



National Agromet Advisory Service Bulletin

Friday 23rd February 2018

(For the period 23rd to 28th February 2018)



Issued by

India Meteorological Department

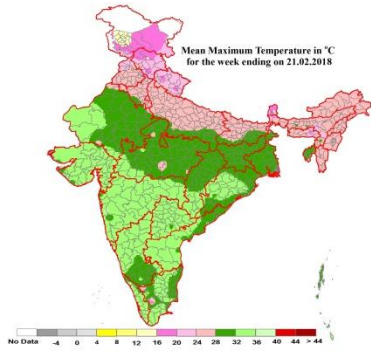
Weblink For

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

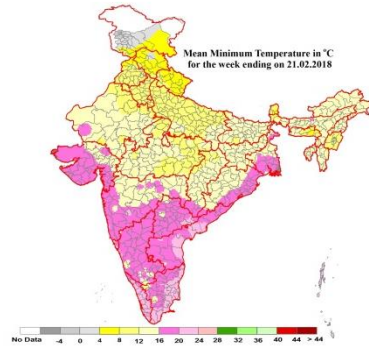
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending 21.02.2018

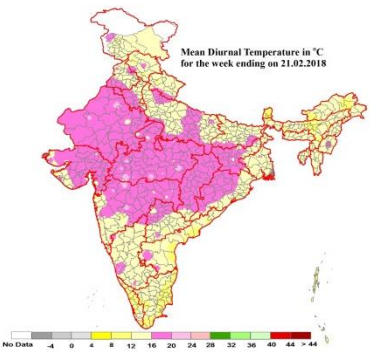
Mean Maximum Temperature (°C) for the week ending 21.02.2018



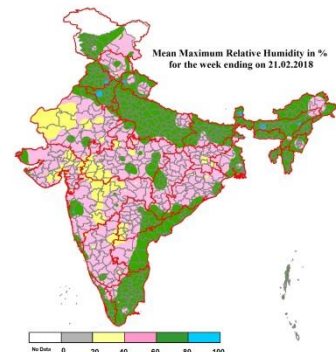
Mean Minimum Temperature (°C) for the week ending 21.02.2018



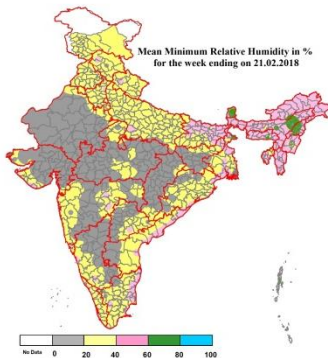
Mean Diurnal Temperature Variation (°C) for the week ending 21.02.2018



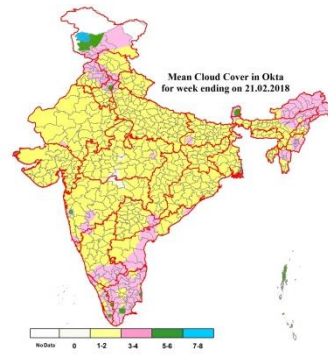
Mean Maximum Relative Humidity (%) for the week ending 21.02.2018



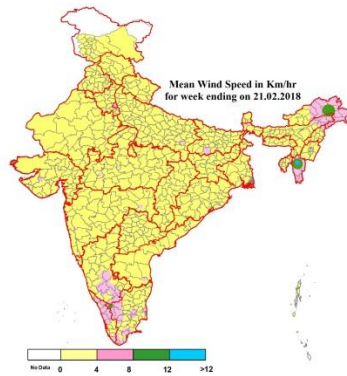
Mean Minimum Relative Humidity (%) for the week ending 21.02.2018



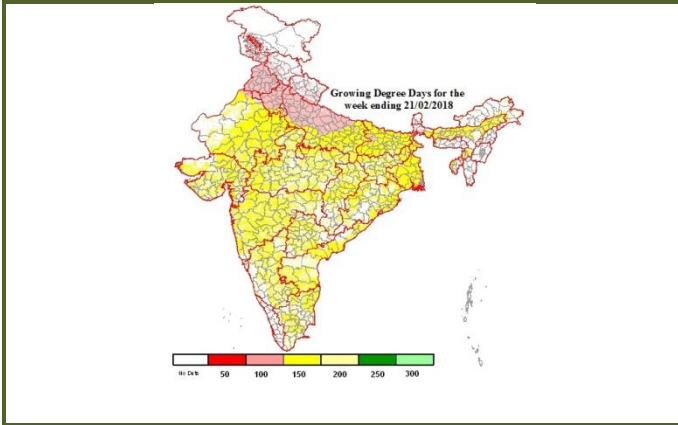
Mean Cloud Cover (okta) for the week ending 21.02.2018



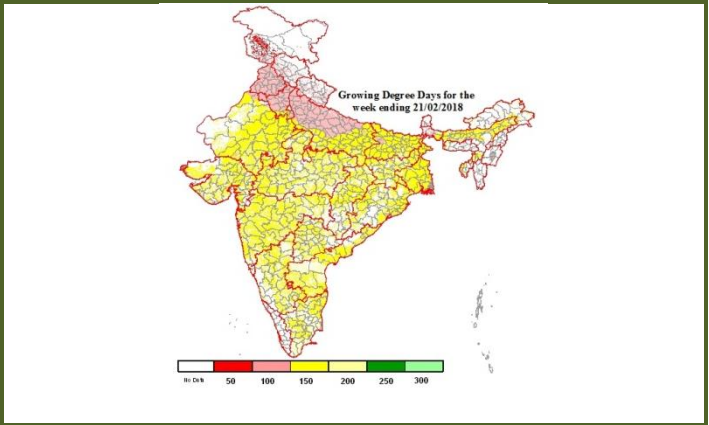
Mean Wind Speed (km/hr) for the week ending 21.02.2018



Growing Degree Days for the week ending 21.02.2018

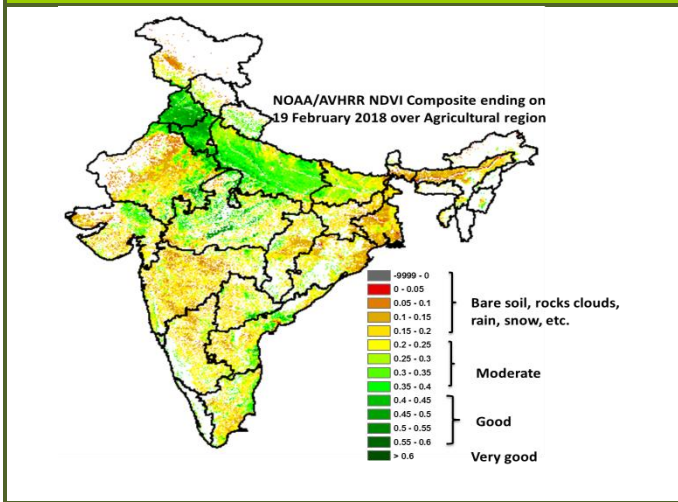


Growing Degree Days for the season ending 21.02.2018

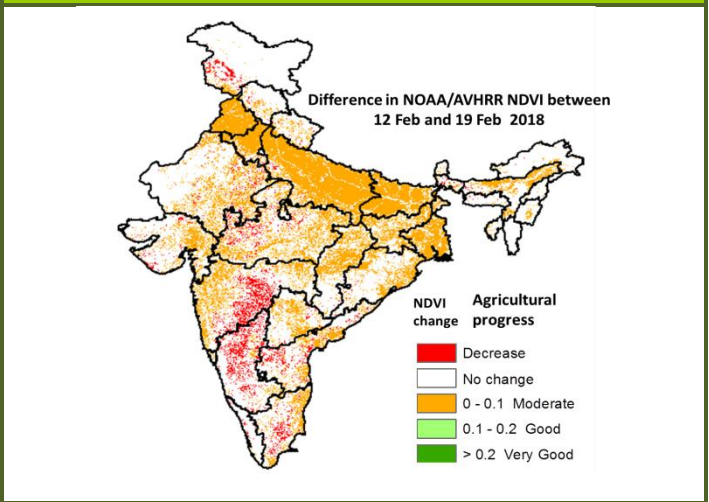


* Base temperature for *Rabi*Season is taken as 05⁰ C

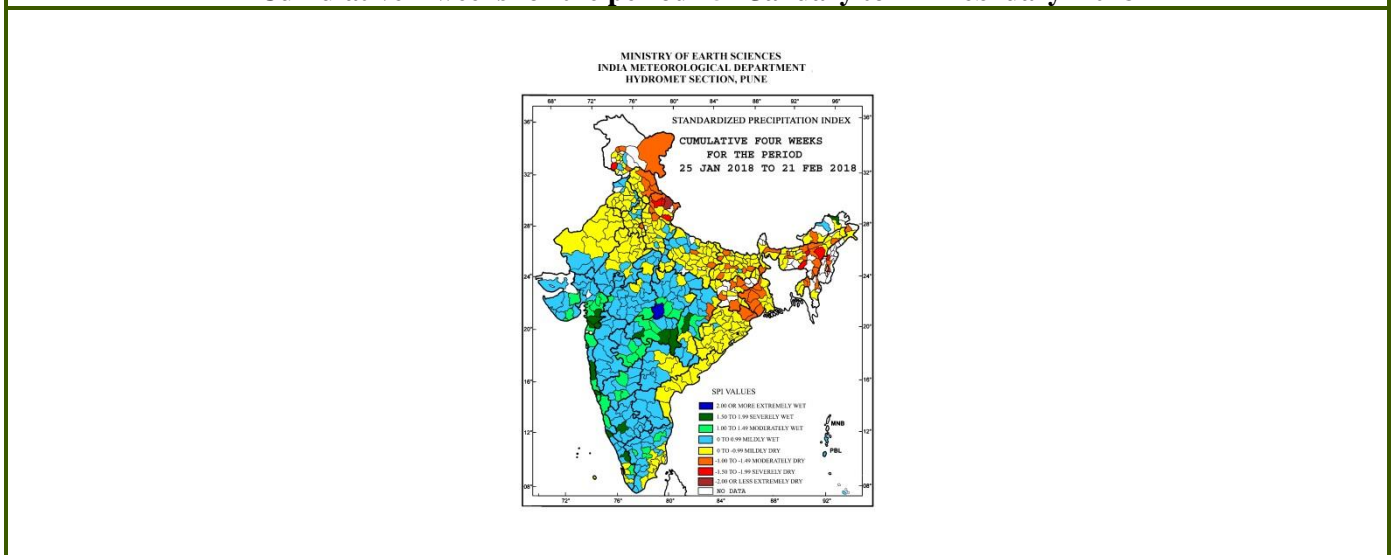
NOAA/AVHRR NDVI composite ending on 19th February 2018 over Agricultural regions of India



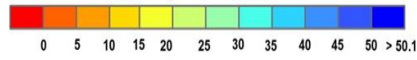
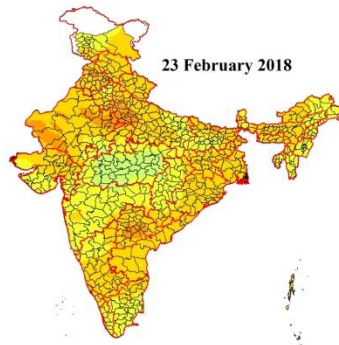
Difference in NOAA/AVHRR NDVI between 12th and 19th February 2018



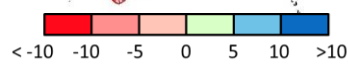
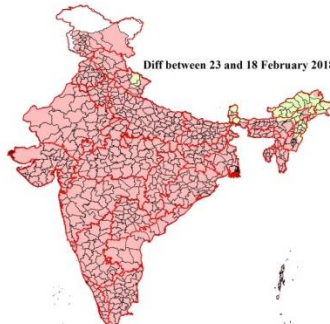
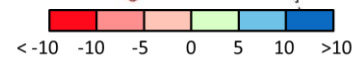
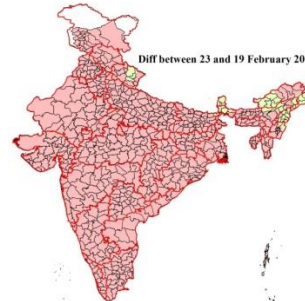
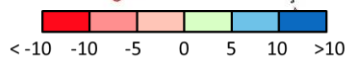
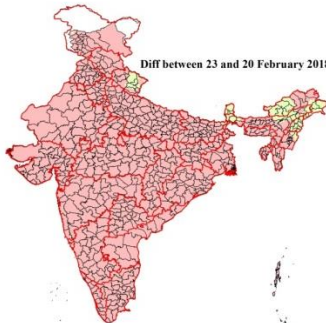
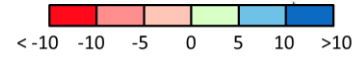
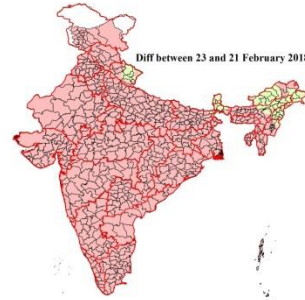
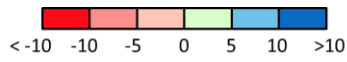
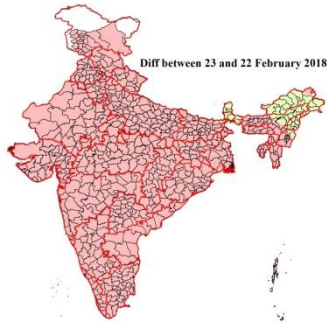
**Standardised Precipitation Index
Cumulative 4 weeks for the period 25th January to 21st February 2018**



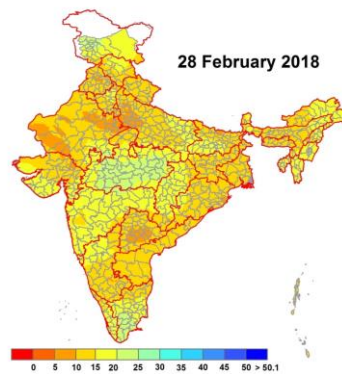
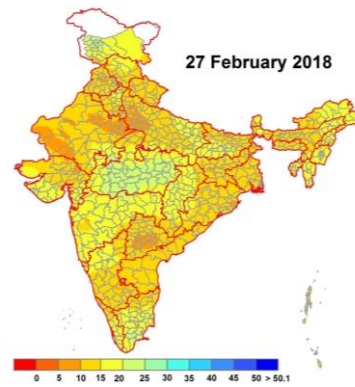
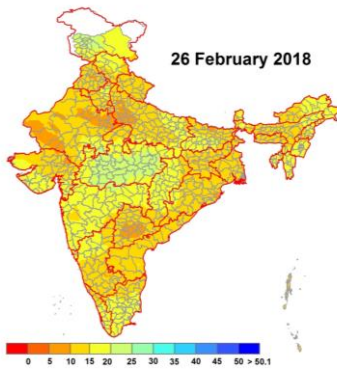
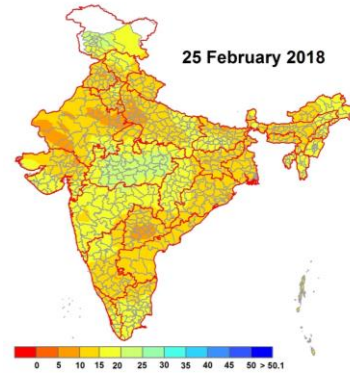
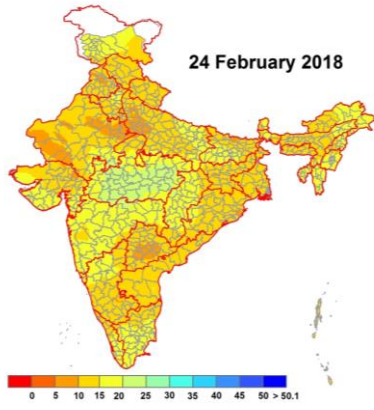
Daily Soil Moisture (mm) for 23rd February 2018 (ending at 0830 IST) for 60 cm depth



Difference of Soil Moisture (mm) for 60 cm depth



**Forecasted Soil Moisture (mm) from 24th to 28th February 2018 (ending at 0830 IST)
for 60 cm depth**



Weather Forecast for next 5 days valid upto 0830 hours of 28th February 2018

- Meteorological subdivision wise detailed 5 days rainfall forecast is given in Table below.
- Rise in Maximum and Minimum temperatures by 1-2°C during next 24 hours and fall by 2-3°C thereafter likely over northwest India.
- Rise in both Maximum & Minimum temperatures by 1-2°C likely over east India, central India & Peninsular India during next 2-3 days.
- No significant change in Maximum and Minimum temperatures over the rest parts of the country during next 2 days.

5 Day Rainfall Forecast (Mid day) 23rd February 2018

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

- **23 February (Day 1):** No Weather Warning.
- **24 February (Day 2):** Heavy rain/snow likely at isolated places over Jammu & Kashmir and Himachal Pradesh. Thunderstorm accompanied with hailstorm likely at isolated places over Jammu division, Himachal Pradesh, Uttarakhand, Punjab, north Haryana and northwest Uttar Pradesh.
- **25 February (Day 3):** Thunderstorm accompanied with hailstorm likely at isolated places over Sikkim and Assam & Meghalaya.

- **26 February (Day 4):** Thunderstorm accompanied with hailstorm likely at isolated places over Assam & Meghalaya. Thunderstorm accompanied with Gusty winds likely at isolated places over Tamilnadu & Pudducherry.
- **27 February (Day 5):** Thunderstorm accompanied with Gusty winds likely at isolated places over Tamilnadu & Pudducherry.

Weather Outlook for subsequent 2 days from 28th February to 2nd March 2018

- Scattered to fairly widespread rainfall/snowfall likely over Western Himalayan region.
- Scattered to fairly widespread rainfall activity likely over Arunachal Pradesh.
- Isolated to scattered rainfall activity likely over plains of northwest India, parts of central India, south peninsula and Andaman & Nicobar Islands.
- Weather likely to be dry over remaining parts of the country.

Salient Advisories

- As thunderstorm accompanied with hailstorm likely at isolated places over **Jammu division, Himachal Pradesh, Uttarakhand, Punjab, north Haryana** and **northwest Uttar Pradesh** on 24th, over **Assam & Meghalaya** on 25th and 26th and over **Sikkim** on 25th February, it is advised to use hail net for orchard crops to protect from mechanical damage. Arrange support to young fruit plants and vegetables, propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
- As rain/snow would occur at most places over **Jammu & Kashmir** and **Himachal Pradesh** and at many places over **Uttarakhand** on 24th, rain/thundershower would occur at many places over **Punjab** on 24th, over **Arunachal Pradesh** on 25th and 26th February, along with heavy rain/snow likely at isolated places over Jammu & Kashmir and Himachal Pradesh on 24th February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation in Jammu & Kashmir and Himachal Pradesh.
- As thunderstorm accompanied with gusty winds very likely at isolated places over **Tamilnadu & Pudducherry** on 26th and 27th February, provide support to banana, young fruit plants and vegetables, propping up in sugarcane to prevent the crops from lodging due to strong winds.
- In Western Plain Zone of **Punjab**, continue sowing of maize and planting of spring sugarcane. Continue sowing of green gram and black gram in **Odisha, Bihar** and **Madhya Pradesh** and green gram in Sub Humid Southern Plain and Aravalli Hill Zone of **Rajasthan** and in Central Plain Zone of **Uttar Pradesh**.
- As dry weather would prevail, apply irrigation in wheat at grain filling stage and at dough stage in barley in Sub Humid Southern Plain and Aravalli Hill Zone of **Rajasthan**. Apply irrigation in chickpea and vegetables in **Gujarat** and maize crop at silking stage in **Odisha**. Apply second irrigation in gram at branching stage and in wheat at dough stage in **West Madhya Pradesh**. Undertake harvesting of matured early sown mustard in **Rajasthan** and complete harvesting of gram in **Marathwada** and **Vidarbha**.
- In **Konkan**, due to partly cloudy weather conditions, incidence of thrips may be observed on mango inflorescence, mustard and pea size fruits of mango, spray Spinosad 2.5 ml per 10 liters of water on the whole tree.

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

- **Realised Rainfall:** Weather remained mainly dry/dry over the region during the week.
- **Advisories:**
 - As rain/snow would occur at most places over Jammu & Kashmir and Himachal Pradesh and at many places over Uttarakhand on 24th, rain/thundershower would occur at many places over Punjab on 24th, along with heavy rain/snow likely at isolated places over Jammu & Kashmir and Himachal Pradesh on 24th February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation in Jammu & Kashmir and Himachal Pradesh.
 - As thunderstorm accompanied with hailstorm likely at isolated places over **Jammu division, Himachal Pradesh, Uttarakhand, Punjab, north Haryana and northwest Uttar Pradesh** on 24th February, advised to use hail net for orchard crops to protect from mechanical damage. Arrange support to young fruit plants and vegetables, propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
 - **Jammu & Kashmir:**
 - In Sub Tropical Zone, continue transplanting of cucurbits, tomato, brinjal and chilli. Undertake direct sowing of bottle gourd, bitter gourd and pumpkin.
 - In Intermediate Zone, in lower mid hills continue early nursery sowing of summer vegetables under protected structures (Poly house, Poly tunnel etc.). Continue preparation of seedling of cucurbits in poly bags. Continue harvesting of matured mushroom crop during early morning after current spells of rain.
 - In Valley Temperate Zone, continue nursery bed preparation for raising of vegetables and sowing of cucurbits in polybags inside polyhouse.
 - In Sub Tropical Zone, there are chances of outbreak of aphids in late sown mustard crop, spray Imidacloprid @ 0.3 ml/litre of water or (Dimethoate) rogor 30 EC @ 1ml/litre of water after current spells of rain.
 - **Uttarakhand:**
 - In Bhabar and Tarai Zone, undertake planting of sugarcane. In mid and high hills, seeds of brinjal, tomato, capsicum and chilli should be sown in the nursery.
 - In Sub Humid Sub Tropic Zone, continue transplanting of onion and tomato.
 - In Hill Zone, continue preparation of seedlings of vegetables like brinjal, capsicum, tomato etc. in polyhouse. Continue preparation of seedlings of early cucurbitaceous crops in small polythene bags.
 - In Bhabar and Tarai Zone, continue harvesting of sugarcane and mustard. Undertake planting of spring sugarcane and sowing of sunflower and maize. Undertake field preparation for sowing bottle gourd, bitter gourd, ridge gourd and pumpkin.
 - In Bhabar and Tarai Zone, there are chances of leaf spot disease in cole crops, spray Mancozeb @ 2.5 g/litre of water on a non rainy day.
 - **Himachal Pradesh:**
 - In Sub-Montane and Low Hill SubTropical Zone, continue nursery preparation of summer vegetables. Undertake preparation of seedlings of cucurbits in polythene bags.
 - In Mid Hills Sub Humid Zone, continue field preparation for nursery sowing of vegetables like tomato, capsicum and sowing of bhindi, gourd etc.
 - In Sub-Montane and Low Hill Tropical Zone, for control of aphid in mustard crop, spray Rogar or Quinalphos @ 2.0 ml/litre of water after current spells of rain.
 - **Punjab, Haryana & Delhi:**
 - In Western Zone of Punjab, as rainfall is expected during next 24 hours, avoid irrigation in wheat, mustard, vegetables and fruit crops.
 - In Western Plain Zone of Punjab, as there is forecast for rainfall and thunderstorm accompanied with hailstorm on 24th, farmers are advised to withhold the irrigation in crops. Provide mechanical support to weak fruit plants like papaya and banana. Continue sowing of maize and planting of spring sugarcane. Continue harvesting of matured vegetables in clear weather. Continue transplanting of brinjal, capsicum and chilli, muskmelon, watermelon, bottle-gourd, pumpkin etc.
 - In Undulating Plain Zone of Punjab, as rainfall is expected avoid irrigation in standing crops. Continue planting of sugarcane and sowing of spring maize. Continue transplanting of chilli and tomato and raising of cucurbit seedlings.
 - In Central Plain Zone of Punjab, continue sowing of spring maize. Spray Manganese Sulphate 0.5 % solution if wheat crop shows manganese deficiency symptoms. If wheat crop shows deficiency of sulphur, broadcast 100 kg of Gypsum/acre in clear weather.
 - In Delhi, undertake sowing of early crop of ladies finger- A-4, Parbani, Kranti and Arka anamika cultivars.

Prepare seedling of early cucurbitaceous crops in small polythene bags in poly houses. Continue sowing of French bean, cluster bean, summer radish. Continue transplanting of young seedlings of tomato, chilli and cole crops. Procure quality seeds for sowing of green gram and black gram.

- In Undulating Plain Zone of Punjab, monitor the wheat crop for incidence of yellow rust. If symptoms are noticed, spray Native @ 120g or Tilt @ 200ml per litre of water for control on a non rainy day.

- **Uttar Pradesh:**

- In Allahabad, Fatehpur districts of Central Plain Zone, continue land preparation and sowing of summer Moong and select high yielding varieties viz. k-851 and JM-721. Undertake sowing of okra, bitter gourd and bottle gourd.
- In Varanasi district of Central Plain Zone, continue sowing of cucurbit crops. Undertake harvesting of matured mustard and digging up of matured tubers of potato. Undertake planting of spring sugarcane. In Kanpur district, continue nursery sowing of vegetables like tomato and chilli. Continue sowing of maize and black gram. Apply irrigation in wheat as per requirement. Continue sowing of okra and cucurbits.
- In Bundelkhand Zone, continue nursery sowing of vegetables like cabbage, cauliflower, brinjal, tomato, chilli etc. and sowing of vegetables like spinach, fenugreek, coriander and carrot. Apply irrigation in late sown wheat at 40-45 DAS.

- **Rajasthan:**

- In Sub Humid Southern Plain and Aravalli Hill Zone, apply irrigation in wheat at milk stage. Continue nursery preparation for summer vegetables like tomato, brinjal and chilli and field preparation for sowing of summer groundnut. Continue sowing of okra and cucurbits. Undertake sowing of green gram. Undertake harvesting of matured mustard.
- In Semi Arid Eastern Plain Zone, undertake sowing of Zaid green gram, Zaid groundnut, okra, Zaid sorghum (fodder), Zaid Pearl millet (fodder) & early summer cucurbits like bottle gourd, round gourd, bitter gourd, water melon and musk melon.
- In Irrigated North Western Plain Zone, continue planting of sugarcane. Apply 3rd irrigation in wheat and in gram at pod formation stage.
- In Bikaner district of Arid Western Plain Zone, in timely sown wheat, provide 5th irrigation at milk stage and also provide 3rd irrigation in barley crop 85-90 days after sowing. In late sown wheat, provide the 4th irrigation at flowering stage.
- In Flood Prone Eastern Plain Zone, continue digging of matured tubers of potato. Apply irrigation in wheat. Undertake harvesting of matured mustard.
- In Arid Western Plain Zone, in gram, to prevent *Heliothis* infestation, spray Quinolphos 25 EC @ 1200 ml/ha or Indoxcarb @ 200 ml/ha along with water at the time of flowering and repeat the spray if required.
- In Flood Prone Eastern Plain Zone, spray 0.1% Malathion solution to manage the thrips and aphid attack in brinjal, tomato and chilli crops.

- **Animal Husbandry**

- In Jammu & Kashmir, give special care to young calves as they are more sensitive to pneumonia. Protect the pregnant and milch animals from cold and feed them mineral mixture regularly. Put some bedding material like puaal etc. to keep animals warm. Provide dry bedding during night.

- **Apiculture:**

- In Jammu & Kashmir, protect bee colonies from extreme weather conditions through proper packing. Need based sugar feeding is recommended. Inspect colony at regular intervals.

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

- **Realised Rainfall:** Weather remained mainly dry/dry over the region during the week.
- **Advisories:**
 - As thunderstorm accompanied with hailstorm likely at isolated places over Sikkim on 25th February, advised to use hail net for orchard crops to protect from mechanical damage. Arrange mechanical support to young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
 - **Odisha:**
 - In Mid Central Table Land Zone, as dry weather would prevail, maintain optimum water level in *rabi* rice. Harvest the matured crop of green gram and black gram as soon as possible as the increasing temperature may cause shattering of seeds in the field itself. Rising temperature along with cloudy weather favours the aphid infestation. To control, spray Neem oil 500ppm @ 5ml/litre of water.
 - In Eastern Ghat High Land Zone, maize crop is at silking stage. Irrigate the maize crop to meet the crop requirement due to increased temperature and never allow water stagnation for more than 6 hours in the field. Now it is optimum time for sowing of summer cow pea. Grow the following improved varieties of cowpea such as bush type- Pusa Phalguni, Pusa Komal, and runner type- American long, and Banarasi long. In the prevailing

weather, undertake planting of papaya. The mustard crop is at (twelve to fourteen week) seed formation to harvesting stage. Mustard saw fly attack occurs at siliqua and seed formation stage. Spray Triazophos or Profenophos 2ml/lit of water for control.

- In North Eastern Coastal Plain Zone, in jajpur district, yellowing of leaves were noticed in groundnut at flowering to pegging stage in some areas. Yellowing of leaves may appear in Sulphur deficient areas if gypsum is not applied earlier. To control it, spray liquid Sulphur (S-20%) @ 5ml/litre. Yellowing of leaves also caused by bud necrosis & rosette leaf viral disease transmitted by thrips & aphids, respectively. If the insects appear with yellowing of plants, spray Thiomethoxam 25WG @ 60g/acre or Acephate+Imidacloprid @ 750 g/acre. Also due to abrupt rise and fall in temperature last week, there is possibility of attack of Tobacco caterpillar (*Spodopteralitura*). The forecasted weather is also favourable for its proliferation. This is a polyphagous pest. So following integrated approach should be started. Use Pheromone trap using Spodo lure to monitor adult population of the insect and provide Bird perching in the fields.

- **Bihar:**

- In North West Alluvial Plain Zone, farmers should take care of maintaining proper moisture in the field before sowing of summer crops. Proper soil moisture at the time of sowing would ensure good germination of seeds. If necessary, light irrigation may be given to maintain moisture. Continue the sowing of summer maize varieties such as Suwan, Deoki, Ganga 11, Shaktiman-1, 2, 3, 4 & 5. Seed rate @ 20 kg per hectare should be used. Farmers are advised to treat seeds with Thiram and Captaf @ 2.5 gm per kilogram of seeds. Farmers are advised to harvest early sown mustard, which is in maturity stage. Regular monitoring is advised for infestation of aphid in late sown mustard crop.
- In South Bihar Alluvial Zone, as dry weather would prevail, farmers are advised to dig out potato tubers from the field which is in matured stage. Stop the irrigation in the crop 15 days before of harvesting.
- In North East Alluvial Zone, sowing of summer vegetables such as okra, pumpkin, cucumber, sponge gourd ridge guard, bitter guard is advised. Keeping in view of increasing temperature, farmers are advised to provide irrigation in standing vegetables such as brinjal, tomato, chilli, pea and cabbage.

- **Jharkhand:**

- In Central and North Eastern Plateau Zone, irrigate the wheat crop in ear head initiation, milk/ dough stages according to the texture and moisture holding capacity. If irrigation facility is available, undertake sowing of maize with recommended dose of fertilizer. Continue sowing of summer green gram.
- In South Eastern Plateau Zone, continue transplanting of summer rice. Before transplanting, seedling should be dipped in the solution of 25 ml Chlorpyrifos + 1-2 % urea (10 g/litre of water) prepared in 25 liter of water for 4-5 hours. For transplanting, use 21-25 days old seedling and before transplanting, puddle the soil with 3 to 5 cm of standing water.
- In South Eastern Plateau Zone, lentil crops sown in the mid of November is at flowering to pod formation stage and present weather is very conducive for the occurrence of wilt disease. Hence, spraying of Carbendazim @ 1 g per lt. of water twice at weekly interval is suggested.

- **West Bengal:**

- In Coastal Saline Zone, continue sowing of green gram. Start harvesting mustard if siliqua is found dry and mature.
- In the New Alluvial Zone, undertake land preparation for green gram and black gram. Undertake sowing of French bean, cluster bean and summer radish.
- In the Hill Zone, carry out land preparation for ginger and turmeric cultivation. Provide irrigation to wheat crop at tillering stage.
- In Laterite and Red Soil Zone, apply light irrigation to wheat crop at late dough stage and to potato at tuber bulking stage. Carry out hand weeding in rice and groundnut fields.
- In the Old Alluvial Zone, install of sex pheromone trap @ 1trap/bigha for monitoring of rice stem borer in Boro rice at tillering stage. In early transplanted Brinjal fields, install pheromone traps @ 4-5 traps/bigha for brinjal fruit and shoot borer management at flowering stage. Carry out spraying of Sulphar or Sulfex (Liquid) @ 2ml per liter of water for flower initiation in mango and litchi.
- In the Terai Zone, apply Flubenamide 39.35% SC @ 4 ml/tank to control sucking pest in chilli crop at vegetative stage. For leaf blight in cabbage and cauliflower, spray Mancozeb 75% WP @ 2.5g/litre of water. Spray Tricyclozole @ 5 g/10 liter of water for blast attack in Boro paddy at seedling stage.
- In Old Alluvial Zone, in late sown mustard at pod setting stage, spray Clothainidin 50% WDG @ 1 g/10 litre of water for control of mustard aphid.

- **Andaman & Nicobar Islands:**

- In Andaman Islands, carry out weeding and earthing up in pulses.
- In the Nicobar Islands, clear the channel in the vegetable field to avoid stagnation of water as good amount of rainfall is expected.

- **Animal Husbandry**

- In Mid Central Table Land Zone of Odisha, as temperature has started increasing, provide sufficient clean

drinking water to the cattle. Provide gunny bag covering outside the cowshed and sprinkle water. □ Avoid grazing of animals during the noon hours.

- In the Old Alluvial Zone of West Bengal, vaccinate goat against pox virus and PPR.
- In the Nicobar Islands provide mineral mixture @ 25 g per day for 3 weeks to the pregnant cows.
- **Fisheries**
- In the Andaman Islands, feed the fingerlings of Indian major carp with rice bran and ground nut oil cake at 1:1 ratio at the rate of 3-5 % of body weight.
- In the Old Alluvial Zone of West Bengal, apply fish feed (mixture of rice bran and mustard oil cake in 1:1 ratio) @ 2-3% of total fish stock in the pond daily.
- In Mid Central Table Land Zone of Odisha, start harvesting the fish from those ponds where it is not possible to maintain minimum 3-4 ft depth of water. Increase the feed as the intake will be more with increase in temperature.

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

- **Realised Rainfall:** Rainfall occurred in Dibang Valley, East Siang, Twang, Upper Siang, Upper Subansari and West Siang districts of Arunachal Pradesh during the week and weather remained mainly dry/dry over the rest of the region.
- **Advisories:**
 - As rain/thundershower would occur at many places over Arunachal Pradesh on 25th and 26th February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - As thunderstorm accompanied with hailstorm likely at isolated places over Assam & Meghalaya on 25th and 26th February, advised to use hail net for orchard crops to protect from mechanical damage. Arrange mechanical support to young fruit plants and vegetables, propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
 - **Assam & Meghalaya, Arunachal Pradesh:**
 - In Arunachal Pradesh, continue harvesting of mature crop of ginger/turmeric on clear day taking care that the rhizome is not damaged. Continue harvesting of mature crop of cabbage and cauliflower in clear weather. Cover newly emerged banana bunches with locally available sack to protect from cold/frost.
 - In Meghalaya, continue harvesting of cabbage and cauliflower at mature stage. Provide irrigation to pea, lentil and chickpea crops at vegetative/flowering stage and to rapeseed and mustard crops at flowering/pod formation stage. Continue nursery raising/transplanting of tomato and capsicum crops.
 - In Lower Brahmaputra Valley Zone of Assam, undertake harvesting mature potato crop as early as possible. Undertake land preparation for summer green gram/black gram, pointed gourd, okra and sugarcane.
 - In the Hill Zone of Assam, undertake land preparation and sowing of green and black gram. Provide support of bamboo sticks to tomato and chilli plants at fruiting stage.
 - In the Upper Brahmaputra Valley Zone, undertake land preparation for sowing of maize, black gram and green gram. Undertake land preparation for okra, Ridge gourd and Sponge gourd. If 75-80% of the siliqua turns yellow, harvest the rapeseed crop as fair weather is predicted in the coming 5 days.
 - In the Barak Valley Zone, continue land preparation for okra, ridge gourd and sponge gourd.
 - In the Central Brahmaputra Valley Zone, apply one irrigation at 7-10 days of transplanting in Boro paddy to facilitate gap filling of dead hills and maintain 5±2 cm of standing water in the field up to 7-10 days before harvest. Undertake land preparation for summer vegetables, Capsularis jute, summer green gram and black gram. Undertake sowing of pointed gourd. Apply second irrigation to wheat crop at vegetative, ear head stage (70-75 days after sowing).
 - In the North Bank Plain Zone, undertake land preparation for direct-seeded Ahu rice. Collect the seeds of varieties like Banglami, Rangadoria, Ahu joha, Rasi etc. Undertake sowing during March-April. Undertake land preparation for sowing of summer green gram and black gram from mid-February to March. Undertake land preparation for ridge gourd, cucumber, bitter gourd, okra etc.
 - In Arunachal Pradesh, spray Dimethoate 30EC @ 2ml/litre of water against aphids at seed formation stage in Rapeseed/Mustard using sticker after current spells of rain.
 - In the Hill Zone of Assam, spray Mencozeb 0.2% @2gm/litre of water for control of blast disease in Boro paddy crop at maximum tillering stage on a non rainy day.
 - In the Barak Valley Zone, to control the attack of stem borer @ tillering stage in rice field, spray Chlorpyrifos 50 EC @ 2 ml per litre of water on a non rainy day.
 - In the Central Brahmaputra Valley Zone, apply Dimethoate 30EC or Chloropyrifos 20EC @1ml per litre of water during afternoon hours to control aphids in wheat crop at vegetative and ear head stage on a non rainy day.
 - **Nagaland, Mizoram, Manipur and Tripura:**
 - In Manipur, in pre-kharif rice nursery, maintain water level just to submerge the aerial sprouts and later increase

the water level. Provide light irrigation to rabi maize at vegetative to pre-flowering stage and to rapeseed and mustard at Siliqua formation to maturity stage. Transplant 25–30 days old tomato seedlings and 4-leaf stage cucurbit seedlings raised under low cost polyhouse. Apply light watering to already transplanted seedlings. Use mulching materials like paddy straw to protect young cucurbit plants from cold. Undertake sowing of French bean and okra crop.

- In Mizoram, continue harvesting of ginger, turmeric, early cole crops, brinjal, tomato and chilli. Harvest mature cobs of maize and potato. Apply irrigation once in a week to green/black gram, soybean and toria at pod/siliqua stage. Provide alternate day irrigation to coffee at blooming stage and strawberry at fruit formation to harvesting stage.
- In Tripura, continue transplanting of the young seedlings of summer brinjal and tomato to the main field. Apply irrigation and provide mulching to Rabi maize crop at post silking stage. Apply light irrigation to cole crops and tomato. Harvest mustard and lentil crops in the morning to reduce loss due to shattering.
- In Nagaland, carry out land preparation for summer maize and green gram. Harvest ripened fruits of Khasi Mandarin, vegetables, cabbage, cauliflower, Rabi maize and toria.
- In Manipur, spray Cypermethrin or Fenvelerate (0.01%) followed by Carbyl (0.1%) at an interval of one week for control of leaf hopper in mango.
- **Animal Husbandry**
 - In Manipur, provide artificial heating to poultry birds and vaccinate them against coccidiosis and Ranikhet diseases. Vaccinate pigs against swine fever and cattle against FMD, HaemorrhagicSepticaemia, Black Quarter.
 - In the Upper Brahmaputra Valley Zone, vaccinate the 4-7 days old and 35 days old poultry birds with F1/ Lasota vaccine @ 1 drop through eye and nostril.
- **Fishery**
 - In Nagaland, drain the pond, remove the silt and apply lime to condition the soil. Lime activates fertilizers and controls acidity which may harm the fish.
 - In the North Bank Plain Zone, apply Potash @ 4-5 mg/litre of water, Sukrena WS @ 1 litre per bigha of water and Lime in required doses to protect the fish population against various bacterial diseases prevalent in winter season.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Weather remained dry over the region during the week.
- **Advisories:**
 - **Maharashtra:**
 - In North Konkan, in transplanted rice, maintain 5 cm water level at tillering stage. Apply irrigation in groundnut crop at 10-12 days interval. In South Konkan, in view of dry weather apply straw mulch or polythene mulch to water melon crops.
 - In Madhya Maharashtra, complete harvesting of matured gram and jowar. In Western Ghat Zone, complete harvesting of matured *rabi* crops (gram, safflower, wheat and jowar), vegetables and fruits. To protect the newly planted fruit crops from direct sunlight erect shed.
 - In Marathwada, complete harvesting of *rabi* crops like rabi sorghum, gram and wheat (sown in the month of October). Complete harvesting of matured banana, citrus fruits and grapes.
 - In Vidarbha, complete harvesting of matured gram and red gram. Continue planting of leafy vegetables like fenugreek, spinach and coriander. Continue sowing of summer sesame (Variety-NT-11). Apply irrigation to groundnut crop at an interval 10-12 days. Also undertake gap filling in the crop.
 - In Konkan, due to partly cloudy weather conditions, the incidence of thrips may be observed on mango inflorescence, mustard and pea size fruits of mango, spray Spinosad 2.5 ml per 10 liters of water on the whole tree.
 - **Gujarat:**
 - In North West Zone, undertake land preparation for sowing of groundnut and pearl millet. Undertake sowing of okra, cluster bean and cowpea. Undertake harvesting of matured mustard and matured spikes of castor.
 - In South Gujarat Zone, in mango orchard apply mulching to maintain moisture and protect the fruit from spongy tissue.
 - In South Saurashtra Zone, undertake field preparation for sowing of summer, groundnut, sesame, green gram and black gram. Continue harvesting of matured coriander. Undertake harvesting of matured wheat, chickpea, cumin and castor.
 - In North Gujarat Zone, undertake land preparation for sowing of groundnut, pearl millet and sesame. Continue sowing of vegetable (okra, cluster bean and bottle gourd) crops. Stop irrigation in potato one week before harvesting. Undertake harvesting of matured mustard and castor.
 - In North Saurashtra Zone, continue sowing of groundnut. Procure good quality seeds of sesame and carry out sowing as minimum and maximum temperature rises up to 19 °C and 30°C. Continue transplanting of brinjal,

sowing of cluster bean, gourds and watermelon. Continue harvesting of matured coriander.

- In Bhal and Coastal Zone, continue harvesting of matured spikes of castor. Undertake harvesting of matured wheat, chickpea and mustard. Complete the sowing of okra, cluster bean and cowpea for summer season vegetables. Transplant brinjal seedling during evening hours.
- In South Gujarat Heavy Rainfall zone, continue transplanting of summer rice. Carry out weeding in pulses as per need and earthing up in cole crops. Ploughing in sapota orchards is recommended to remove weeds.
- In Middle Gujarat Zone, continue harvesting of matured capsules of castor crop. Undertake harvesting of matured mustard. Apply irrigation in wheat at milk/dough stage. Undertake land preparation for sowing of summer groundnut. Stop irrigation two weeks before harvesting of matured potato crop.
- In North Gujarat Zone, due to cloudy weather there is possibility of occurrence of pod borer in gram; if infestation is above ETL, spray Quinalphos @ 20 ml / 10 litres of water, for control.
- In North Saurashtra Zone, heavy attack of thrips is observed in garlic due to migration from harvested cotton field; for control, spray neem seed extract 5% and spray Pofenofos @ 20 ml and Lambda-Cyhalothrin @ 14 ml/10 liters of water alternatively at 10 days interval.

CENTRAL INDIA [M.P., CHHATTISGARH]

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

- **Advisories:**

- **Madhya Pradesh:**

- In Nimar Valley Zone, apply 4th irrigation in wheat at 80-85 DAS. Continue sowing of green gram, black gram and groundnut.
- In Vindhya Plateau Zone, undertake harvesting of matured gram and wheat. Continue sowing of cucurbits. Undertake field preparation for sowing of okra and planting of sugarcane.
- In Kymore Plateau and Satpura Hill Zone, apply irrigation in late sown wheat followed by urea application.
- In Grid Zone, continue nursery sowing of summer vegetables. Continue harvesting of matured toria and mustard. Undertake sowing of okra and cucurbits under optimum soil moisture conditions.
- In Bundelkhand Zone, undertake harvesting of mature crops like pea, chickpea, lentil, linseed and mustard and store in safe place. Continue sowing of vegetables like bitter gourd, pumpkin, okra, bottle gourd, watermelon, muskmelon etc.
- In Satpura Plateau Zone, continue planting of spring sugarcane and sowing of groundnut and maize. Undertake harvesting of matured oilseeds, pulses and wheat. Undertake preparation of seedlings of cucurbits in polythene bags.
- In Central Narmada Valley Zone, apply 2nd top dressing of urea in normal sown and 1st top dressing of urea in late sown wheat crop. Continue intercultural operations in vegetables.
- In Malwa Plateau Zone, continue sowing of cucurbits, chilli, tomato and brinjal crops in the nursery. Continue transplanting of onion and intercultural operations in vegetables. Undertake field preparation for sowing of green gram and black gram.
- In Jhabua Hill Zone, undertake harvesting of matured semi irrigated wheat. Undertake field preparation for transplanting of vegetables like tomato, chilli, brinjal, okra and cluster bean. Continue harvesting of matured mustard and gram.
- In Satpura Plateau Zone, for control of purple blotch of onion, spray Saaf fungicide @ 2 g per litre of water.
- In Malwa Plateau Zone, there are chances of attack of thrips in onion, spray Imidacloprid @ 0.5 ml per litre of water with sticky material (Tipol 1.0 g/litre).

- **Chhattisgarh:**

- In North Hill Zone, continue nursery sowing of summer vegetable crops (cauliflower, cabbage, tomato, brinjal, chilli, Continue planting of sugarcane. Continue harvesting of matured mustard and potato. Undertake harvesting of matured gram and lentil crops.
- In Chhattisgarh Plain Zone, apply irrigation in wheat at flowering stage. Undertake sowing of green gram.
- In Bastar Plateau Zone, for the control of white rust in mustard crop spray Mencozeb + Metalaxyl @ 2.5g/litre of water.

- **Animal Husbandry**

- In Madhya Pradesh, provide mineral mixture and fresh and clean water to birds. Vaccinate the poultry birds to prevent Ranikhet disease. Get all the animals vaccinated against foot and mouth disease (FMD).
- In Chhattisgarh, feed the cattle with dried fodder chaff cutting mixed with legume fodder such as Berseem, Lucerne etc.

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

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

- **Advisories:**

- As thunderstorm accompanied with gusty winds very likely at isolated places over Tamilnadu & Pudducherry on 26th and 27th February, provide support to banana, young fruit plants and vegetables, propping up in sugarcane to prevent the crops from lodging due to strong winds.
- **Kerala:**
 - In the Problem Area Zone, rain is not expected. For summer rice under limited resources of water, apply irrigation to paddy at reproductive stage can be practiced to the advantage of saving substantial quality of irrigation water without any significant reduction in yield.
 - In the Central Zone, undertake planting of pepper vines in nursery beds for rooting.
 - In the Southern Zone, provide shade to small rubber and coconut plants.
 - In the Problem Area Zone, apply diluted cow-dung slurry, biogas slurry, cow's urine, vermi wash etc to vegetables @ 8-10 days interval. Irrigate vegetable gardens at least once in two days. Give shade to seedlings. In case of sucking pests apply neem oil emulsion @ 65 ml/litre of water in cow pea and 25ml/litre of water in cucurbits.
 - In the Central Zone, Due to high temperature, there is a chance of attack of white fly and jassid in vegetables. Stunted growth caused by them can be controlled by hanging yellow boards painted with castor oil.
 - In the Northern Zone, apply Azadiractin 3000 ppm stock after diluting in water @ 3ml/litre for rice bug in paddy at grain filling stage. For better result, add and stir one to two ml of Malathion 50EC per litre of the diluted Azadiractin solution before applying. Carry out spraying in the evening hours, immediately after sunset. Spray the solution of Lamda Cyhalothrin insecticide 3 ml + Copper Oxychloride fungicide 5g dissolved in 5 litres of water Mosquito bug – blight disease complex in cashew plantation at flushing stage.
- **Andhra Pradesh:**
 - In the North Coastal Zone, continue planting of sugarcane after sett treatment with Propiconazol @ 1.0 ml/litre for 15 minutes before planting.
 - In the Krishna Godavari Zone, carry out harvesting of chick pea crop when the leaves turn reddish brown and plants start leaf shedding. Harvesting should be done during morning hours to avoid shattering of pods.
 - In the Scarce Rainfall Zone, for the control of leaf folder in paddy, farmers are advised to spray Chloropyriphos @ 2 ml/litre for control. For control of leaf folder in groundnut, spray Chloropyriphos @ 500 ml (or) Flubendamide 40 ml (or) Monocrotophos 320 ml per 200 litres of water.
 - In the Krishna Godavari Zone, spray Spraytricyclozole @ 120 g or Isoprothiolin @ 300 ml or Kasugamycin @ 400 ml per acre for leaf blast in rice at active tillering- PI stage.
 - In the North Coastal Zone, spray Chloropyrifos @ 2.5 ml/litre of water for stem borer; Isoprothiolane @ 1.5 ml/litre of water for blast disease and Hexaconazole @ 2.0 ml/litre of water for sheath blight in Rabi paddy at tillering stage. Spray Carbendazim @ 1 g/litre of water in ragi crop at tillering stage.
- **Telangana:**
 - In North Telangana Zone, maintain shallow depth of water (2-3 cm) during tillering stage of paddy crop. Follow alternate wetting and drying (AWD) method of irrigation. Give irrigation to Maize crop at sensitive stages like before flowering, flowering & milking. Provide irrigation during flowering and grain filling stages in sorghum crop and provide enough irrigation at pegging to pod development stage in groundnut crop.
 - In South Telangana Zone, prevailing dry weather conditions are favorable for incidence of aphids in maize. To control, spray Chloropyriphos @ 2 ml or Acephate @ 1.5 g per litre of water. Incidence of Diamond Back Moth is noticed in cabbage and cauliflower. To control, spray Acephate @ 1.5 g or Spinosad @ 0.3 ml per litre of water before 15 days of harvesting of the crop.
 - In North Telangana Zone, spray Tricyclazole @ 0.6 g or Isoprothiolane @ 1.5 ml or Kasugamycin @ 2.5 ml per litre for leaf blast in paddy at tillering to maximum tillering stage. Spray Chlorothalonil @ 2 g or Pyraclostrobin @ 1g/litre of water for early blight in tomato crop. Spray Flubendamide @ 0.3 ml/litre of water at 28 and 35 days for stem borer in tomato crop. Spray Myclobutanil @ 1 ml/litre of water for powdery mildew in bhindi crop.
- **Tamil Nadu:**
 - In the High Rainfall Zone, irrigate the paddy field to a depth of 5 cm at panicle initiation and flowering stage. Provide irrigation to pepper and clove plants at maturity stage. Provide support to banana plants to prevent lodging.
 - In the North Western Zone, to control stem borer incidence in maize, carry out spot application of Cartop 4 kg along with 4 kg of sand/acre or foliar spray of Chloropyriphos @ 2ml with 1ml sticking agent per litre of water.
 - In the Cauvery Delta Zone, rice varieties ADT 43 and ADT 45 are suitable for summer paddy cultivation.
 - In the North Eastern Zone, seeds of rice fallow pulses may be treated with Trichoderma viride @ 4g/kg of seed and with 3 packets (600 g/ha) of Rhizobial culture CRU-7 and 3 packets (600g/ha) of Phosphobacteria using rice kanji as binder and shade dry the seeds before sowing. To prevent grain discoloration in rice, spray two gram of Carbendazim + Thiram + Mancozeb (1:1:1) mixture in one litre of water at 50% flowering stage or spray NSKE 5%.
 - In the Western Zone, apply irrigation to soil moisture based crops. Apply frequent irrigation to recently planted

- sugarcane to avoid early shoot borer attack. Provide adequate support to 5 months old banana and sugarcane.
- In the Southern Zone, spray Tricyclazole 75 WP @ 200 g/acre or Carbendazim 50WP @ 200 g/acre immediately after observing initial infection of the blast disease in paddy fields.
 - In the High Rainfall Zone, spray 1% Bordeaux mixture or 0.2% Mancozeb to control leaf spot at new shoot formation and flowering stage in rubber.
 - In the South Zone, prevailing weather condition is favourable for Bacterial leaf blight incidence in rice crop at panicle initiation stage. Apply two sprays of Copper Hydroxide 77 WP @1.25 kg/ha 30 DAP & 45 DAP. To control Cotton aphids at boll bursting stage, spray Dimethoate 30 EC 500ml/ha or Acetamiprid 20% SP 50 g/ha. To control Cotton mealy bug spray Dimethoate or Profenophos 2 ml/litre of water.
 - In the North Western Zone, spray Imidacloprid pesticide @ 0.6 ml/litre of water to control sucking pest in groundnut crop.
 - In the Cauvery Delta Zone, carry out foliar spray of Pulse wonder @ 2 kg/acre in rice fallow black gram once at flowering and 15 days thereafter.
 - In the Western Zone, for control of sucking pest in vegetables, spray 5% neem seed kernel extract in the morning and evening hours.
 - **Karnataka:**
 - In Hill Zone, undertake sowing of green gram and black gram.
 - In Southern Dry Zone, continue nursery bed preparation for sowing of ragi (KMR-304, 301, Indof -9, GPU-28) and for rice (MTU-1000, 1001, KRH-4, IR-64 varieties).
 - In Southern Transition Zone, continue transplanting of summer rice. Undertake planting of sugarcane and harvesting of matured coconut. Undertake harvesting of matured rhizomes of turmeric and ginger.
 - In North East Transition Zone, undertake new plantation of improved sugarcane variety Co-86032.
 - In North Transition Zone, continue picking of cotton, harvesting of wheat (sown in 2nd week of October), early sown sorghum and early sown Bengal gram. Provide supplementary irrigation to late sown sorghum (grain filling stage), wheat (grain filling) and late sown Bengal gram crop.
 - In North East Dry Zone, continue planting of sugarcane. Complete harvesting of red gram, Bengal gram and safflower. Apply irrigation to wheat crop.
 - In Central Dry Zone, continue harvesting of matured fruits of chili.
 - In Southern dry Zone, there is a possibility of occurrence of powdery mildew and hoppers in mango crop; for control, spray wettable Sulphur @ 3g/litre and Rogar @ 1.5ml/litre of water respectively.
 - In Hill Zone of Karnataka, for control of mites in coconut, spray water soluble Sulphur @ 5g/litre of water or spray a mixture of neem oil (20 ml) + garlic solution @20 gm + soap powder solution @ 5 g per litre of water to the coconut flower and fruit bunch.
 - In Eastern Dry Zone, spray Lamda Cyhalothrin 5 EC @ 0.5 ml/litre of water or Sulphur dust (SULTAF) 80 W @ 3g/litre of water against the powdery mildew disease in mango crop.
 - In North Transition Zone, for control of powdery mildew in mango; spray Phosphamidon 86 WSC @ 0.5 ml with Hexaconazole 5 EC @1 g per litre of water.
 - In Central Dry Zone, to manage sucking pests in safflower, spray Thiamethacom 25 WG @0.2 g or Acephate 75 SP @ 1 g or Dimethoate 30 EC @1.75 ml dissolved in one litre of water.
 - **Animal Husbandry**
 - In Eastern Dry Zone of Karnataka, maintain the optimum room temperature in sericulture, poultry and dairy unit. In North Dry Zone, give de-worming medicine to livestock.
 - **Animal Husbandry**
 - In the Northern Telangana Zone, vaccinate poultry birds against Ranikhet disease, cattle against FMD and Hemorrhagic Septicemia diseases and sheep/goat against sheep pox disease.
 - In the Southern Zone of Tamil Nadu, provide half quantity of greens and straw in the morning and half in the evening after milking. Feed cow with mixture of young foliage and dry grass with hay. Give silage after the end of milking. Give concentrate feed in the morning and evening with equal distribution.
 - In Eastern Dry Zone of Karnataka, maintain the optimum room temperature in sericulture, poultry and dairy unit. In North Dry Zone, give de-worming medicine to livestock.

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