



# *National Agromet Advisory Service Bulletin*



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



*Issued by*  
*India Meteorological Department*

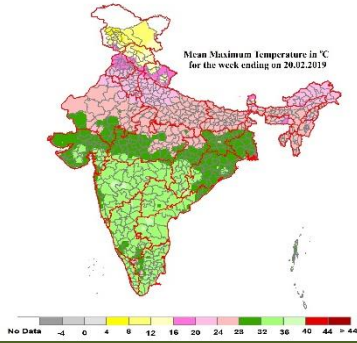
**Weblink For**

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

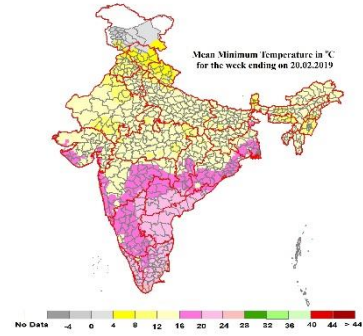
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

**Spatial distribution of weather parameters for the week ending on 20.02.2019**

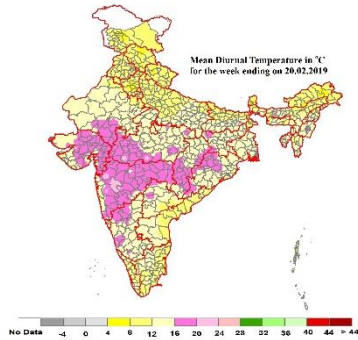
**Mean Maximum Temperature (°C) for the week ending on 20.02.2019**



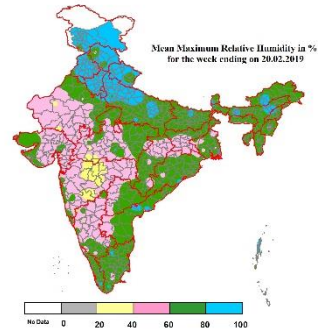
**Mean Minimum Temperature (°C) for the week ending on 20.02.2019**



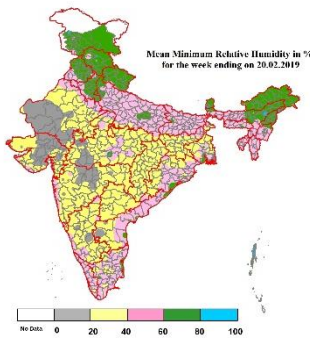
**Mean Diurnal Temperature Variation (°C) for the week ending on 20.02.2019**



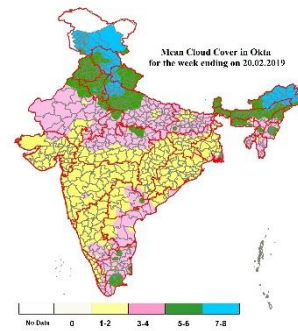
**Mean Maximum Relative Humidity (%) for the week ending on 20.02.2019**



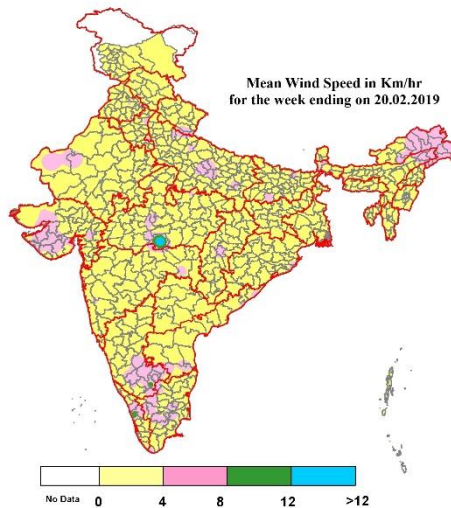
**Mean Minimum Relative Humidity (%) for the week ending on 20.02.2019**



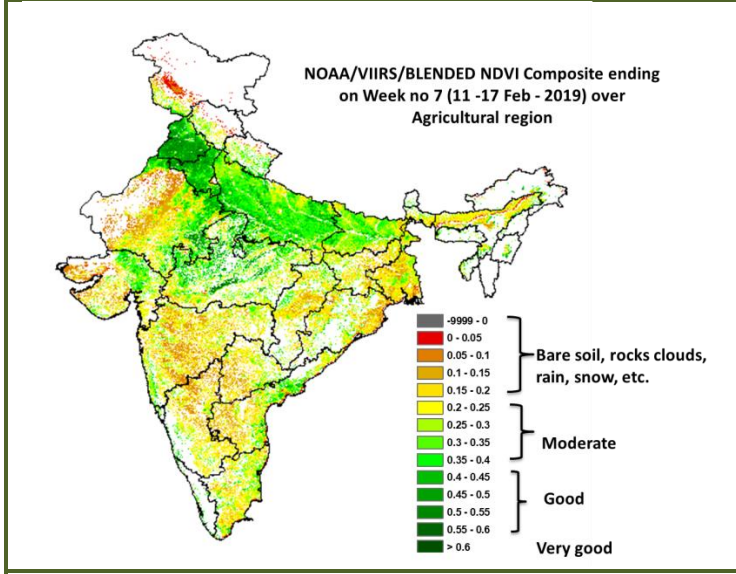
**Mean Cloud Cover (okta) for the week ending on 20.02.2019**



**Mean Wind Speed (km/hr) for the week ending on 20.02.2019**

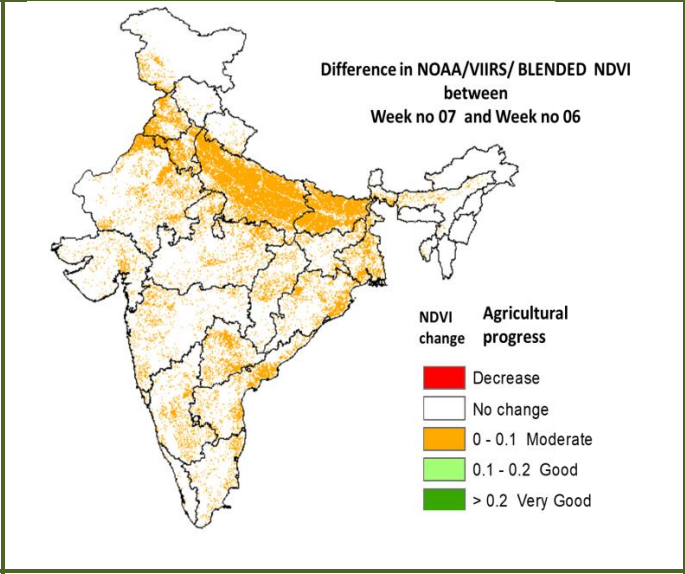


**NOAA/VIIRS BLENDED NDVI composite for the week number No. 7 ( 11-17 February) over Agricultural regions of India**



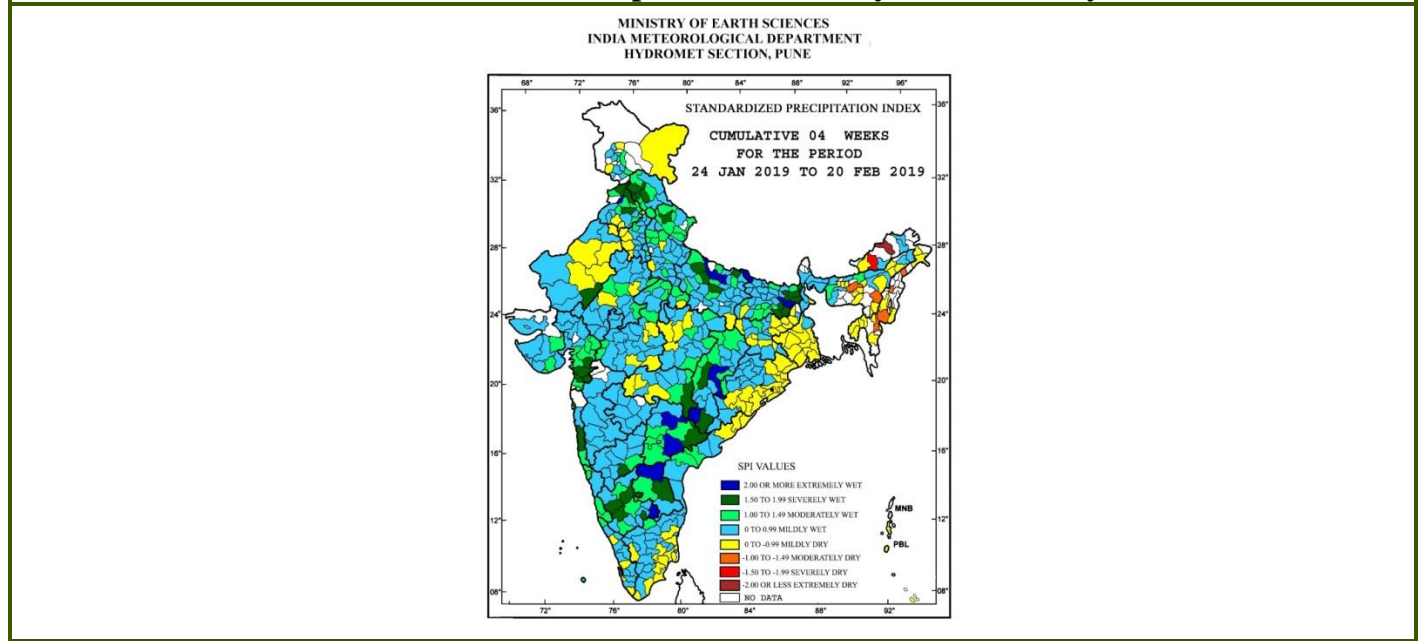
Agriculture vigour is good at many places over Punjab & Haryana; at a few places over Madhya Pradesh, Uttar Pradesh, North Coastal Andhra Pradesh & East Rajasthan ; at isolated places over West Rajasthan and adjoining Punjab, low hills of Uttarakhand, Bihar, North Gujarat, South Coastal Andhra Pradesh, Coastal Karnataka, Southern Kerala & Konkan. It was moderate over rest of the country.

**Difference in NOAA/VIIRS/BLENDED NDVI between week number 07 and week number 06**



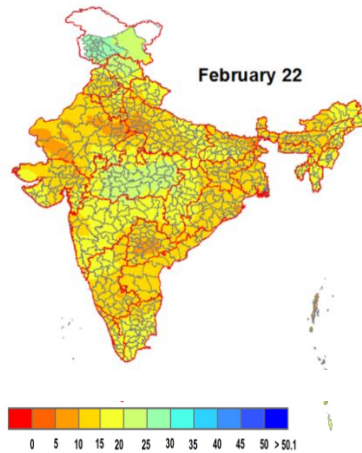
Moderate difference in agricultural vigour was noticed at most places over Uttar Pradesh & Bihar; at many places over Haryana and at a few to isolated places over rest of the country.

**Standardised Precipitation Index  
Cumulative 4 weeks for the period 24 January to 20 February 2019**

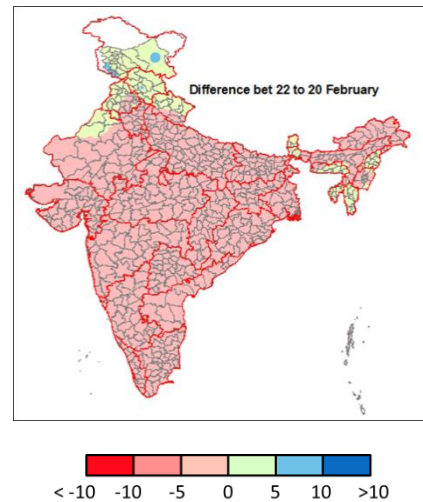
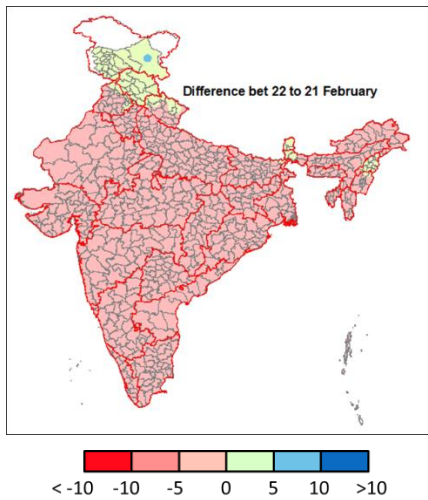


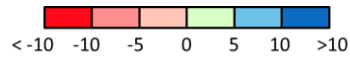
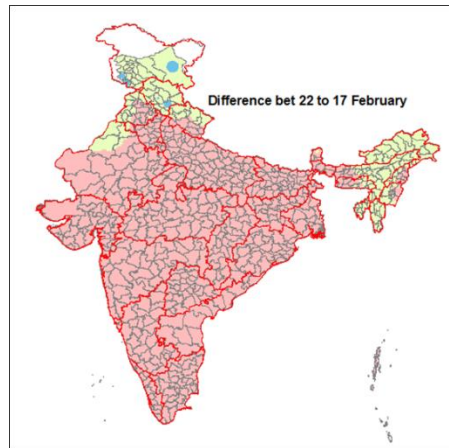
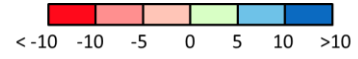
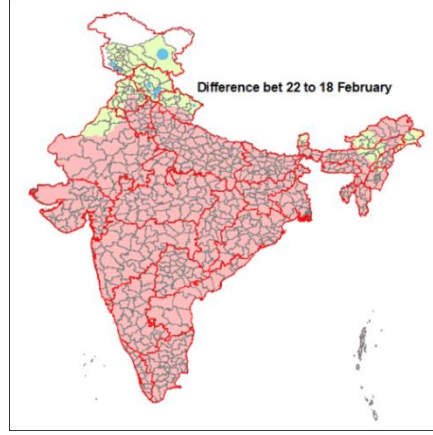
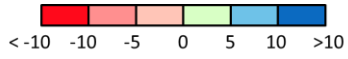
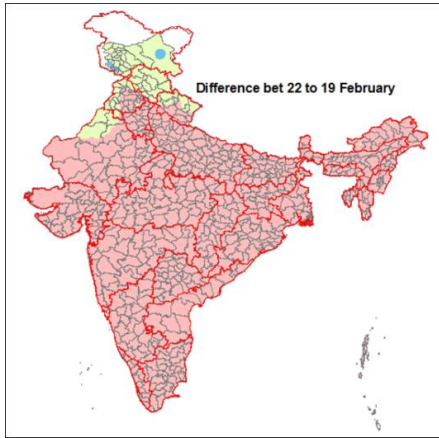
- Extremely/severely wet conditions experienced at a few districts of Punjab, in Bhagalpur, West Champaran, Khagaria districts of Bihar; Bahraich, Basti, Gonda, districts of Uttar Pradesh; Gadchiroli, districts of Maharashtra; Raipur and Bijapur districts of Chhattisgarh; Kurnool district of Andhra Pradesh, Karimnagar and Nalgonda districts of Telangana and in Kolar districts of Karnataka.
- Extremely/Severely dry conditions experienced at Upper Subansiri district of Arunachal Pradesh and at a few districts of Assam.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

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

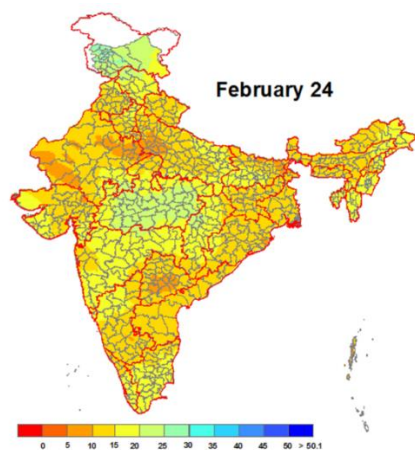
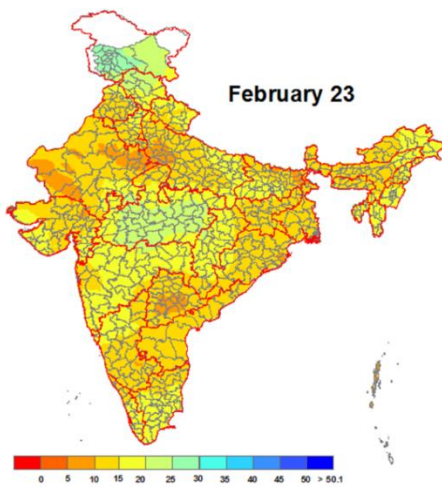


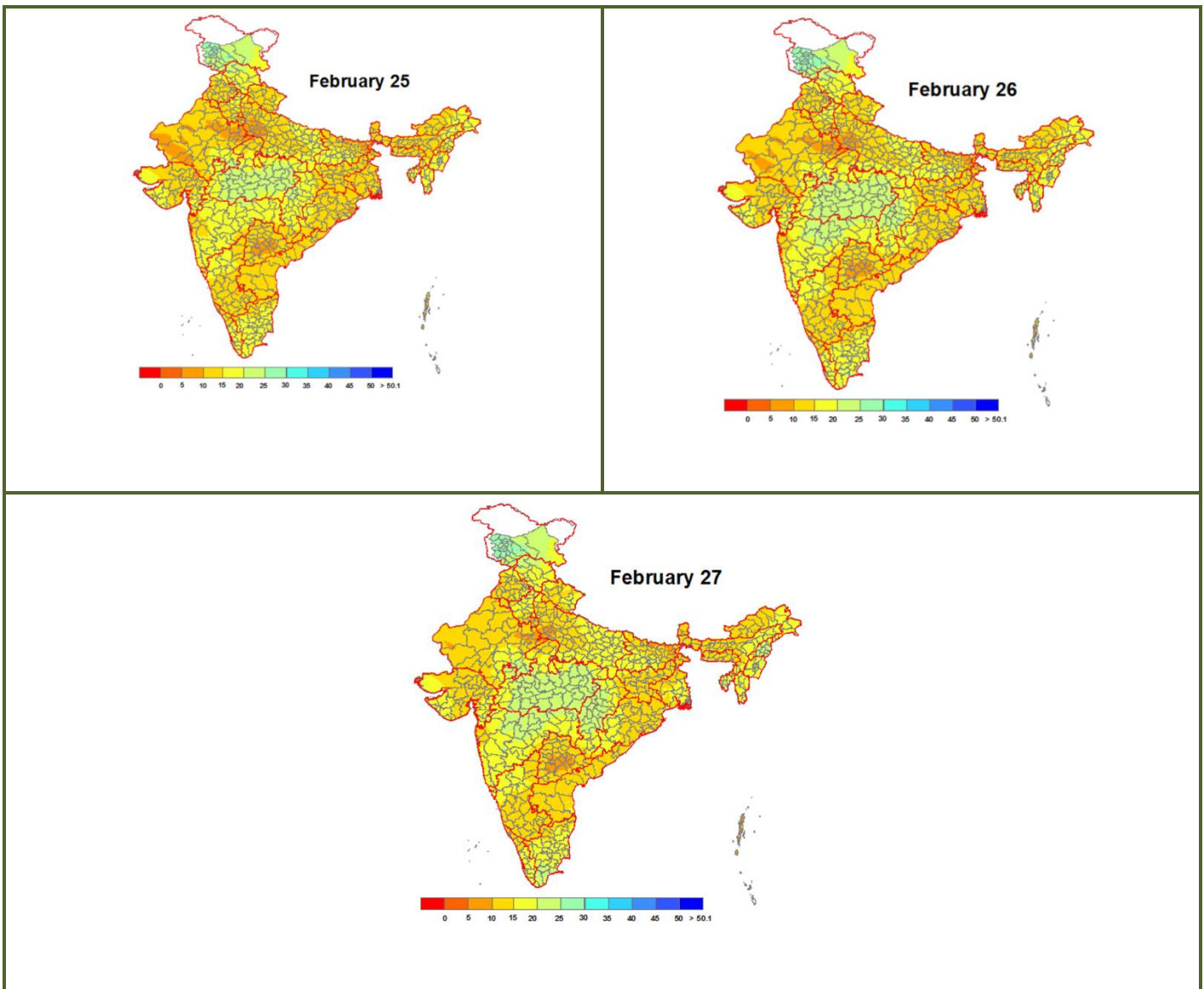
**Difference of Soil Moisture (mm) for 60 cm depth**





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





**Weather Forecast for next 5 days valid upto 0830 hours of 26<sup>th</sup> February 2019**

**Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.**

- No significant change in night minimum temperatures very likely over the major parts of the country during next 3 days.
- Maximum temperatures are likely to remain above normal by 2-3 °C over south peninsula, during next 3 days and over Maharashtra and east India during next 2 days.

**5 Day Rainfall Forecast (Mid-day)**  
**22 February 2019**

Met-Sub-Division	22-Feb Today	23Feb Sat	24Feb Sun	25Feb Mon	26Feb Tue
1. Andaman & Nicobar Islands	ISOL	DRY	DRY	DRY	ISOL
2. Arunachal Pradesh	ISOL	SCT	FWS	FWS	WS
3. Assam & Meghalaya	ISOL	ISOL	ISOL	SCT	FWS
4. N. M. M. & T.	ISOL	ISOL	ISOL	SCT	FWS
5. S.H. West Bengal & Sikkim	ISOL	ISOL	ISOL	SCT	SCT
6. Gangetic West Bengal	DRY	DRY	SCT	FWS	WS
7. Odisha	DRY	ISOL	SCT	SCT	SCT
8. Jharkhand	DRY	ISOL	SCT	FWS	SCT
9. Bihar	ISOL	ISOL	ISOL	ISOL	SCT
10. East Uttar Pradesh	DRY	DRY	DRY	ISOL	SCT
11. West Uttar Pradesh	DRY	DRY	DRY	ISOL	FWS
12. Uttarakhand	SCT	DRY	DRY	SCT	WS
13. Haryana, Chd & Delhi	DRY	DRY	DRY	ISOL	FWS
14. Punjab	DRY	DRY	DRY	ISOL	FWS
15. Himachal Pradesh	SCT	DRY	ISOL	SCT	WS
16. Jammu & Kashmir	ISOL	DRY	ISOL	SCT	WS
17. West Rajsthan	DRY	DRY	DRY	ISOL	ISOL
18. East Rajasthan	DRY	DRY	DRY	ISOL	ISOL
19. West Madhya Pradesh	DRY	DRY	DRY	ISOL	ISOL
20. East Madhya Pradesh	DRY	DRY	DRY	ISOL	ISOL
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	ISOL	DRY	DRY	DRY
26. Vidharbha	DRY	DRY	ISOL	ISOL	DRY
27. Chhattisgarh	ISOL	ISOL	ISOL	ISOL	ISOL
28. Coastal Andhra Pradesh	DRY	DRY	DRY	DRY	ISOL
29. Telangana	DRY	DRY	ISOL	ISOL	DRY
30. Rayalaseema	DRY	DRY	DRY	DRY	DRY
31. Tamilnadu & Puducherry	DRY	DRY	DRY	DRY	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	DRY
35. Kerala	DRY	DRY	DRY	DRY	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 Widespred (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

**Weather Warning during next 5 days**

**22 February (Day 1):** No weather warnings.

**23 February (Day 2):** No weather warnings.

**24 February (Day 3):** Thunderstorm accompanied with lightning & gusty winds at isolated places very likely over Odisha, Gangetic West Bengal and Jharkhand.

**25 February (Day 4):** ♦ Thundersquall accompanied with Hailstorm & lightning at isolated places likely over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, north Rajasthan, Jharkhand, Gangetic West Bengal and Odisha.

◆ Thunderstorm accompanied with lightning & gusty winds at isolated places very likely over East Madhya Pradesh, Chhattisgarh, Bihar, Sub-Himalayan West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Arunachal Pradesh.

**26 February (Day 5):** ◆ Thundersquall accompanied with Hailstorm & lightning at isolated places likely over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, north Rajasthan, Nagaland, Manipur, Mizoram & Tripura, Assam & Meghalaya, Bihar, Gangetic West Bengal and Odisha.

◆ Thunderstorm accompanied with lightning & gusty winds at isolated places likely over West Madhya Pradesh, Chhattisgarh, Jharkhand, Sub-Himalayan West Bengal, Odisha and Arunachal Pradesh.

◆ Heavy rain/snow at isolated places likely over Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Heavy rain/thundershowers over Gangetic West Bengal.

#### **Weather Outlook for subsequent 2 days from 27<sup>th</sup> February 2019 to 01<sup>st</sup> March 2019**

- Scattered to fairly widespread rain/snow likely over Western Himalayan Region and rain/thundershowers over northern plains. Fairly Widespread to widespread rain/thundershowers likely over East India and northeast India. Isolated heavy falls are also likely over east India on 27<sup>th</sup> and over northeast India on 27<sup>th</sup> and 28<sup>th</sup> February.
- Dry weather likely over rest of the country, outside south peninsula where isolated rain/thundershowers are likely.

#### **Salient Advisories**

- As thunderstorm accompanied with hail storm and lightning at isolated places very likely over **Jammu & Kashmir, Himachal Pradesh, Uttarakhand** and over **north Rajasthan** on 25<sup>th</sup> & 26<sup>th</sup>, over **Jharkhand** on 25<sup>th</sup>, over **Bihar** on 26<sup>th</sup>, over **Gangetic West Bengal** and **Odisha** on 25<sup>th</sup> & 26<sup>th</sup>, over **Punjab, Haryana, Chandigarh, Delhi, Uttar Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura** on 26<sup>th</sup> February, use hail net for orchard crops to protect from mechanical damage and provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places.
- As thunderstorm accompanied with lightning and gusty winds at isolated places very likely over **Arunachal Pradesh** and over **Assam & Meghalaya** and **Nagaland, Manipur, Mizoram & Tripura** on 25<sup>th</sup> February, over **Odisha** on 24<sup>th</sup> and 26<sup>th</sup>, over **Gangetic West Bengal** on 24<sup>th</sup>, over **Sub Himalayan West Bengal** on 26<sup>th</sup> and over **Jharkhand** on 24<sup>th</sup> & 26<sup>th</sup>, over **East Madhya Pradesh** on 25<sup>th</sup>, over **West Madhya Pradesh** on 26<sup>th</sup> and over **Chhattisgarh** on 25<sup>th</sup> & 26<sup>th</sup> February, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Use hail net for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep the cattle in sheds during thunderstorm period.
- As rain/snow likely at most places over **Jammu & Kashmir, Himachal Pradesh** and **Uttarakhand** on 26<sup>th</sup> along with heavy rain/snow at isolated places, rain/thundershowers likely at most/ many places over **Gangetic West Bengal** on 25<sup>th</sup> & 26<sup>th</sup>, over **Jharkhand** on 25<sup>th</sup>, along with heavy rain/



thundershowers at isolated places very likely over Gangetic West Bengal on 26<sup>th</sup> February, rain/thundershowers is likely at most/ many places over **Arunachal Pradesh** from 24<sup>th</sup> to 26<sup>th</sup> , over **Assam & Meghalaya** and **Nagaland, Manipur, Mizoram & Tripura** on 26<sup>th</sup>, at many places over **Punjab, Haryana, Chandigarh** and **Delhi** and over **West Uttar Pradesh** on 26<sup>th</sup> February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crops in Jammu & Kashmir, Uttarakhand and Himachal Pradesh.

### *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:**

- Undertake for planting of ginger turmeric vegetables as intercrop in irrigated coconut gardens. Apply mulch and protect the plants from the scorching sun. Providing adequate supply of water is essential for proper growth in coconut. Moisture stress leads to stunted growth drooping of leaves, immature nut fall and decreased yield. Give irrigation to palms once in a week.
- In Central Zone, to control brown plant hopper in paddy, spray Thiamethoxam @ 2g per ten litre of water or Imidacloprid @ 3ml per ten litre of water.
- 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.
- In Problem Area Zone, weather conditions may favour the incidence of rice bug in paddy, when the bug is seen in large number, spray Malathion @ 2 ml/ litre of water.

- **Andhra Pradesh:**

- In North Coastal Andhra Pradesh, weather is congenial for incidence of Early Shoot borer in sugarcane. Spray Fipronil granules 10 kgs/ac and trash mulching @ 1.25 t/ac. for conservation of soil moisture.
- In Rayalaseema, present weather conditions there favourable for occurrence of Tikka and early leaf spot in groundnut. Spray Mancozeb @ 400 g + carbendazim @ 200 g. or chlorothalonil @ 400 g or hexaconazole @ 400 ml /acre in 200 L of water twice with an interval of 15 days..

- **Telangana:**

- In Telangana, prevailing low temperature and foggy weather is congenial for the incidence of Blast disease in rice. Spray Tricyclazole @ 0.6 g or Isoprothiolane @ 1.5 ml or Kasugamycin @ 2.5 ml per litre of water twice in 10-15 days interval.
- In Telangana, prevailing dry weather conditions are congenial for incidence of wilt in Bengalgram. Remove infected plants and drench the soil with copper oxy chloride @ 3 g per litre of water around the infected plants.

- **Tamil Nadu:**

- In Western Zone, as dry weather is prevailing early shoot borer incidence in sugarcane may be increasing hence farmers are requested go for frequent irrigation to keep the field in wet condition & mulching also advised.
- In Southern Zone, due to the prevailing weather condition, the incense of Serpentine leaf miner in Tomato. The symptoms are tomato leaves with serpentine mines, drying and dropping of leaves, Minute orange yellowish apodous maggots and yellowish brown pupates within mines. Collect and destroy mined leaves, spray 30 ml Chlorantraniliprole with 10 litre of water.
- In North Western Zone, for five month old banana crop, apply azospirillum, phosphobacteria and pseudomonas each @ 20 gram / plant to.
- 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.

- In High Rainfall Zone, due to the prevailing weather conditions, there are chances for increase in the severity of infection of rice stem borer. Spray Chlorantraiiprole 0.3 ml/l or Flubendiamide 0.1 ml / litre.
- **Karnataka:**
  - In North Interior Karnataka, apply irrigation in summer groundnut, sugarcane, mango (mustard size) crop. Complete harvesting of early sown sorghum, safflower, chick pea crops and cabbage. Undertake sowing of water melon and fodder crops.
  - In Coastal Karnataka, undertake deep ploughing in harvested rice field.
  - In South Interior Karnataka, continue transplanting of rice seedlings, sowing of summer ragi, pulse crops. Continue harvesting of matured ginger, turmeric and pepper.
  - In North Interior Karnataka, to manage leaf minor in citrus fruits, spray Indaxicarb @ 0.3 ml or Emamectin Benzoate @ 0.2 gram dissolved in one liter of water.
  - In Coastal Karnataka, spray lambda Cyhalothrin @ 0.6 ml/liter against Tea mosquito bug in cashew gardens. For control of fruit rot, remove the rotted fruits cocoa and spray 1% Bordeaux mixture.
- **Animal Husbandry**
  - In Karnataka, maintain the optimum room temperature in poultry house.

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

- **Realised Rainfall:** Rainfall occurred in Changlang, East Siang, Lohit, Papumpare, Tawang, Upper Siang and West Siang districts of Arunachal Pradesh; Dibrugarh, Kokrajhar, Lakhimpur, Sonitpur, Tinsukia and Udalgiri districts of Assam; Weather remained mainly dry over the rest region during the week.
  - **Advisories:**
    - As rain/thundershowers is likely at most/ many places over Arunachal Pradesh from 24<sup>th</sup> to 26<sup>th</sup>, over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 26<sup>th</sup> February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
    - As thunderstorm accompanied with lightning and gusty winds at isolated places very likely over Arunachal Pradesh on 25<sup>th</sup> & 26<sup>th</sup> and over Assam & Meghalaya, and Nagaland, Manipur, Mizoram & Tripura on 25<sup>th</sup>, thunderstorm accompanied with hailstorm and lightning at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 26<sup>th</sup> February, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Use hail net for orchard crops to protect from mechanical damage in Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura. Keep harvested produce at safer places.
  - **Arunachal Pradesh**
    - Continue sowing early/local maize, early *kharif* vegetables and cowpea. Undertake harvesting of pea and potato at the earliest.
  - **Assam:**
    - In Assam, continue sowing of okra, ridge gourd and sponge gourd. Maintain around 5 cm of standing water in the field of *boro* rice 2-3 days after transplanting to 7-10 days before harvesting.
    - In North Bank Plain Zone of Assam, continue land preparation for sowing of direct seeded *ahu* rice and summer green and black gram.
    - In Upper Bramhaputra Valley of Assam, undertake harvesting of matured potato, rapeseed and mustard at the earliest. Undertake land preparation for sowing summer green and black gram.
    - In Central Bramhaputra Valley of Assam, undertake gap filling of dead hills at 7-10 days of transplanting. Maintain 5±2 cm of standing water in the field. Undertake land preparation for sowing of Capsularis jute and harvesting of matured pods of rapeseed-mustard at the earliest.
    - In Lower and Central Bramhaputra Valley of Assam, undertake sowing of summer green and black gram and planting of banana.
    - In Upper Bramhaputra Valley and Barak Valley Zone of Assam, spray Chlorpyrifos 20 EC or Quinalphos 25 EC (70-80 ml per 70-80 litre of water per bigha against stem borer, hispa, hoppers attack on rice on a non rainy day.
    - In Central Bramhaputra Valley of Assam, in wheat crop, there is chance of attack of aphid. Apply Dimethoate 30EC or Chloropyrifos @ 1ml/litre against aphids infestation in wheat crops.
    - In Lower Bramhaputra Valley of Assam, apply Chloropyrifos 20EC at the concentration of 0.02% solution against stem borer infestation in *boro* rice.
    - In Hill Zone of Assam, spray Dithane M 45 @ 2.5 grams per litre of water against rust disease in wheat crop when sky remains clear. Spray Imidachloprid @ 0.5 ml per litre of water with sticky material (Tipol 1.0 gram /litre) against thrips in onion crop at vegetative stage. Undertake plant protection methods on a non rainy day.

- **Meghalaya:**
  - Continue nursery raising/ transplanting of tomato and capsicum and harvesting of cole crops (cabbage, cauliflower, broccoli), root crop (radish, carrot), ginger and turmeric.
- **Manipur:**
  - Continue nursery raising of pre-*kharif* rice. Continue harvesting of matured rapeseed/mustard/field pea/lentil.
  - Spray Coragen @ 2ml/ 15 litre of water against pod borer in rapeseed/ mustard. To control stem borer in maize, apply few granules of Carbofuran 3G at maize whorl 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. Undertake plant protection methods on a non rainy day.
- **Tripura:**
  - Continue harvesting of *rabi* legumes (mustard, lentil etc.), potato, cole crops and tomato. Continue transplanting of seedlings of summer brinjal and tomato. Maintain 2 to 3 cm standing water in the field of *boro* rice.
  - 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. To manage the attack of Stock rot in *rabi* maize at post silking stage, spray Mancozeb 2ml per litre of water on a non rainy day..
- **Nagaland:**
  - Conserve soil moisture through mulching with locally available materials in all the crops. Undertake harvesting of matured pods of toria/mustard on a non rainy day..
  - Continue harvesting of cabbage/ winter vegetables timely as it may split if not harvested in time. Continue 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:** Rainfall occurred in Banka, Bhagalpur, Jamui, Khagadia, Kishanganj, Madhepura, Monghyar, Purnea and West Champaran districts of Bihar and in Chatra and Koderma districts in Jharkhand. Weather remained mainly dry/dry over the rest of the region during the week.
- **Advisories:**
  - As rain/thundershowers is likely at most/ many places over Gangetic West Bengal on 25<sup>th</sup> & 26<sup>th</sup>, over Jharkhand on 25<sup>th</sup>, along with heavy rain/ thundershowers at isolated places over Gangetic West Bengal on 26<sup>th</sup> February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
  - As thunderstorm accompanied with hail storm and lightning at isolated places very likely over Jharkhand on 25<sup>th</sup>, over Bihar on 26<sup>th</sup>, over Gangetic West Bengal and Odisha on 25<sup>th</sup> & 26<sup>th</sup> thunderstorm accompanied with gusty winds and lightning at isolated places very likely over Odisha on 24<sup>th</sup> and 26<sup>th</sup>, over Gangetic West Bengal on 24<sup>th</sup>, over Sub Himalayan West Bengal on 26<sup>th</sup> and over Jharkhand on 24<sup>th</sup> & 26<sup>th</sup> February, use hail net for orchard crops to protect from mechanical damage. Provide mechanical support to banana, young fruit plants, staking in vegetables and propping in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places.
- **Odisha:**
  - Summer paddy crop is at seedling establishment to tillering stage (one to four week) in main field. Provide irrigation as and when required especially at the critical stages like tillering, panicle initiation, flowering and milking stage. Onion crop is at five to nine week stage. Go for hoeing, weeding and 2nd top dressing with 23kg urea at 7-8 week stage followed by irrigation. Continue sowing of sesamum varieties like Uma, Kanak, Vinayak, Kalika, Nirmala, Prachi, etc. Go for good quality mung and biri seeds. Treat the seeds with rhizobium culture @ 20g /kg seed before sowing. Provide irrigation to the maize crop.
  - In case of blast infestation in rice, apply 120g Tricyclazole 75WP /acre. In case of Capsicum and chilli thrips,

go for application of 200ml Dimethoate 30 EC in 200lt water/acre. In case of Diamond back moth in cole crops like cabbage, cauliflower, go for application of 80 ml Spinosad 14.5SC in 200 lt water/acre. In pulses crops, spray 5 ml Imidachlorpid or 20 ml Metacystox per 10 litre water to control aphid; spray 50 g Sulfex per 10 litre water for controlling powdery mildew.and, spray 2 ml Chloropyriphos per litre water to control pod borer.

- **Bihar:**

- In view of dry weather, harvest matured crop of early sown mustard and dig out potato tubers from the field which is in matured stage. Cut the upper vegetative parts of the crop for seed purpose. Stop the irrigation to the crop 15 days before of harvesting. Carry out intercultural operation in onion. Provide light and frequent irrigation at an interval of 10-12 days as per requirement. Maintain proper soil moisture in wheat crop which is at grain forming/milking stage and in early sown rabi maize, which is in tassel/silking stage. Carry out land preparation/sowing of summer vegetable such as okra, pumpkin, cucumber, sponge gourd ridge guard, bitter guard and also for summer maize.
- Monitor aphid infestation in standing vegetables crop. If insect population is above ETL, spray Imidacloprid @ 1ml/3 litres of water. Regularly monitor for thrips infestation in onion as the damaged plants do not form bulbs. If the insect population is above ETL, spray Profenofos@1ml per litre or Imidacloprid @1ml per 4 litres of water. Monitor for aphid infestation in the late sown mustard crop. If insect population is observed above ETL, spray Dimethoate 30EC @ 1.0 ml/litre of water on clear days.

- **Jharkhand:**

- Transplant 21 days old summer rice seedlings at the earliest. Maintain optimum water level in the field. Broadcast Blue Green algae @ 4 kg per acre after 15 days of transplanting to curtail urea consumption. Prepare field for vegetables like long gourd, round gourd, bitter guard, sponge gourd, cucumber, water melon and musk melon. Provide light irrigation to mustard and linseed crops. Continue sowing of improved mung variety SML-688.
- Wheat crop may get infested with loose smut disease (in which ear head appears black). If such type of earhead appears, immediately destroy them carefully after hand picking followed by burning. Mealy bugs are common in Papaya, Guava, Mango, Litchi and other flower plants. To control the insects, at first wet the soil near the root zone of the plant with Chlorpyriphos @ 4 ml per litre of water and also spray the it on plant @ 2 ml per litre of water. Do not pluck the fruits within 15 days of spraying.

- **West Bengal:**

- In Sub-Himalayan West Bengal, carry out mulching in large cardamom. Harvest mature cabbage, cauliflower and other cole crops. Carry out weeding in potato and garden pea crops. Carry out operations like earthing up, weeding and draining out of excess water in ginger and turmeric fields.
- In Gangetic West Bengal, undertake sowing of green gram and black gram. Carry out weeding in Boro paddy and keep the bunds clean. Maintain 2 cm of water level in the Boro paddy field. Carry out weeding in wheat field on rain days . Take up sowing of okra. Before sowing treat the seed by 0.2% Bavistin@2g/liter of water. Carry out land preparation for sowing of mung.
- In Sub-Himalayan West Bengal, to control mustard aphids, spray 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. For the management of sucking pest in vegetables crops spray Dadecei @ 1.5g/litre of water with sticker @ 0.5ml/litre of water on a non rainy day.
- In Gangetic West Bengal, spray Dimethoate@1.5ml/liter of water or Imidachlorpit@3ml/5 liters of water for aphid attack in potato. Spray Tricyclozole 75WP@ 1g/litre of water for blast disease in Boro paddy. Apply Ridomil@2g/litre of water at late afternoon to prevent powdery mildew in pointed gourd. Undertake plant protection measures after current spells of rain.

- **Andaman & Nicobar Islands:**

- In Andaman Islands, provide light irrigation during evening hours to the vegetables as weather is likely to be dry. Mulch around the coconut and arecanut tree with fallen leaves and crop residue to conserve soil moisture.
- In Nicobar Islands, mulch around the coconut and arecanut tree with fallen leaves and crop residue to conserve soil moisture

- **Animal Husbandry**

- In Bihar, vaccinate animals against FMD, PPR, Haemorrhagic Septicaemia, Enterotoxaemia, Black Quarter etc.
- In Odisha, cover sheds to protect animals from cold. Provide sufficient clean drinking water to them. Go for timely vaccination.
- In Jharkhand, if symptoms of pneumonia or C.C.P.P. disease (secretion from nose, high body temperature, not showing interest in feeding or even drinking water etc.) appear, vaccinate goats immediately with Enroflxacyl. (1 c.c. for kids and 2 c.c. for adult animals) at least 3 times.
- In West Bengal, 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 doctor.

- In Andaman & Nicobar Islands, provide ventilation to the house where the poultry birds are kept at night with access to clean drinking water.
- **Fisheries**
- In Odisha, provide feed @ 2-3 % of body mass of fish. Go for false netting to get good growth of fish. To correct acidity, apply 100 kg lime and cifax 500 ml per acre meter of water.
- In West Bengal, use lime at every week @ 1.2kg/decimal. For any bacterial disease infection, carry out dip treatment of fish in copper sulphate @5mg/lit of water for 1 minute. All new born animals should be dewormed and lambs/kids should be vaccinated against PPR.

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

- **Realised Rainfall:** Weather remained dry over the region during the week.
- **Advisories:**
- **Maharashtra:**
- In Konkan, apply irrigation to vegetables and orchards. Carry out weeding and also apply 2nd dose of nitrogen 40 kg ha<sup>-1</sup> (Urea 87 kg ha<sup>-1</sup>) to rice crop at time of tillering. Maintain optimum water level of 5-10 cm in rice field. Continue sowing of okra. Apply irrigation to alphonso mango trees @ 150 to 200 litre of water at fortnightly interval for 3 to 4 times to reduce fruit drop and increase the size of fruits. Also use straw mulch to reduce evaporation.
- In Madhya Maharashtra, to avoid evaporation apply mulching of dry grass, leaves, hay, straw etc. in fruit crops. For control of sap sucking pests in vegetables, spray Neemark 5 % or Fipronil @ 25 ml per 10 liters of water. In *keshar* mango for flowering and yield enhancing, apply 1% Potassium Dihydrogen phosphate (100 gm per 10 lit. of water) at flowering stage and after one month spray 1 % potassium nitrate (100 gm per 10 lit. of water). Continue harvesting of matured sorghum and chickpea. Undertake harvesting of matured wheat. Apply irrigation to *summer* groundnut. Continue transplanting of summer tomato if seedlings are ready for transplanting.
- In Marathwada, apply irrigation to vegetables and pomegranate. Continue harvesting of chickpea, turmeric and rabi sorghum. Keep harvested produce in safer place. Continue sowing of fodder crops like sorghum, maize, pearl millet etc. To control sucking pest in vegetable crops spray 5 % NSKE.
- In Vidarbha, continue harvesting of matured safflower and gram. Keep harvested produce at a safer place. Apply irrigation to wheat, orchards and vegetables. For control of aphids in wheat, spray Quinalphos 25 EC @ 20 ml or Thiomethoxam 25 WG @ 1 g per 10 litres of water.
- **Gujarat:**
- In South Gujarat, apply irrigation to wheat crop and mango orchard. Spray 0.5% Zinc Sulphate or 0.2% Ferrous Sulphate in banana orchard for getting higher yield and good quality. Continue transplanting of rice crop.
- In North Gujarat, undertake sowing of summer vegetables (okra, cluster bean and bottle gourd) crops and transplanting of brinjal seedlings. Stop irrigation one week before harvesting of the potato crop. Carry out weeding and earthing up operations in papaya and apply irrigation as per requirement.
- In Middle Gujarat, undertake harvesting of matured mustard during morning hours. Stop irrigation one week before harvesting of the potato crop. Apply irrigation in wheat and chickpea crops.
- In Saurashtra & Kutch, continue sowing of summer vegetable (okra, cluster bean and bottle gourd) and water melon crops. Continue land preparation for sowing of summer groundnut and sesame crops. Apply irrigation in mustard, vegetable and fruit crops as per need.
- In North Gujarat, if infestation of *Heliothis* in gram crosses ETL, spray Quinalphos @ 20 ml in 10 litres of water for control.
- In South Gujarat, in sapota crop, spray Quinalphos @ 20 ml + Mancozeb @ 15 gm/10 liters of water against infestation of bud borer and leaf spot for better control.

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

- **Realised Rainfall:** Rainfall occurred in Baloda Bazar district of Chhattisgarh. Weather remained mainly dry/dry rest of the region during the week.
- **Advisories:**
- As thunderstorm accompanied with lightning and gusty winds at isolated places very likely over East Madhya Pradesh on 25<sup>th</sup>, over West Madhya Pradesh on 26<sup>th</sup> and over Chhattisgarh on 25<sup>th</sup>& 26<sup>th</sup> February, provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places.
- **Madhya Pradesh:**
- In East Madhya Pradesh, apply irrigation in wheat, gram and vegetables. Continue harvesting of matured pods of green pea. Undertake direct sowing for vegetables like pumpkin, bitter gourd, etc. Apply irrigation in

mango at 50% flowering at an interval of 15 days.

- In Kymore Plateau and Satpura Hill Zone, undertake field preparation for sowing of summer vegetables.
- In West Madhya Pradesh, apply irrigation in wheat, gram, mustard, garlic and vegetables. Continue harvesting of matured pods of green pea. Undertake nursery preparation for summer vegetables.
- In Jhabua Hill Zone, continue harvesting of green chilli, okra, beans, cucurbits and fenugreek. Continue nursery preparation for tomato, chilli, brinjal, etc. in low tunnel method. Continue sowing of cucurbitaceous crops, musk melon and water melon.
- In Satpura Plateau Zone, gram is in pod formation/development stage and at this stage there are chances of incidence of gram pod borer, adopt integrated pest management practices like light trap, pheromone trap, bird prech etc. for initial control. If necessary spray insecticides like Spinoshed @ 300 ml/ha or Aciphate WP @ 250 g/ha (250 ml/ha).
- In Jhabua Hill Zone, for control of termite attack in wheat field, apply Chloropyrifos 20 EC @ 3.5 litre/ha with irrigation water.
- **Chhattisgarh:**
- Continue harvesting of timely sown early varieties of mustard when siliqua 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. Continue land preparation for sowing of summer vegetables. Undertake sowing of leafy vegetables. In Plain Zone, undertake sowing of summer vegetables like pumpkin, bitter gourd, bottle gourd, okra etc.
- In Bastar Plateau Zone, continue planting of sugarcane. Apply irrigation in wheat. Continue sowing of summer moong and urad.
- In Bastar Plateau Zone, for the control alternaria disease in mustard, apply Propiconazole @ 1ml or Mencozeb @ 3g/litre of water.
- **Animal Husbandry**
- In Madhya Pradesh, keep animals in dry and shaded place and provide green fodder, fresh and clean water three times a day.
- 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 occurred in Fatehgarh Saheb, Gurdaspur, Hoshiarpur, Jalandhar, Kapurthala, Ludhiana, Nawashahar, Patiala, Ropar in Punjab, Ambala, Chandigarh, Katihal, Yamunanagar in Haryana, North Delhi, South West Delhi and weather remained dry over the region during the week. Rainfall/snow occurred in all districts of Himachal Pradesh, all districts of Jammu & Kashmir except Leh and all the districts of Uttarakhand except Champawat during the week.
- **Advisories:**
- As thunderstorm accompanied with hail storm and lightning at isolated places very likely over Jammu & Kashmir, Himachal Pradesh Uttarakhand and over north Rajasthan on 25<sup>th</sup> & 26<sup>th</sup>, over Punjab, Haryana, Chandigarh and Delhi and over Uttar Pradesh on 26<sup>th</sup> February, use hail net for orchard crops to protect from mechanical damage and provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places.
- As rain/snow likely at most places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand on 26<sup>th</sup>, rain/thundershowers likely at many places over Punjab, Haryana, Chandigarh and Delhi and over West Uttar Pradesh on 26<sup>th</sup> along with heavy rain/snow at isolated places over Jammu & Kashmir, Uttarakhand and Himachal Pradesh on 26<sup>th</sup> February, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crops in Jammu & Kashmir and Himachal Pradesh.
- **Jammu & Kashmir:**
- In Sub Tropical Zone, postpone application of weedicides and fertilisers in wheat as heavy rain / snowfall is expected.
- In Valley Temperate Zone, provide adequate drainage channels in the fields wherever there is possibility of water accumulation.
- Weather conditions are favourable for the outbreak of aphids in late sown mustard crop. Monitor the crop regularly. If 10 cm of the branch have more than 20 aphids, spray imidacloprid @ 0.3 ml / litre of water or (Dimethoate) rogor 30 EC @ 1ml/litre of water after current spells of rain.
- In Intermediate Zone, postpone irrigation, plant protection measures and application of fertilizers to the standing crops till the weather gets clear. Make necessary arrangements to drain out excess water from crops fields

- 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 after current spells of rain.
- As there was significant rainfall in past few days and there is possibility of rainfall in next 4 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 after current spells of rain.
- **Uttarakhand:**
  - In Bhabar and Tarai Zone, avoid irrigation in wheat crop as rainfall is expected. To control the late blight disease in tomato, spray Mancozeb @ 2.5g/litre of water or copper oxychloride @ 3g/litre of water after current spells of rain.
  - In Hill Zone, undertake nursery preparation of tomatoes, capsicum, brinjal, and cucurbitaceous crops in poly house.
  - In Sub-Humid Sub-Tropic Zone, apply second dose of nitrogen as top dressing in wheat crop in afternoon after current spells of rain. Maintain proper drainage facilities in mustard crop. Undertake harvesting of sugarcane crop after current spells of rain.
- **Himachal Pradesh:**
  - In High Hill Temperate Zone, avoid pruning of apple trees in clear weather.
  - In Mid-Hills Sub-Humid Zone, apply half dose of nitrogen fertilizers in onion and garlic after current spells of rain. Pea is in flowering to pod formation stage. Hence there should not be a shortage of irrigation in it. Carry out staking in pea. Carry out weeding in coriander & fenugreek. Undertake land preparations for summer vegetables like tomato, capsicum bhindi, gaurd 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 with irrigation 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:**
  - Due to light rain/thundershowers forecast after 2-3 days, irrigation may be avoided to the wheat, mustard and vegetables crop.
  - In Haryana, continue transplanting of matured seedlings of tomato, cauliflower, & cabbage in prepared field. Monitor mustard and vegetable crops for sucking pests. Possibility of variable weather and light rain withhold the spray of weedicides/fungicide/irrigation and others agricultural operations in wheat, gram, mustard, vegetables and fruits.
  - In Delhi, continue planting of winter sugarcane at optimum soil moisture for better seed germination. Complete 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. Undertake sowing of lady finger (A-4, Parbani Kranti and Arka anamika).
  - 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 wheat 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 Delhi, monitor the vegetable and mustard crops against attack of aphid. If pest population is above ETL than, spraying of Imidacloprid @ 0.25 to 0.5 ml per litre of water.
- **Uttar Pradesh:**
  - In East Uttar Pradesh, undertake sowing of cucurbit crops, bitter guard, bottle guard, cucumber, pimpkin, musk melon and watermelon. Apply light irrigation to wheat. Apply safety measures for gram, peas and arhar. Undertake sowing of spring time sugarcane, bitter gourd, Gourd, Cucumber, Seafront, The melon, watermelon. Undertake harvesting of rapeseed & mustard. Undertake digging of matured potato.
  - In West Uttar Pradesh, farmers are advised to stop irrigation for next few days as sufficient moisture is available in all the crop. Take care of wind direction and wind speed before spraying the pesticides to the crops.
  - Undertake sowing of maize and Urad and lady finger at the time of good weather and sufficient moisture. As symptoms of Scorbicide can be seen on late sown potato, for this apply micozeb or redomil mj 70 (25 gram / litre water.) or copper oxichloride (3 gram / litre water) in clear weather. Sowing of French bean, cluster bean, summer radish is advised as present temperature is suitable for germination of seeds. Farmers are advised to procure quality seeds for green gram and black gram from certified source for sowing during first week of March. Variety: - Green gram – Pusa Visal, Pusa Vaisakhi, PDM-11, SML-32 and Black

gram – Pant Urd 19, Pant Urd- 30, Pant Urd -35, PDU-1.

- 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.
- In mango trees spray monocofos 40 ec. 1.5ml/ litre of water or chloropyrifas 20% of 2ml / litre of water for preventing from moth insects or lassihoppar insects.
- In present weather conditions, transplanting of young seedlings of tomato, chilli and cole crop may be done in this week.
- **Rajasthan:**
  - In Sub humid and Southern Plain and Aravali Hill Zone, undertake sowing for summer groundnut and summer okra.
  - Due to increase in temperature in coming days increase the water demand of the rabi crops. Therefore irrigate the crops as and when crops show wilting symptoms and as per need on the basis of critical growth stages.
  - In gram, to prevent Heliothis infestation, spray Quinolphos 25 EC @ 1200 ml/ha or Indoxicarb @ 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.
  - 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 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, farmers are advised to regularly monitor the mustard crop and destroy aphid infested branches of plant, spray Dimethoate 30 EC @ 1litre/ ha dissolved in 800 litre water when at least 10% plants are infested with 25-26 aphid per plant.
  - For the control of termites in wheat and other crops, spray of solution of Chloropyriphos 20EC 2l/ha with irrigation water. For broadcast Chloropyriphos 20EC mix with 100 kg/ha sand than apply light irrigation.
- **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.
  - 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.

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