rust disease is advised. If symptoms of black, brown or yellow rust appears, spray the crops with Dithane M-45 @ 2.5 g per litre of water.
- In Western Zone of Punjab, to control purple blotch in onion, spray the crop with 600 g of Indofil M-45 mixed with 200 ml of Triton or linseed oil in 200 litres of water per acre as soon as first symptom of purple blotch appears in the crop. The spray should be repeated at 10 days interval.
- In Western and Central Plain Zone of Punjab, monitor the wheat fields for appearance of yellow rust. As soon as the disease appears, spray the crop with Tilt or Shine or Bumper or Stilt or Compass or Markzole @ 200 ml in 200 litres of water per acre. Repeat the spray at 15 days interval.. In case of infection of Karnal bunt in wheat, spray 200 ml

- Tilt 25 EC or Folicur 25 EC using 200 litres of water per acre in Western Zone of Punjab.
- Due to congenial weather, army worm attack may increase in late sown wheat in Undulating Plain Zone of Punjab, spray Quinalphos @ 400ml/acre to control. Due to favourable weather conditions, blight disease may appear in gram, monitor the crop and spray Indofil M4 5@360g/acre in 100 litres of water.
 - Due to variable weather condition in Western Zone of Haryana, infestation of pod borer in the gram, spray 400 gram Carbaril 50 W.P. or 200 ml monocrotophos 36 S.L per 100 liter water per acre. Due to prevailed variable weather, there may be chance for attack of white rust in late sown mustard, if observed spray 600 gram Mancozeb/Indophil M 45 in 250 liter water per acre.
- **Uttar Pradesh:**
- As thunderstorm accompanied with squall very likely at isolated places over Uttar Pradesh on 19th March, farmers are advised to arrange support to young fruit plants, propping up in sugarcane and staking of vegetables to prevent the crops from lodging due to strong winds. Keep already harvested produce at safer places.
 - In Central Plain Zone of Uttar Pradesh, complete harvesting of matured sugarcane. Continue harvesting of matured barley and mustard crop in clear weather. Apply light irrigation to wheat crop at flowering/milking stage as per requirement. Undertake sowing of bhindi, mung and urad. Undertake planting of spring sugarcane and sowing of multi harvesting fodder crop like MP-chari, Pusa Chari 23 and pioneer. Undertake earthing up of matured potato crop. Undertake thinning operation in maize crop after 10 to 15 days of sowing. Undertake transplanting of tomato and chilli. Complete sowing of bhindi, Cucurbitaceous vegetables.
 - In Eastern plain Zone of Uttar Pradesh, undertake intercultural operation in sugarcane crop.
 - In Bundelkhand Zone of Uttar Pradesh, continue harvesting of matured mustard, linseed, gram, pea crops on a non rainy day. Undertake sowing of urad and mung. Continue sowing of bhindi, Cucurbitaceous vegetables. Continue transplanting of tomato, chilli and brinjal.
 - In Western Plain Zone of Uttar Pradesh, continue harvesting of matured mustard crop. Undertake sowing of cucurbitaceous and transplanting of young seedlings of tomato, chilli crop may be done in prepared fields.
 - In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of fruit borer in Cucurbitaceous crop, for control spray Neem oil @ 1.5 to 2.0 ml per litre of water, 3 to 4 times at the 8 to 10 days of intervals.
 - In Bundelkhand Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of termite in wheat crop, for control, apply Chlorpyrifos @ 3 litres/ha along with irrigation.
 - In North Eastern plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of blight in linseed crop at flowering / podformation stage, for control, spray 0.2 % Ridomil MZ + 0.1 % Copper oxy Chloride.
- **Rajasthan:**
- In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, continue harvesting of matured mustard crop. Continue sowing of summer okra and chilli. Apply irrigation in wheat crop at grain filling stage as per requirement. Undertake sowing of summer mung with seed rate 15-20 kg/ha.
 - In Dungarpur, Banswara and Pratapgarh districts of Southern Humid Plain Zone, farmers are advised to apply irrigation in wheat at milk stage and in maize crop at silking and grain filling stage as per requirement. Undertake land preparation for sowing of zaid moong after seed treatment with Imidachloprid 600FS @ 1.25g/kg of seed.
 - In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, Continue harvesting of matured mustard crop in clear weather. Continue nursery sowing of brinjal summer chilli and okra. Undertake sowing of leafy vegetables like spinach and amaranthus.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, undertake sowing of summer okra. Use 20 kg seed rate per hectare for summer crop. Treat seed with 1 gm Carbendazim & 3 gm Thiram per kg of seed.
 - In Jaisalmer and Bikaner districts of Arid Western Plain Zone, continue harvesting of matured timely sown mustard and gram crop. In timely sown wheat, provide the 6th irrigation to standing crop at 100-105 days after sowing on dough stages, and also provide 3rd irrigation to the barley 100-110 days after sowing. In late sown wheat, provide the 5th irrigation to standing crop at 90-95 days after sowing on milking stages. Undertake sowing of fodder sorghum and pearl millet.
 - In Barmer, Churu, Jalore, Jodhpur, Pali districts of Arid Western Plain Zone, continue harvesting of matured *Rabi* crop. Undertake sowing of bhindi.
 - In Dungarpur, Banswara and Pratapgarh districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of early blight in tomato crop for control spray Propineb @ 2g or Azoxystrobin @ 1ml per litre of water.
 - In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, prevailing weather condition is congenial for attack of karnal bunt disease in wheat crop, for control spray Propiconazole @ 0.2% solution.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone and in Barmer, Churu, Jalore, Jodhpur,

Pali districts of Arid Western Plain Zone, prevailing weather condition is congenial for attack of termite in rabi onion, for control, apply Chlorpyrifos 20 EC @ 4 litre per hectare with irrigation water.

- In Barmer, Churu, Jalore, Jodhpur, Pali districts of Arid Western Plain Zone, prevailing weather condition is congenial for attack of red pumpkin beetle at early stage in cucurbit vegetables. For its control, apply 5% Malathion dust @ 25 kg per hectare.
- **Horticulture**
 - In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of mango hopper in Mango trees, for control spray Monocrotophos 40 EC @ 1.5 ml or Chlorpyrifos 20 % EC @ 2 ml per litre of water.
 - In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of leaf curl disease in papaya trees, for control spray Mancozeb @ 2.5 mg per litre of water.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of Leaf curl & Mosaic diseases in papaya crop, at the initial appearance of these diseases uproot & burn the affected plants & to check further spread of disease spray Dimethoate 30EC or Methyl Demeton 25 EC @ 1.0 ml per litre water.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of mango hopper in Mango tree at flowering stage. This insect sucks sap of tender leaves and flowers. To control this insect spray Malathion 50 EC@ 1 ml per litre water.
 - In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmaur districts, present weather is conducive for attack of Fungal infection in mango trees for control spray Bavistin or Contaf @100 gram in 200 litres of water.
- **Floriculture**
 - In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, undertake nursery sowing of summer marigold using 700-800 g/ha seed in 15 cm raised beds at 6 cm spacing in rows at 2 cm depth.
 - In Himachal Pradesh, present weather is conducive for the attack of inflorescence rotting disease in marigold crop for control spray Bavistin @ 1 g per litre of water or Indofil-M 45 @ 2 ml per litre of water and undertake intercultural operations and weeding in flower beds. The flowers affected with aphids, for control spray Malathion @ 0.05%.
 - In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmaur districts, complete the planting of gladiolus.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, farmers are advised to go for land preparation for summer season annuals.
 - In Valley Temperate Zone of Jammu and Kashmir, provide drainage channels in flowerbeds to avoid water stagnation after snow melting.
- **Apiculture**
 - In Himachal Pradesh, artificial feed of 50% sugar and 50% water solution should be given to honey bees. Insert the brood chamber without frame for ensuring aeration. The temperature is still low, keep the winter packing to colonies. Check the colonies for nectar and Give artificial food to honey bees as there is scarcity of flowers during these days. And keep colonies in sun on clear day.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, for protection from ants, keep the leg of apiary in water so that ants will not attack the apiary.
 - In Bhabar and Tarai Zone of Uttarakhand, install honey boxes @3-9/ha in temperate fruit orchard at flowering stage.
- **Animal Husbandry**
 - In Rajasthan, foot and 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.
 - In Himachal Pradesh, monitor the animals for FMD and advised Vaccination. Ecto-parasite attack is expected in this weather for control spray Butox @ 2ml per litre in cowshed and give mixture of hay & green fodder.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, give special care to young calves as they are more sensitive to pneumonia. Use dry gunny bags as bedding material for protection against low night temperatures. Provide dry bedding during night.
- **Poultry**
 - In Himachal Pradesh, new lot of layers chicks follow recommended schedule of vaccination for IBD and Ranikhet disease because weather is conducive for the spread of these disease. Increase 10% feeding and add mineral in the diet.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Jammu & Kashmir, in poultry shed, light around 13-14 hours a day should be maintained in the layers houses with the help of electric bulbs for better egg production.
- **Fishery**
 - In Himachal Pradesh, undertake renovation of ponds, preparation of new ponds, de-silting, manuring etc. to add

stocking in by the next month.

- In Jammu & Kashmir, add supplementary feed (GNOC/mustard oilcake and Rice/Wheat bran) @ 3% of total body weight of fish biomass.

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