



National Agromet Advisory Service Bulletin

Friday 8th February 2019
(For the period 8th to 13th February 2019)



Issued by
India Meteorological Department

Weblink For

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

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

Spatial distribution of weather parameters for the week ending on 06.02.2019

Mean Maximum Temperature (°C) for the week ending on 06.02.2019



Mean Minimum Temperature (°C) for the week ending on 06.02.2019



Mean Diurnal Temperature Variation (°C) for the week ending on 06.02.2019



Mean Maximum Relative Humidity (%) for the week ending on 06.02.2019



Mean Minimum Relative Humidity (%) for the week ending on 06.02.2019

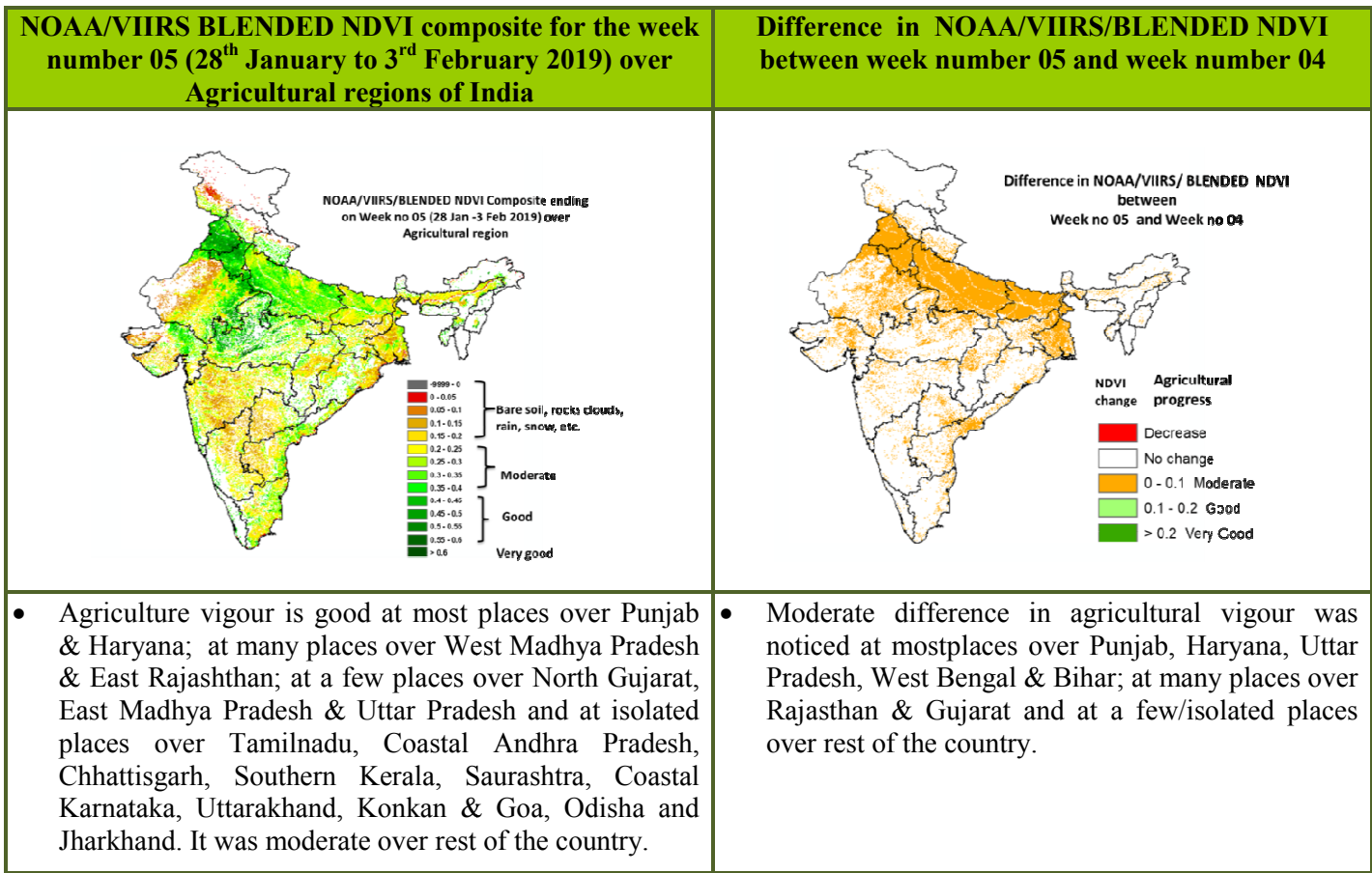


Mean Cloud Cover (okta) for the week ending on 06.02.2019

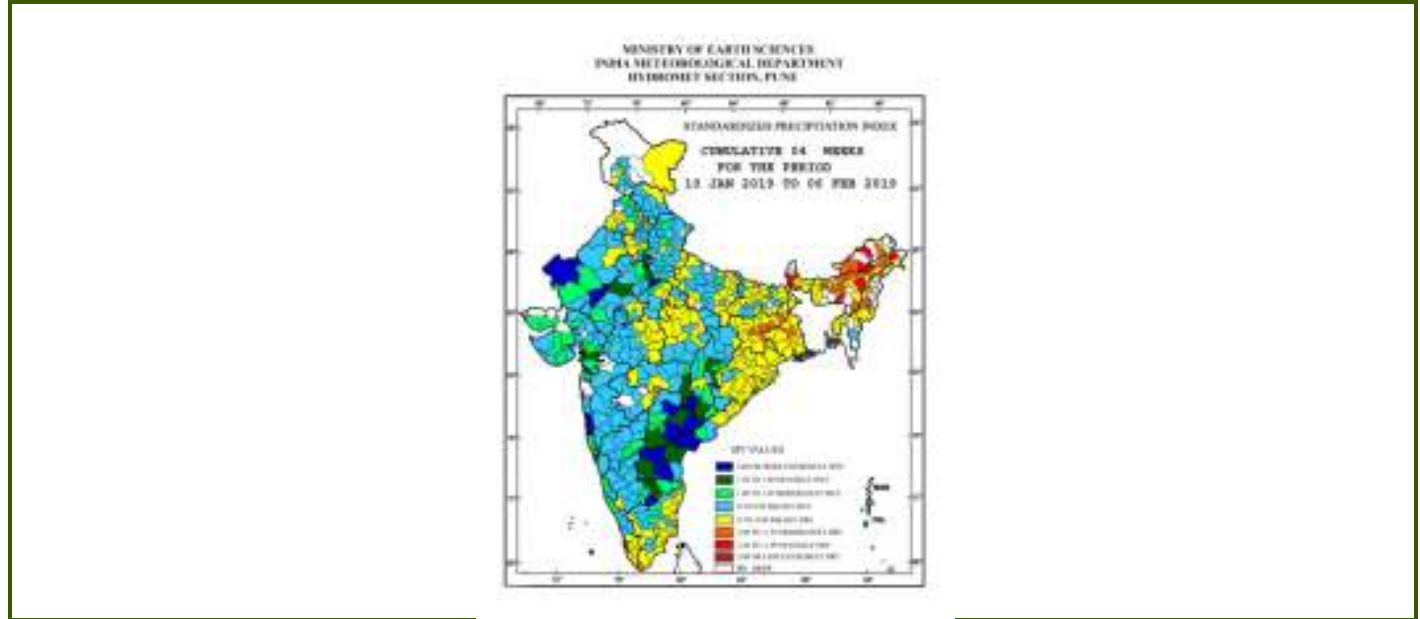


Mean Wind Speed (km/hr) for the week ending on 06.02.2019



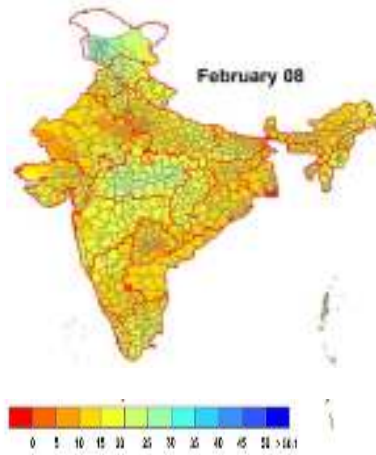


**Standardised Precipitation Index
Cumulative 4 weeks for the period 10th January to 6th February 2019**

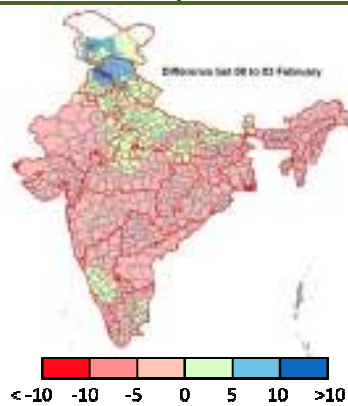
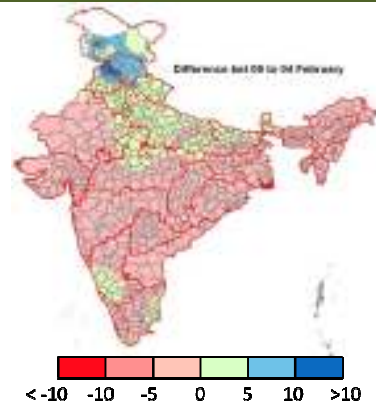
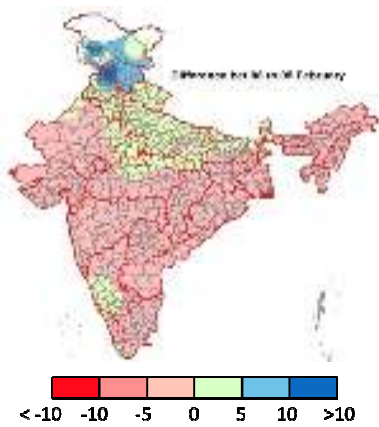
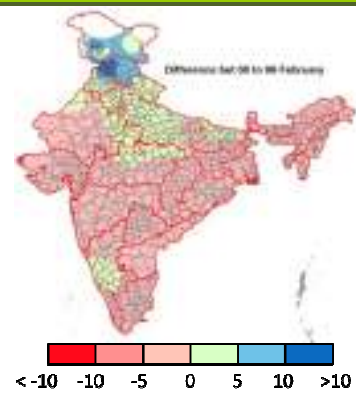
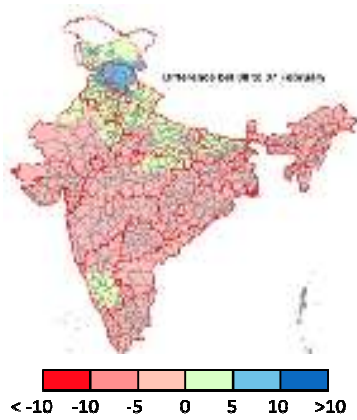


- Extremely/severely wet conditions experienced in many districts of Telangana; at a few districts of Andhra Pradesh; Mewat, Faridabad districts of Haryana; Gadchiroli district of Maharashtra; Krishnagiri district of TamilNadu & Puducherry.
- Extremely/Severely dry conditions experienced at a few districts of Arunachal Pradesh; Lakhimpur, KarbiAnglong districts of Assam; East Khasi Hills district of Meghalaya; Darjeeling district of West Bengal; Lakshadweep district of Lakshadweep.
- Moderately dry conditions experienced in many districts of Assam; at a few districts of Arunachal Pradesh; Imphal East, Tamenglong districts of Manipur; Mon district of Nagaland; Burdwan district of West Bengal; Bokaro, Dhanbad, Dumka, Ranchi, Seraikela-Khar districts of Jharkhand; Kanyakumari district of TamilNadu & Puducherry; Alappuzha district of Kerala.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

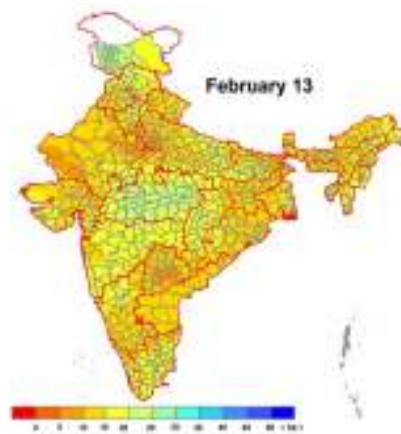
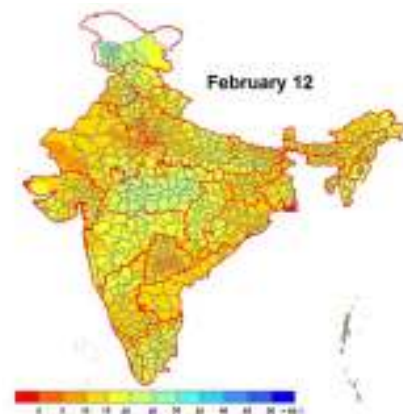
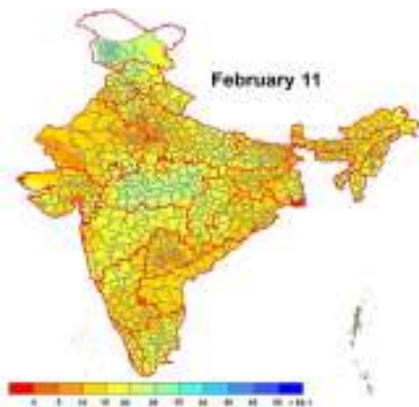
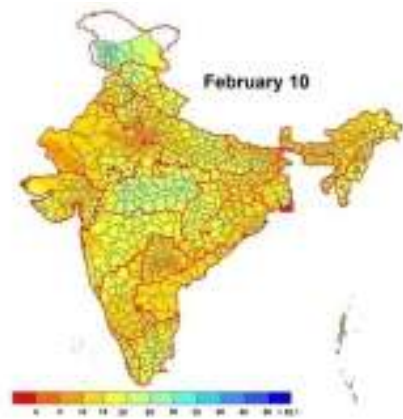
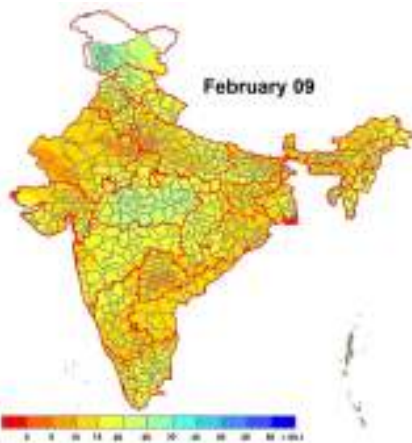
Daily Soil Moisture (mm) for 8th February 2019 (ending at 0830 IST) for 60 cm depth



Difference of Soil Moisture (mm) for 60 cm depth



**Forecasted Soil Moisture (mm) from 9th to 13th February 2019 (ending at 0830 IST)
for 60 cm depth**



Weather Forecast for next 5 days valid upto 0830 hours of 13th February 2019

- Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.
- No significant change in minimum temperatures likely over most parts of the country during next 24 hours. They are likely to fall by 2-4°C over east India from tomorrow.

5 Day Rainfall Forecast (Mid-day) 08 February 2019

Met-Sub-Division	08-Feb Today	09Feb Sat	10Feb Sun	11Feb Mon	12Feb Tue
1. Andaman & Nicobar Islands	DRY	DRY	DRY	DRY	DRY
2. Arunachal Pradesh	FWS	WFS	FWS	ISOL	DRY
3. Assam & Meghalaya	SCT	FWS	ISOL	DRY	DRY
4. N. M. M. & T.	ISOL	SCT	ISOL	DRY	DRY
5. S.H. West Bengal & Sikkim	FWS	FWS	ISOL	DRY	DRY
6. Gangetic West Bengal	SCT	ISOL	DRY	DRY	DRY
7. Odisha	ISOL	ISOL	DRY	DRY	DRY
8. Jharkhand	FWS	ISOL	DRY	DRY	DRY
9. Bihar	WFS	SCT	DRY	DRY	DRY
10. East Uttar Pradesh	SCT	ISOL	DRY	DRY	DRY
11. West Uttar Pradesh	ISOL	DRY	DRY	DRY	DRY
12. Uttarakhand	FWS	ISOL	DRY	ISOL	ISOL
13. Haryana, Chd & Delhi	ISOL	DRY	DRY	DRY	DRY
14. Punjab	ISOL	DRY	DRY	DRY	DRY
15. Himachal Pradesh	FWS	DRY	DRY	ISOL	ISOL
16. Jammu & Kashmir	SCT	DRY	ISOL	SCT	SCT
17. West Rajasthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	DRY	DRY	DRY	ISOL
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	ISOL
20. East Madhya Pradesh	ISOL	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	ISOL	ISOL	ISOL
25. Marathwada	DRY	DRY	DRY	ISOL	ISOL
26. Vidharbha	DRY	DRY	DRY	DRY	DRY
27. Chhattisgarh	SCT	ISOL	DRY	DRY	DRY
28. Coastal Andhra Pradesh	DRY	ISOL	ISOL	ISOL	DRY
29. Telangana	ISOL	DRY	DRY	DRY	DRY
30. Rayalaseema	ISOL	ISOL	ISOL	ISOL	DRY
31. Tamilnadu & Puducherry	ISOL	ISOL	ISOL	ISOL	DRY
32. Coastal Karnataka	DRY	DRY	DRY	DRY	DRY
33. North Interior Karnataka	DRY	DRY	ISOL	ISOL	DRY
34. South Interior Karnataka	ISOL	ISOL	ISOL	DRY	DRY
35. Kerala	DRY	ISOL	ISOL	DRY	DRY
36. Lakshadweep	ISOL	DRY	DRY	DRY	DRY

% Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WFS/Many Places)	26-50	Scattered (SCT & Fwy Places)
51-75	Fairly Widespread (FWS/Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

Weather Warning during next 5 days

- **08 February (Day 1):** Heavy rain/snow very likely at isolated places over Sikkim. Heavy rain/thundershowers at isolated places very likely over Sub-Himalayan West Bengal. Thunderstorm accompanied with hailstorm and Gusty winds at isolated places very likely over East Uttar Pradesh, Chhattisgarh, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Arunachal Pradesh. Strong winds speed reaching 35-45 kmph likely to occur over Northeast Arabian Sea, east central Arabian Sea off Maharashtra-Goa coasts and over Central & Southwest Arabian Sea. Fishermen are advised not to venture into these areas. Dense fog in

isolated pockets very likely over Punjab, Haryana, Chandigarh & Delhi, West UttarPradesh and north Rajasthan. Cold day conditions in isolated pockets very likely over north Gujarat State and West Madhya Pradesh. Cold wave conditions in isolated pockets very likely over north Gujarat State and West Madhya Pradesh.

- **09 February (Day 2):** Heavy rain/snow very likely at isolated places over Sikkim and Arunachal Pradesh. Heavy rain/thundershowers at isolated places very likely over Sub-Himalayan West Bengal. Thunderstorm accompanied with hailstorm and Gusty winds at isolated places very likely over Bihar, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Arunachal Pradesh. Dense fog in isolated pockets very likely over Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh. Cold wave conditions in isolated pockets very likely over north Gujarat State and West Madhya Pradesh.
- **10 February (Day 3):** Dense fog in isolated pockets very likely over Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh.
- **11 February (Day 4):** No weather warning.
- **12 February (Day 5):** No weather warning.

Weather Outlook for subsequent 2 days from 13th to 15th February 2019

- A fresh Western Disturbance is likely to affect Western Himalayan region and plains of Northwest India from 13th February.
- Scattered to fairly widespread rain/snow likely over Western Himalayan region.
- Isolated to scattered rain/thundershowers likely over central India and isolated rainfall over south peninsular India, northeast India and Andaman & Nicobar Islands.
- Dry weather likely over the rest of the country.

Salient Advisories

- As strong winds speed reaching 35-45 kmph likely to occur over **Northeast Arabian Sea, eastcentral Arabian Sea off Maharashtra-Goa coasts** and over Central & Southwest Arabian Sea on 8th February. Fishermen are advised not to venture into these areas.
- As thunderstorm accompanied with hailstorm and gusty winds at isolated places very likely over **Assam & Meghalaya** and **Arunachal Pradesh**, over **Bihar** and **Sub-Himalayan West Bengal & Sikkim** on 8th and 9th February, over **Jharkhand** and **East Uttar Pradesh** on 8th February, use hail net for orchard crops 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. Keep cattle indoors during thunderstorm/hailstorm period.
- As rain/snow likely to occur at most/many places over **Arunachal Pradesh** from 8th to 10th, rain/thundershowers at many places over **Assam & Meghalaya** on 9th, along with heavy rain/snow very likely at isolated places over Arunachal Pradesh on 9th February, rain/thundershowers likely to occur at most places over **Bihar** on 8th, at many places over **Jharkhand** on 8th, over **Sub-Himalayan West Bengal & Sikkim** on 8th and 9th, along with heavy rain/snow very likely at isolated places over Sikkim on 8th and 9th, heavy rain/thundershowers at isolated places very likely over Sub-Himalayan West Bengal on 8th and 9th February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in Arunachal Pradesh and Sub-Himalayan West Bengal & Sikkim.
- As cold wave conditions in isolated pockets very likely over **West Madhya Pradesh** and over **north Gujarat** State on 8th and 9th February, apply light and frequent irrigation/sprinkler irrigation in the evening to protect the crops from cold injury. To protect young fruit plants from cold winds, cover young fruit plants with straw/polythene sheets/gunny bags. Cover banana bunches with porous polythene bags. To overcome cold injury and for better nursery growth in rice, cover the nursery beds with polythene sheet during night and remove in the morning. Irrigate the nursery every day in the evening and let the water out in the

morning.

- As dense fog in isolated pockets very likely over **Punjab, Haryana, Chandigarh & Delhi** on 8th, 9th and 10th, over **West Uttar Pradesh** and **north Rajasthan** on 8th and over **Uttar Pradesh** on 9th and 10th February, monitor the standing crops for incidence and spread of pest and diseases, potato, tomato and onion crops for early/late blight disease. If symptoms are noticed, undertake appropriate plant protection measures.
- As cold wave conditions in isolated pockets very likely over **West Madhya Pradesh** and **north Gujarat** on 8th and 9th February, keep animals inside the sheds during night and provide dry bedding to protect them from cold. Provide adlib warm water to lactating animals. In Poultry, keep the chicks warm by providing artificial light in the poultry sheds.

Detailed Agromet Advisories

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

- **Realised Rainfall:** Weather remained mainly dry/dry over the region during the week.
- **Advisories:**
 - **Kerala:**
 - Short duration vegetable crops like Amaranthus, Cow pea etc. may be cultivated in the interspaces of newly planted banana. Apply first dose of fertilizers (50:65:65g NPK per plant). Spray 1% Bordeaux mixture as a prophylactic measure to control leaf spot in banana. For deficiency of Boron in banana, spray 5gm of Borax / 1litre water and apply the 75gm lime or 50gm Dolomite and irrigate well to solve the deficiency of calcium.
 - Provide adequate irrigation in coconut gardens as moisture stress conditions leads to stunted growth, immature nut fall and decreased yield. Coconut palms are seen affected by red palm weevil. Remove the affected parts from crown and apply one ml Imidacloprid per one litre of water at spindle leaf area. In Southern Zone, there is a chance of leaf rot in coconut, cut & remove affected leaves, spray 1% Bordeaux mixture / 2% Pseudomonas fluorescens.
 - In Problem Area Zone, due to prevailing climatic condition, there is chance of sheath blight in rice where the plant population is high. Farmers are advised to remove the severely affected plants in order to provide air circulation into the crop canopy and thereby reducing the spread of the disease to the nearby plants.
 - For controlling aphids in cowpea, apply 2% neem oil emulsion or apply 20 g Verticillium lecanii per litre of water in 10 days intervals. If aphid attack is severe, apply Imidacloprid @ 3 ml or Thiamethoxam @ 2 g per 10 litres of water.
 - **Andhra Pradesh:**
 - In North Coastal Andhra Pradesh, weather is congenial for incidence of Leaf crinkle on pulses (blackgram and greengram). Spray Dimethoate @ 1.7 ml per litre for vector control.
 - In Coastal Andhra Pradesh, due to high relative humidity incidence and spread of blast disease in rice may increase, spray Tricyclozole @ 0.6g per litre of water for control.
 - In Rayalaseema, weather is congenial for incidence of sucking pests in groundnut. Spray Monochrotophos @ 1.6 ml/litre or Imidacloprid 0.3ml/litre or Dimethoate @ 2 ml/litre per litre of water.
 - In Rayalaseema, weather conditions are favourable for leaf hopper and anthracnose in mango. Spray Lambda cyhalothrin 5% EC @ 1 ml. + Kantaf 2 ml or Saf 1.5 g of water + Potassium Nitrate KNO₃ @ 5g per litre of water.
 - **Telangana:**
 - In Telangana, continue sowing of summer Greengram, Blackgram and Sesamum under assured irrigation.
 - In Telangana, prevailing weather conditions are congenial for the incidence of stem borer in rice and grain mold in sorghum. Spray Cartap Hydrochloride @ 2 g or Chlorantriliprole @ 0.4 ml per litre of water for stem borer and Propiconazole @ 1 ml per liter of water for control of grain mold.
 - **Tamil Nadu:**
 - In North Western Zone, in view of the rising temperature in coming days, apply mulch of dried leaves, twigs, coconut fronds/areca nut fronds in the root zone of vegetable crops and fruit trees to avoid evaporation loss of water and also it conserve the moisture content in the soil.
 - As mainly dry weather condition is expected in the next five days, harvesting of matured *Samba* paddy can be taken up.
 - In High Altitude Hilly Zone, to control damage in tea crop due to frost, available plant leaves like silver oak tree can be used to mulch the crop.
 - In South Zone, expected weather is conducive for the incidence of thrips in chilli. The affected plants show

symptoms of crinkling and upward curling of leaves and elongation of petiole. For control, spray Imidachloprid 17.8 % SL @ 3 ml/ 10 l of water (or) Dimethoate 30 % EC @1ml/litre of water.

- Since higher wind speed associated with low relative humidity leads to more evaporation therefore irrigation may be given to early planted sugarcane. Further mulching may be done to avoid more evaporation. In ratoon crop shredder can be used to spread the sugarcane trash uniformly thereby evaporation may be prevented.
- In Coastal Zone, there are chances of bacterial leaf blight in rice spray Copper hydroxide 77 WP @ 2.5g/ litre or 20% fresh cow dung extract or 5 % Neem Seed Kernel Extract.
- In Western Zone, prevailing weather condition is favourable for hopper incidence in mango, hence farmers are request to monitor the crop if required Malaithion 5% dusting is advised.
- **Karnataka:**
 - In South Interior Karnataka, continue transplanting of rice crop where seedlings are ready, continuesowing of summer ragi and planting of sugarcane. Continue harvesting of matured red gram crop and pepper.
 - In North Interior Karnataka, continue transplanting of rice and new plantation of sugarcane. Apply irrigation in wheat, sorghum, chickpea, sugarcane crops and mango (fruit setting stage)orchards. Undertake harvesting of chick pea, early sown safflower crops. Carry out intercultural operations in safflower crop.
 - In Coastal Karnataka, apply irrigation in the arecanut gardens to avoid the cold injury.
 - In North Interior Karnataka, Brown plant hopper is noticed in ricecrop;to control, spray the crop with Chloropyriphos @ 2.0 ml or Monocrotophos@1.5 ml dissolved in one liter of water.
 - In Coastal Karnataka, spray Melathion @ 2ml/litre of water or Monocrotophos @ 1.25ml/litre of water,as a precautionary measure againsthoppers in mango orchards.
 - In South Interior Karnataka, to manage leaf and fruit spot disease in pomegranate, spray the crop with Chlorothalonin @ 2 ml dissolved in one liter of water.
- **Animal Husbandry**
 - In Karnataka, maintain the optimum room temperature in sericulture, poultry and dairy unit by providing electric bulb.
 - In Tamilnadu, due to chillness, there are chances of reduced weight of the livestock. Hence farmers could offer some extra concentrate to the maintaining body weight. Provide good lighting, ventilation and bedding specialty to protect the young animals from chillness. Due to high humidity, young animals may suffer from pneumonia, get veterinary doctors' advice.

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

- **Realised Rainfall:** Weather remained dry over the region during the week.
- **Advisories:**
 - As rain/snow likely to occur at most/many places over Arunachal Pradesh from 8th to 10th, rain/thundershowers at many places over Assam & Meghalaya on 9th, along with heavy rain/snow very likely at isolated places over Arunachal Pradesh on 9th February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - As thunderstorm accompanied with hailstorm and gusty winds at isolated places very likely over Assam & Meghalaya and Arunachal Pradesh on 8th and 9th February, use hail net for orchard crops 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. Keep cattle indoor.
 - **Arunachal Pradesh**
 - Continue sowing early/local maize and cowpea. Continue harvesting of pea and potato.Undertake sowing of early *kharif* vegetables.
 - **Assam:**
 - Replant the dead hills within 7-10 days of transplanting.Apply irrigation in the *boro* rice fields to maintain standing water of 5±2 cm depth.Continue sowing of okra, ridge gourd and sponge gourd.
 - In CentralBramhaputra Valley of Assam, complete transplanting of the *Boro* rice in the main field at the earliest.
 - In Lower Bramhaputra Valley of Assam, continue land preparation for early planting of sugarcane setts.Undertake sowing of summer green and black gram and planting of banana.
 - In Upper Bramhaputra Valley of Assam, spray Chlorpyriphos 20 EC or Quinalphos 25 EC (70-80 ml per 70-80 litre of water per bigha against stem borer attack on rice. Spray Dimethoate 30EC or Chloropyriphos 20EC @ 0.5litre/ha with a spray volume of 500-700 lit of water/ha on rapeseed & mustard crop field against aphid attack after current spells of rain.
 - In Central Bramhaputra Valley of Assam, in wheat crop, there is chance of attack of blight and loose smut disease. Farmers are advised to apply Carbendazim @ 1g/litre of water after current spells of rain for blight. For loose smut, uprooting and burn the affected plants.
 - Due to low temperature coupled with heavy fog, there is chance of attack of saw fly and aphid in the field of

rapeseed/mustard at vegetative stage. Spray Chloropyriphos 20 EC or Dimethoate 30 EC or Ragor @ 2 ml per litre of water after current spells of rain. Farmers are advised not to spray any insecticide during the flowering stage, which may kill the pollinated insects lead to reduce the yield.

- In Hill Zone of Assam, spray Chloropyriphos @ 2ml/litre of water against thrips attack on *boro* rice in seedling stage if the population of thrips is above ETL. Also spray Phosphamidon 100EC (@500ml in 700 litre of water), Fenitrothion 50EC @ 1litre in 700 litre of water or Endosulphan 35EC @ 1.5 litre in 700 litre of water against stem borer infestation in *rabi* maize at vegetative stage after current spells of rain.
- **Meghalaya:**
 - Continue nursery raising/ transplanting of tomato and capsicum and harvesting of cole crops (cabbage, cauliflower, broccoli), root crop (radish, carrot), ginger and turmeric.
 - Maintain proper soil moisture in the field by mulching & irrigation.
- **Manipur:**
 - Continue nursery raising of pre- *kharif* rice. Undertake harvesting of rapeseed/mustard/field pea/lentil.
 - Spray Imidachloprid @ 0.25 ml/ litre of water to the infected patches in rapeseed/ mustard against pod borer. Spray Cypermethrin 20 EC @ 1ml/litre of water against aphid attack in potato at tuber initiation stage if attack is above ETL on a non rainy day.
- **Mizoram:**
 - Apply Carbaryl 0.2 per cent or Malathion 0.15 per cent suspension containing sugar or jaggery @ 10 g/litre at fortnightly intervals on citrus fruits at flowering and fruit initiation stage. Spray 2% any Sulphur based fungicide to save vegetable plant (tomato, crucifer, onion, brinjal and chill) to save from powdery mildew and white rust disease attack.
- **Tripura:**
 - Undertake harvesting of cole crops and tomato. Maintain 2 to 3cm standing water in the field of *boro* rice.
 - There is chance of attack of aphids in the field of toria, sesame, lentil. Spray Monocrotophos @ 2ml per liter of water on a non rainy day.
 - Maintain optimum moisture in the field of *rabi* maize through irrigation at tasseling stage as this stage is sensitive to the moisture. Mulching is essential to hold the moisture in the field.
 - There is chance of fungal diseases like late blight in potato. Spray Metalexyle 8% with Mancozeb 64% or Cymoxinyle 8%+ Mancozeb 64% @ 2.5 gm per litre of water in the potato field if attack is above ETL on a non rainy day.
- **Nagaland:**
 - Continue harvesting of cabbage/ winter vegetables timely as it may split if not harvested in time. Undertake preparation of seedlings of cucurbitaceous vegetable.
- **Animal Husbandry**
 - In Central Brahmaputra Valley Zone of Assam, vaccinate cattle and buffalo against FMD, Black Quarter and Haemorrhagic Septicemia. Sheep and goat should be vaccinated with PPR and Enterotoxemia. Deworming according to body weight prior to vaccination gives better immune response.
 - All pigs should be vaccinated against swine fever at the age of 2-4 weeks.
- **Fishery**
 - In Barak Valley Zone of Assam, during this period fishes may be infected by fungal and bacterial disease. To overcome this, treated the infectious fishes with Potassium Permanganate (2 mg/100ml of water) or common salt (3 gm/ 100 ml of water).

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 rain/thundershowers likely to occur at most places over Bihar on 8th, at many places over Jharkhand on 8th, over Sub-Himalayan West Bengal & Sikkim on 8th and 9th February, along with heavy rain/snow very likely at isolated places over Sikkim on 8th and 9th, heavy rain/thundershowers at isolated places very likely over Sub-Himalayan West Bengal on 8th and 9th February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - As thunderstorm accompanied with hailstorm and gusty winds at isolated places very likely over Bihar and Sub-Himalayan West Bengal & Sikkim on 8th and 9th, over Jharkhand on 8th February, use hail net for orchard crops 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. Keep cattle indoor.
 - **Odisha:**
 - The rice seedlings at 4-5 leaf stage are ready for transplanting. Plant 2 to 3 seedling per hill shallow and upright in lines. Seedling root dip should be done with 10 kg Azospirillum in 6 litre water before transplanting. Keep only a thin film of water while transplanting. Also undertake transplanting of Onion in

main field. Provide irrigation as per the requirement. Take up land preparation and subsequent sowing of maize crop. Provide mulching in carrot field to protect plants direct exposure of sunlight and conserve moisture. Continue sowing of sesamum varieties like Uma, Kanak, Vinayak, Kalika, Nirmala, Prachi, etc. Treat the seeds with Thiram @3g/kg or Bavistin @1.5/kg of seeds two days before sowing.

➤ Spray Tricyclazole 75% WP @ 300g/ha or Carbendazim 50%WP @ 1kg/ha or Hexaconazole 5%EC @1litre /ha in case of blast disease in rice crop. Spray Imidacloprid 17.8% S.L @ 1ml/3litres of water or Thiamethoxam 25%W.G @ 500g/500 litres of water per ha in case of yellow mosaic virus infestation in pulses crops. Spray Quinalphos 25 E.C. @ 2ml or Profenophos 50 E.C. @ 2ml/litre of water. If pink stem borer is found in the Ragi field, apply phorate granules.

➤ Sigatoka leaf spot is a serious disease in banana that destroys large areas of plantation and results in severe reduction in fruit yield. Monitor the crop. To control it, spray Chlorothalonil 75 WP @ 2 g per litre of water.

▪ **Bihar:**

➤ As there is forecast of rainfall during next 2 days, farmers are advised to skip 3rd irrigation in the early sown wheat crop which is in 50-60 days stage. It is time for flowering initiation in mango and litchi. Under this condition, farmers are advised to stop intercultural operations in the orchard. Immediately harvest the early sown potato crop as there is possibility of rainfall. Do not provide any irrigation to mustard/rai crop at flowering stage as it may cause flower drop.

➤ Monitor infestation of fruit borer in tomato crop. In severe cases of infestation, spray Indoxacarb 14.5 SC @ 1ml/2.5 litres of water or Spinosad 48 EC @ 1ml/4 litres of water is advised. Mustard/Rai crop at flowering stage is vulnerable of the attack of Aphids. To control, spray Monocrotophos @ 2 ml or Imidachlorpid @ 1 ml per litre of water. Spray Imidachlorpid 17.8SL or Cypermethrin 10EC @1ml /litre of water on the foliage of mango and litchi trees on clear days to protect orchards from the infestation of hoppers and mealy bug. Undertake plant protection measures after current spells of rain.

▪ **Jharkhand:**

➤ Complete the land preparation and transplant 12-15 days old summer rice seedlings. Maintain water level in the field. Cultivate high yielding summer maize varieties like Birsa Makka-1, Birsa Vikash Makka-2, Suwan-1 (Hybrid), HQPM (Hybrid) with recommended dose of fertilizer. Avoid irrigation to the gram crop which is in flowering stage. Apply one irrigation after fully setting of pods. Take up sowing of improved mung variety SML-688. Prepare field for vegetables like long gourd, round gourd, bitter guard, sponge gourd, cucumber, water melon and musk melon. Harvest the potato crop and keep the tubers in shed at a height of 1.2 to 2 ft for hardening of tuber skin. Early sown toria crop is at maturity stage. Harvest the crop when siliqua turns golden yellow in colour.

➤ To control Alternaria blight in wheat crop, spray Indofil M-45 or Diathen Z-78 @ 2 g per litre of water. To control mustard aphid spray Methyl Dematone @ 1.5 to 2 ml/litre of water at 15 days interval. Lentil crop sown in the mid of November is at flowering to fruiting stages and present weather is very conducive for the occurrence of wilt disease. To control, spray Carbendazim @ 1 g per litre of water twice at weekly interval. Undertake plant protection measures after current spells of rain.

▪ **West Bengal:**

➤ In Sub-Himalayan West Bengal, carry out weeding along with cleaning of dry shoot leaves followed by mulching in large cardamom. Postpone irrigation to mustard crop as rainfall is forecast.. Harvest mature cabbage, cauliflower and other cole crops. Carry out operations like earthing up, weeding and draining out of excess water in ginger and turmeric fields.

➤ In Gangetic West Bengal, complete transplanting in the main field within 2-3 days. Follow a spacing of 20cm X 20cm and transplant the seedlings at 2cm depth @ four to five seedlings transplant per hill. Keep the bunds clean and maintain the water level upto 2 cm in the field. Complete the sowing of sunflower. Carry out intercultural operations in Rabi onion, garlic, gram and pea. Give irrigation to wheat crop at flowering stage and potato crop at tuber bulking stage.

➤ In Sub-Himalayan West Bengal, for the management of winter vegetable pest at early vegetative stage spray Chlorpyrifos 50% + Cypermethin 5% @ 1.5 ml/liter of water. To control mustard aphid sprays Dinoteforun 20% S G @ 0.5gram/liter of water and for alternaria blight of mustard, spray Mancozeb @ 2.5g/liter of water or Iprodione @ 1g/liter of water Undertake plant protection measures after current spells of rain.

➤ In Gangetic West Bengal, spray a mixture of Mancozeb 2.5g/liter of water and Redomil @ 2.5g/liter of water for late blight and Dimethoate @ 1.5ml/liter of water or Imidachlorpit @ 3ml/5liter of water for aphid attack in potato crop at tuber formation stage. Apply Acephate @ 1g/liter of water for mustard pod borer at siliqua formation stage.

▪ **Andaman & Nicobar Islands:**

➤ In Andaman Islands, prepare the land and sow the seed of bhendi after seed treatment with Tricodermaviride @ 4 g/kg of seed. Dip seedling of chilly in 1 % Trichoderma for one hour before transplanting to the main field for management of diseases.

➤ In Nicobar Islands, clean the crown of coconut tree and the garden to reduce the incidence of Rhinoceros

beetle.

- **Animal Husbandry**

- In Bihar, vaccinate animals against FMD, PPR, Haemorrhagic Septicaemia, Enterotoxaemia, Black Quarter etc. Milch animal should be fed with oilcakes and jaggery to maintain body temperature.
- In Odisha, as the minimum temperature is low, protect the poultry birds from cold injury using electric bulb (300watt for 10 sq.ft.) to prevent coryza disease. Keep the cattle sheds clean and deworm the animals. Give them mineral mixture along with salt regularly and provide wheat grains, jaggery etc. @ 10%-20% in the daily ration during winter season to meet the energy requirement.
- In Jharkhand, dairy animals should be covered with blanket gunny sack/ sheet in the evening and given Calcium and jaggery time to time. To prevent from ranikhet disease apply 2 drop F-1 strain in nose of one day chick. After 8 to 10 week apply R2B (Mukteshwer strain) vaccine after consultant with the of veterinary doctor.
- In West Bengal, anti-stress medication is recommended to save the poultry birds against cold weather. Piglets are highly susceptible to pneumonia in winter months. The symptoms are high fever (104-105°F), anorexia, difficulty in breathing etc. For treatment give antibiotics, paracetamol and vitamin after consultation with veterinary doctors.
- In Andaman & Nicobar Islands, provide electrolytes 1% with drinking water to the piglets during sunny times to prevent heat stress.
- **Fisheries**
- In Odisha, maintain 5 ft. depth of water in the fish pond OR harvest the fish from the pond where it is not possible to maintain 5 ft. depth of water.
- In West Bengal, in order to avoid bird menace, give net covering over the fish pond.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

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

- **Advisories:**

- As strong winds speed reaching 35-45 kmph likely to occur over Northeast Arabian Sea, east central Arabian Sea off Maharashtra-Goa coasts and over Central & Southwest Arabian Sea on 8th February. Fishermen are advised not to venture into these areas.
- **Maharashtra:**
- In South Konkan, in mango orchards, as per the availability apply water @ 150-200 litres per tree at 15 days interval. In North Konkan, apply irrigation to groundnut, vegetable crops and orchards. Also undertake earthing up operation in vegetable like okra, brinjal, tomato, chilli etc. To avoid pre-mature fruit dropping in mango orchards, apply water @ 150 to 200 liter of per tree after fruit setting in mango at 15 days interval.
- In Madhya Maharashtra, apply irrigation to wheat. Continue harvesting of matured sorghum. Dry harvested produce in sunlight and keep in safer place. Continue harvesting of matured gram. Stop irrigation 3 weeks before harvesting of onion. In Western Ghat Zone, continue preparatory tillage operations for summer groundnut.
- In Marathwada, continue harvesting of matured chick pea. Apply irrigation to safflower, wheat and sugarcane.
- In West Vidarbha, apply irrigation to safflower and wheat and gram. Complete sowing of summer groundnut. Continue harvesting of matured gram. Undertake harvesting of matured safflower. In East Vidarbha, complete sowing of summer groundnut.
- In Vidarbha, to control aphids in wheat, spray Thiamethoxam 25 WG @ 50 g or Diamethoate 30 EC @ 750 ml/ha in 500 litres of water.
- In Madhya Maharashtra, for control of pod borer in gram, spray Chlorantraniliprol 15.5 S.C. @ 1 litre/ha in 500 litre of water.
- **Gujarat:**
- As cold day conditions in isolated pockets very likely over north Gujarat State on 8th and cold wave conditions in isolated pockets very likely over north Gujarat State on 8th and 9th February, apply light and frequent irrigation/sprinkler irrigation in the evening to protect the crops from cold injury. To protect young fruit plants from cold winds, cover young fruit plants with straw/polythene sheets/gunny bags. Cover banana bunches with porous polythene bags.
- In Saurashtra & Kutch, undertake land preparation and sowing of summer vegetable (okra, cluster bean and bottle gourd) crops. Continue land preparation for sowing of summer groundnut and undertake sowing as temperature rises to 22-25°C. Procure good quality seeds of sesame and carry out sowing as minimum and maximum temperature rises up to 19°C and 30°C respectively. Undertake sowing of water melon. Apply irrigation in mustard, vegetable and fruit crops. Continue harvesting of matured coriander and picking of matured clusters of castor.
- In North Gujarat, undertake land preparation and sowing of summer vegetables (okra, cluster bean and bottle

gourd) crops. Apply light irrigation in vegetable crops, fruit crops, gram and mustard crops at evening time. Continue picking of matured clusters of castor during early morning hours.

- In South Gujarat, apply light irrigation to mango (initiation of flowering) orchard. Undertake transplanting of rice where seedlings are ready.
- In Middle Gujarat, apply irrigation in chick pea (pod formation stage), wheat (milking stage) crop.
- In North Saurashtra, heavy attack of thrips observed in garlic crop due to migration from harvested cotton field; for control, spray neem seed extract 5% and make alternative sprays of Profenofos @ 20 ml and Lambda-Cyhalothrin @ 14 ml/10 liters of water at 10 days interval.
- In North Gujarat, there are chances of aphid infestation in the cumin, mustard and fennel crops; for effective control spray Dimethoate @ 10 ml or Phosphamidon @ 3 ml/10 liters of water.
- **Animal Husbandry**
- In Gujarat, protect the animals from cold wind; keep them inside the shed at night time. Provide ad lib warm water to lactating animals. In poultry, keep the chicks warm by providing artificial light in the poultry sheds and use curtain at the windows.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Weather remained dry over the region during the week.
- **Advisories:**
 - **Madhya Pradesh:**
 - As cold day conditions in isolated pockets very likely over West Madhya Pradesh on 8th and cold wave conditions in isolated pockets very likely over West Madhya Pradesh on 8th and 9th February, apply light and frequent irrigation/sprinkler irrigation in the evening to protect the crops from cold injury. To protect young fruit plants from cold winds, cover young fruit plants with straw/polythene sheets/gunny bags. Cover banana bunches with porous polythene bags.
 - In East Madhya Pradesh, apply irrigation in wheat. Continue weeding in late sown wheat followed by application of urea. Continue earthing up and application of nitrogenous fertilizer in potato. Continue harvesting of matured pods of green pea. Undertake field preparation for sowing of vegetables.
 - In West Madhya Pradesh, apply irrigation in wheat, gram, mustard, garlic and vegetables. Continue harvesting of matured pods of green pea. In Jhabua Hill Zone, continue harvesting of green chilli, okra, beans, cucurbits and fenugreek. Continue nursery preparation for cucurbitaceous crops, musk melon, water melon, tomato, chilli, brinjal, etc. in low tunnel method.
 - In Satpura Plateau Zone, present weather conditions are suitable for the infestation of aphids in oilseed, pulses and vegetables, spray Imidacloprid @ 0.5 ml/litre of water.
 - In Jhabua Hill Zone, for control of termite attack in wheat field apply Chloropyrifos 20 EC @ 3.5 litre/ha with irrigation water.
 - **Chhattisgarh:**
 - As thunderstorm accompanied with hailstorm and gusty winds at isolated places very likely over Chhattisgarh on 8th February, use hail net for orchard crops 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. Keep cattle indoor.
 - Continue harvesting of timely sown early varieties of mustard when silique turns into bright yellow colour and digging up of matured tubers of early and medium varieties of potato. Apply irrigation in wheat, gram and vegetables. Continue seedling preparation of cucurbits in polythene bags. Continue planting of spring sugarcane. Continue sowing of spring moong. Undertake land preparation for sowing of summer vegetables.
 - In Bastar Plateau Zone, undertake planting of sugarcane. Apply irrigation in wheat. Undertake sowing of summer moong and urad.
 - In Bastar Plateau Zone, for the control of alternaria disease in mustard, apply Propiconazole @ 1 ml or Mencozeb @ 3 g/litre of water on a non rainy day.
 - **Animal Husbandry**
 - In Madhya Pradesh, keep animals inside the sheds during night and provide dry bedding to protect them from cold. Provide ad lib warm water to lactating animals. In Poultry, keep the chicks warm by providing artificial light in the poultry sheds.
 - In Chhattisgarh, provide concentrate feed to cattle mixed with dry and green fodder and ensure for feeding enriched diet having protein, carbohydrate, fat, vitamins etc.

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

- **Realised Rainfall:** Rainfall/snow occurred in Chamba, Kangra, Kinnaur, Kullu and Mandi districts of Himachal Pradesh, Anantnag, Baramulla, Doda, Kulgam, Kupwara, Ramban, Reasi, Srinagar and Udhampur districts of

Jammu & Kashmir during the week. Weather remained mainly dry/dry over rest of the region.

• **Advisories:**

- As rain/snow likely at many places over Himachal Pradesh and Uttarakhand on 8th February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- As dense fog in isolated pockets very likely over Punjab, Haryana, Chandigarh & Delhi on 8th, 9th and 10th, over West Uttar Pradesh and north Rajasthan on 8th and over Uttar Pradesh on 9th and 10th February, monitor the standing crops for incidence and spread of pest and diseases, potato, tomato and onion crops for early/late blight disease. If symptoms are noticed, undertake appropriate plant protection measures.
- **Jammu & Kashmir:**
 - In Sub Tropical Zone, apply the remaining dose of urea before the spike emergence stage of wheat.
 - In Sub Tropical Zone, carry out weeding in cucumber, bottlegourd, bittergourd and pumpkin nurseries.
 - In Intermediate Zone, apply top dressing of urea in normal sown and late sown wheat crop after cessation of rainfall. Undertake nursery sowing of summer crops like cucumber, bottle guard, bitter guard, tomato, brinjal, chilli etc. under poly house. Protect the seed crops of winter vegetables like cabbage, cauliflower, knolkhol broccoli etc. from frost by applying light irrigation.
 - In Intermediate Zone, weather conditions are favourable for the attack of alternaria blight in mustard crop. If observed, apply Mancozeb @ 2.5 g/liter of water and ridomil MZ @ 2.5 g/litres of water alternately as curative measure on a non rainy day.
 - As there was significant rainfall in past few days and there is possibility of good rainfall in next 2 days, there may be chance of soft rot/root rot in pulse crops. If symptoms observed, apply Mancozeb @ 2.5 g/liter of water and Ridomil MZ @ 2.5 g/litres of water alternately as curative measure on a non rainy day.
- **Uttarakhand:**
 - In Bhabar and Tarai Zone, as rain/snow is expected, postpone weeding and hoeing operations as well as application of irrigation and nutrients in wheat crop.
 - Undertake land preparation for planting of spring season sugarcane. Continue harvesting of matured mustard crop on non rainy days. Undertake harvesting of Naulakh sugarcane crop in mid-February for good ratoon of sugarcane crop.
 - In Hill Zone, keeping in view rain/snow fall forecast, make arrangements to avoid water logging in wheat, onion, garlic and potato crop fields and postpone spraying of pesticides.
 - Undertake nursery preparation of tomatoes, capsicum, brinjal, and cucurbitaceous crops in poly house.
 - In Sub-Humid Sub-Tropic Zone, maintain proper drainage facilities in mustard crop. Postpone harvesting of sugarcane crop in view of rainfall forecast.
- **Himachal Pradesh:**
 - In Sub-Montane and Low Hills Sub-Tropical Zone, undertake planting of onion bulbs in 30X10 cm spacing for harvesting green onion. Carry out intercultural operations in carrot, radish and broccoli fields after current spells of rain.
 - In Mid-Hills Sub-Humid Zone, carry out staking in pea. Carry out weeding in coriander & fenugreek. Undertake land preparations for summer vegetables like tomato, capsicum bhindi, gourd etc. in lower hills areas.
 - In Sub-Montane and Low Hills Sub-Tropical Zone, if symptoms of termite appear in wheat crop, apply Chlorpyrifos 20 EC @ 2.0 litres after current spells of rain.
 - To control pod borer in gram crop, install Pheromone traps @ 3-4 traps per acre if flowering has reached 10-15%. Install "T" shaped bird perches in and around crop field to control insect population after current spells of rain.
- **Punjab, Haryana & Delhi:**
 - In Punjab, to protect young fruit plants from cold, cover young fruit plants/vegetables with Sarkanda/rice straw/polythene sheets/gunny bags. Complete sowing of sunflower. Complete transplanting of tomato seedlings. Continue sowing of long duration varieties of sunflower. Complete sowing of spring potato in the 2nd fortnight of this month. Undertake planting of sugarcane from second fortnight of this month (CoPB-92, Co118, CoJ-85, CoJ-64 (early maturing), CoPB-94, CoPB-93, CoPB-91, Co-238, CoJ-88 for mid-season), spring maize (PMH-10, DKC-9108, PMH-8, PMH-7 and PMH-1) and okra (Punjab Suhawani, Punjab Padmini, Punjab-7 and Punjab-8).
 - In Haryana, continue transplanting of matured seedlings of tomato, cauliflower, & cabbage in prepared field. Monitor mustard and vegetable crops for sucking pests.
 - In Delhi, continue planting of winter sugarcane at optimum soil moisture for better seed germination. Continue transplanting of onion. Continue transplanting of cauliflower, cabbage, broccoli and tomato. Continue sowing of spinach, coriander, fenugreek. Continue preparation of seedling of early cucurbitaceous crops in small polythene bags in poly houses. Undertake nursery preparation of chilli, tomato and brinjal crops in poly house.
 - In Punjab, check aphid damage in mustard and if aphid population is above ETL, spray 40 g Actara 25 WG or 400 ml of Rogor 30 EC or 600 ml Dursban/Coroban 20 EC in 80-125 litres of water per acre. For control of

late blight of potato, spray Indofil M-45/Markzeb/Kavach @ 500-700 g in 250-350 litres of water per acre after current spells of rain. Monitor the crop for occurrence of yellow rust in fields. If symptoms of yellow rust are noticed, spray the crop with Nativo @ 120g or Tilt or Shine or Bumper or Stilt or Compass or Markzole @ 200 ml in 200 litres of water per acre.

- In Haryana, due to high humidity prevailing in the environment or cloudy weather, may occur the infestation of early blight in potato and tomato constant monitor/whistle is required.

- **Uttar Pradesh:**

- As thunderstorm accompanied with hailstorm and gusty winds at isolated places very likely over East Uttar Pradesh on 8th February, use hail net for orchard crops 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. Keep cattle indoor.
- In East Uttar Pradesh, summer maize can be sown in this month at the distance of 60 X 20 cm. Continue transplanting of onion. Distance should be 15 to 10 cm in onion crop. Apply irrigation to wheat, rapeseed & mustard. Continue planting of spring sugarcane. Inter row sowing in sugarcane can be done with two rows of urd or moong one row of ladyfinger or Lobia. In wheat crop give remaining dose of nitrogen i.e 40kg N₂/ha or 88kg urea/ha. Remove weeds from maize crop after 40-50 days of sowing. In tomato crop sown last month apply 40kg nitrogen/ha per hectare (88kg urea/ha). In garlic apply second & last dose of urea @ 74kg/ha after 60 days of sowing. Apply second irrigation to French bean (Rajma).
- In West Uttar Pradesh, farmers are advised to stop irrigation for next few days as sufficient moisture is available in all the crop. Nursery preparation should be done for chilli, tomato and brinjal crops in poly house. Transplantation of healthy seedlings of late varieties of cabbage, cauliflower, knolkhol etc. may be done on ridges. Continue transplanting of onion seedling. Seedling should not be older than six weeks. Continue sowing of spinach, coriander, fenugreek, carrot. Continue sowing of garlic in raised bed.
- In East Uttar Pradesh, to protect potato and tomato from rust disease spray of Mencozeb 0.2% @ 2gm per liter of water.
- In West Uttar Pradesh, install pheromone traps @ 3-4 traps per acre for monitoring of the pest population for diamond back moth in cole crops, pod borer in pea and fruit borer in tomato. In present weather, wrapping of plastic sheets around mango trunk should be done for preventing climbing of young (nymphs) mealy bugs. Apply grease to seal any cracks in the polythene sheets. Wrapping of plastic sheets around mango trunk should be done for preventing climbing of young (nymphs) mealy bugs.

- **Rajasthan:**

- In Arid Western Plain Zone, undertake sowing of okra crop, In Arid Western Plain Zone and Field preparation should be done for sowing of summer cucurbit vegetable.
- In Southern Humid Plain Zone, farmers are advised to apply third irrigation in wheat at jointing stage. Maize crop may be intercropped and irrigated with top dressing of nitrogen at the knee high stage. Farmers are also advised to be applied irrigation in gram and mustard at the pod formation stage.
- In Irrigated Northwestern Plain Zone, in wheat crop 40-50 day after sowing yellowing of leaves starts appearing which may be symptoms of deficiency of zinc. For control of the above spray of zinc sulphate (commercial grade) 1.5 kg and 750 gm calcium hydroxide in 100-125 litre water per bigha in the affected field.
- In Flood Prone Eastern Plain Zone, there are chances of thrips and aphid attack in brinjal, tomato and chilli crops; farmers are advised to spray 0.1% Malathion solution. Destroy malformed inflorescences of mango by burning to control the spread of the disease and increase the yield.
- In gram, to prevent Heliothis infestation, spray Quinolphos 25 EC @ 1200 ml/ha or Indoxcarb @ 200 ml/ha or Emamectin benzoate @ 100 gm/ha or Spinosad @ 73 gm/ha along with water at the time of flowering and repeat the spray if required
- Methi, pea, cumin and coriander are likely to be affected by powdery mildew attack. In this disease white powder is seen on leaves, spray Sulfex @ 1.0 ml per litre water or dust sulphur @ 25 kg per hectare.

- **Animal Husbandary**

- In Uttar Pradesh, provide vaccination to cattles to prevent foot and mouth disease if not vaccinated. Provide the mixture of berseam with fodder as supplement to cattle. Give Dewormis or Nematicide orally to poultry. Protect cattle from cold, animal sheds should be kept dry & warm. Keep animals warm by using dry sack or straw. Provide sufficient light to chicks & keep them warm.
- In Uttarakhand, install electric bulbs in cattle shed to protect them from cold. Feed ajwain and jaggery to animals to maintain the body temperature. Doors and windows should be covered properly so that cold winds do not enter the animal shed. Cover young calves with gunny/jute bags during night.

- **Apiculture**

- In Sub Tropical Zone of Jammu & Kashmir, shift the bee colonies near mustard field. Keep the colony under cover during night time to protect it from cold.

- **Poultry**

- Cover the poultry sheds in Jammu & Kashmir with gunny bags in order to protect the birds from cold weather.

Install electric bulbs to maintain optimum temperature.

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