



National Agromet Advisory Service Bulletin

Friday 27th March 2020
(For the period 27th to 31st March 2020)



Issued by
India Meteorological Department

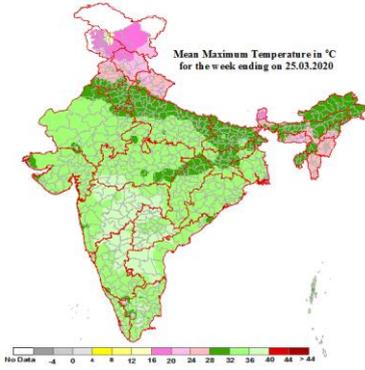
Weblink For

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

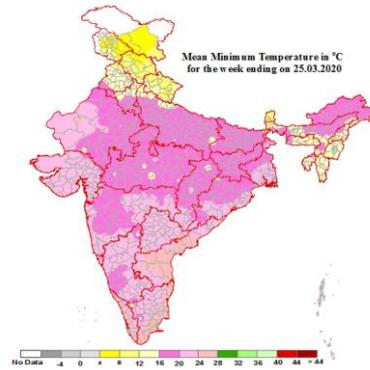
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending on 25.03.2020

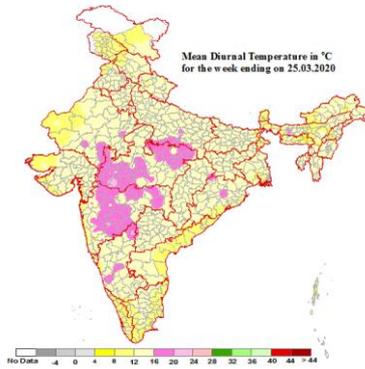
Mean Maximum Temperature (°C) for the week ending on 25.03.2020



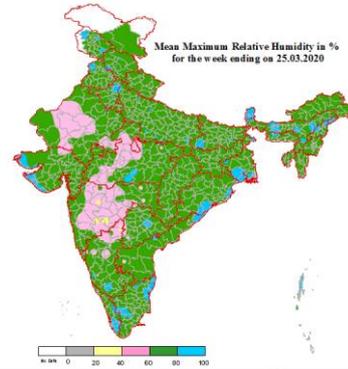
Mean Minimum Temperature (°C) for the week ending on 25.03.2020



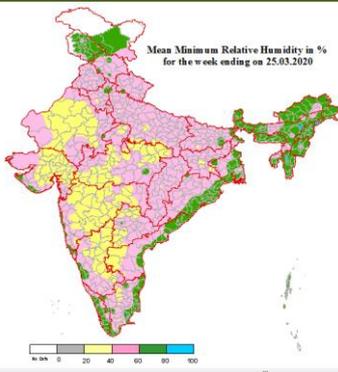
Mean Diurnal Temperature Variation (°C) for the week ending on 25.03.2020



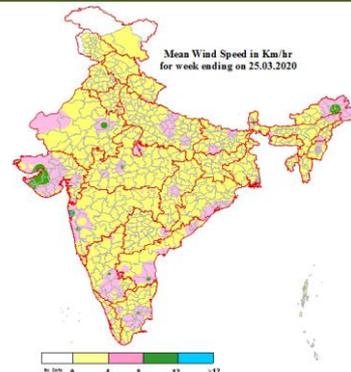
Mean Maximum Relative Humidity (%) for the week ending on 25.03.2020



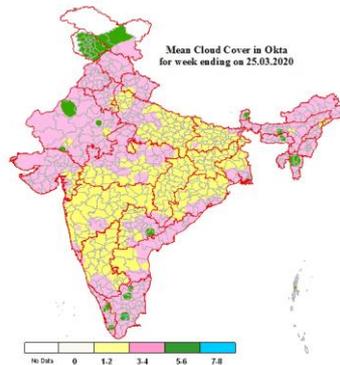
Mean Minimum Relative Humidity (%) for the week ending on 25.03.2020



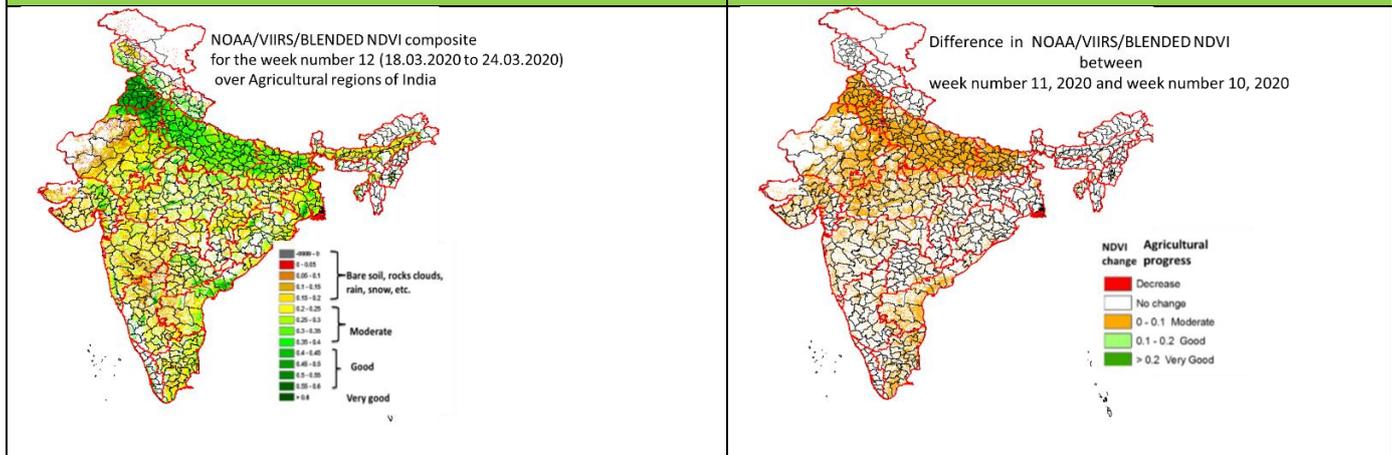
Mean Wind Speed (km/hr) for the week ending on 25.03.2020



Mean Cloud Cover (okta) for the week ending on 25.03.2020

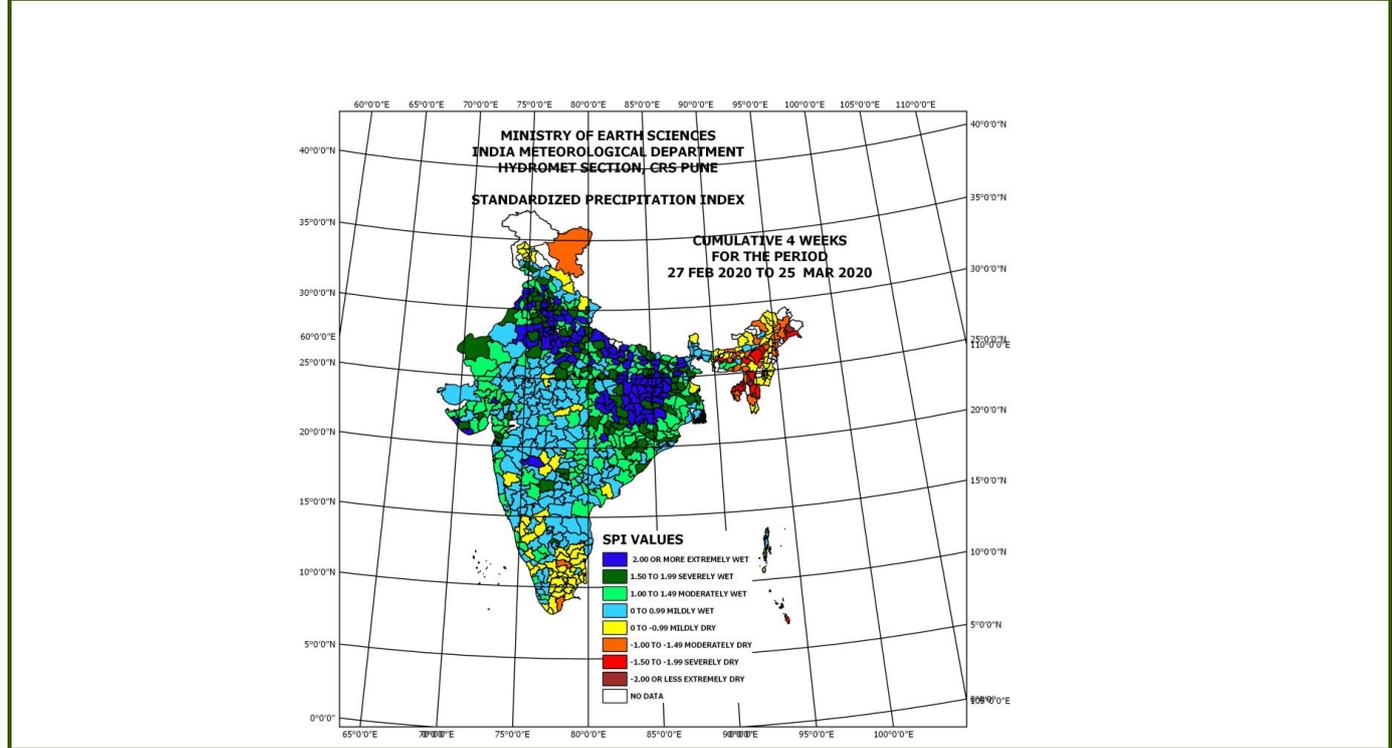


NOAA/VIIRS/BLENDED NDVI composite for the week number 12 (18.03.2020 to 24.03.2020) over Agricultural regions of India	Difference in NOAA/VIIRS/BLENDED NDVI for the week number 12 and week no 11 over Agricultural regions of India
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<p>Agriculture vigour was good in most parts of Punjab; many parts of Haryana; few parts of Gangetic West Bengal, North Coastal Andhra Pradesh, Telangana and at isolated parts of Jammu Division, Himachal Pradesh, Uttarakhand, West Uttar Pradesh, Bihar, Odisha, Central Chhattisgarh, East Rajasthan and adjoining West Madhya Pradesh, Karnataka and Kerala.</p>	<p>Good difference in agricultural vigour has been observed at isolated places of West Madhya Pradesh and adjoining Uttar Pradesh, East Rajasthan and Coastal Andhra Pradesh.</p>
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Standardised Precipitation Index Cumulative 4 weeks for the period 27th Feb to 25th March 2020



- Extremely/Severely wet conditions exist in Srikakulam district of Andhra Pradesh; Araria, Aurangabad, Banka, Bhabua, Bhagalpur, Bhojpur, East Champaran, West Champaran, Darbhanga, Gaya, Gopalganj, Jahanabad, Jamui, Katihar, Khagaria, Lakhisarai, Madhepura, Muzaffarpur, Nalanda, Nawada, Patna, Purnea, Rohtas, Sheikhpura, Siwan, Vaishali, Arwal districts of Bihar; Valsad, Gandhinagar, Navsari, ChhotaUdepur, Mahisagar, Junagarh, Porbandar, Botad, Gir Somnath districts of Gujarat; Ambala, Gurgaon, Hisar, Jind, Karnal, Mahendragarh, Mewat, Rohtak, Bhiwani, Faridabad, Kurukshetra, Sonapat, Yamuna Nagar, Kaithal, Panipat, Rewari, Fatehabad, Jhajjar, Palwal districts of Haryana; Bilaspur, Kangra, Hamirpur, Sirmaur, Solan, Una districts of Himachal Pradesh; Reasi, Udhampur districts of Jammu; Gulbarga, Bangalore Rural districts of Karnataka; Bhind, Gwalior, Morena, Shivpuri, Balaghat, Dindori, Panna, Shahdol, Umaria, Anuppur, Singrauli districts of West Madhya Pradesh; Mumbai Suburban, Beed districts of Maharashtra; Angul, Cuttack, Jharsuguda, Kalahandi, Kendrapara, Kandhamal, Sambalpur, Sundargarh districts of Orissa; Bhatinda, Ferozepur, Jalandhar, Kapurthala, Ludhiana, Patiala, Moga, Sangrur, Faridkot, Nawanshahar, Sas Nagar Mohali, Fatehgarh Sahib, TarnTaran, Barnala districts of Punjab; Churu, Sri Ganganagar, Jaisalmer, Alwar, Bharatpur, Jaipur, Jhunjhunu, Sikar, Dholpur districts of Rajasthan; Chandigarh, Diu; Allahabad, Ambedkar Nagar, Azamgarh, Bahraich, Barabanki, Basti, Faizabad, Farrukhabad, Gonda, Gorakhpur, Kannauj, Kanpur City, Kheri, Lucknow, Mirzapur, Siddharth Nagar, Sitapur, Sultanpur, Sonbhadra, Varanasi, Sahuji Maharaj Nagar, Sant Ravidas Nagar, Aligarh, Baghpat, Bareilly, Bijnor, Badaun, Bulandshahar, Kanshiram Nagar, Etah, Etawah, Firozabad, Hamirpur, Mahamaya Nagar, Mainpuri, Mathura, Moradabad, Muzaffarnagar, Pilibhit, Shahjahanpur, Saharanpur, Hapur, Sambhal, Shamli districts of Uttar Pradesh; Malda, Burdwan, Nadia districts of West Bengal; Bokaro, Chatra, Deoghar, Dhanbad, Dumka, Garhwa, Giridih, Gumla, Hazaribag, Koderma, Lohardaga, Palamu, Ranchi, East Singhbhum, West Singhbhum, Jamtara, Simdega, Latehar, Seraikela-Khar, Ramgarh, Khunti districts of Jharkhand; Hardwar, Nainital, Garhwal Pauri, Bageshwar districts of Uttarakhand; Bilaspur, Durg, Janjgir, Jashpur, Korba, Koriya, Raigarh, Raipur, Surguja, Balod, Baloda Bazaar, Balrampur, Bemetara, Surajpur districts of Chhattisgarh; New Delhi; Medak, Kamareddy districts of Telangana;
- Moderately dry conditions exists in East Siang, Lower Dibang Valley, Papumpara, Upper Subansiri districts of Arunachal Pradesh; Darrang, Kamrup, Nagaon, Dibrugarh, Jorhat, Karimganj, Tinsukia, Baksa districts of Assam; Leh districts of Ladakh; Imphal West districts of Manipur; East Khasi Hills districts of Meghalaya; Lunglei districts of Mizoram; Tuensang, Mon, Paren districts of Nagaland; Salem, Toothukudi districts of Tamilnadu; South Tripura district of Tripura.
- Extremely/Severely dry conditions exists in Changlang, Lohit districts of Arunachal Pradesh; Cachar, Goalpara, Karbi Anglong, Golaghat, Hailakandi districts of Assam; Aizwal, Champhai, Kolasib, Serchhip districts of Mizoram; North Tripura, Dhalai, West Tripura districts of Tripura; Nicobar district of Andaman & Nicobar Islands.
- Moderately wet to mildly dry conditions were experienced in remaining districts in the country.

Weather Forecast for next 5 days valid upto 0830 hours of 1st April, 2020

- ◆ Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.
- ◆ Gradual rise in maximum temperatures over East India and south peninsula by 2-3°C during next 2 days and no significant change in minimum and maximum temperatures over the rest of country during next 48 hours.

5 Day Rainfall Forecast (MID-DAY)

27th March 2020

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

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

Weather Warning during next 5 days

27 March (Day 1): ♦ **Thunderstorm accompanied with lightning & gusty wind** (speed reaching 30- 40 kmph) very likely at a few places with hailstorm at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Himachal Pradesh and Punjab. **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) at isolated places over Uttarkhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh; **with lightning & gusty wind** (speed reaching 30-40 kmph) very likely over Madhya Maharashtra, Marathwada and Vidarbha.

♦ **Heavy rainfall** very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan and Himachal Pradesh.

28 March (Day 2): ♦ **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) likely over Arunachal Pradesh, Vidarbha and with **lightning & gusty wind** (speed reaching 30-40 kmph) at isolated places over Assam & Meghalaya, Madhya Maharashtra and Marathawada and **with lightning** at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Uttarakhand, Himachal Pradesh, Nagaland and Sikkim.

29 March (Day 3): ♦ **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Madhya Maharashtra, Marathawada and Vidarbha; **with lightning & gusty wind** (speed reaching 30-40 kmph) over Madhya Pradesh, Arunachal Pradesh and with **lightning** at isolated places over Telangana, north Coastal Andhra Pradesh, Chhattisgarh and Odisha.

30 March (Day 4): ♦ **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Odisha, Marathwada; **with lightning & gusty wind** (speed reaching 30-40 kmph) over Madhya Maharashtra, Telangana, south Madhya Pradesh and with **lightning** at isolated places over Chhattisgarh, north Coastal Andhra Pradesh and Jammu & Kashmir, Ladakh, Gilgit-Baltistan.

31 March (Day 5): ♦ **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Himachal Pradesh; **with lightning & gusty wind** (speed reaching 30-40 kmph) over north Coastal Andhra Pradesh, Punjab and Haryana, Chandigarh & Delhi and with **lightning** at isolated places over Telangana, West Uttar Pradesh and Uttarakhand.

Weather Outlook for subsequent 2 days from 1st to 3rd April, 2020

- ♦ Fairly widespread to widespread rainfall/snowfall (with isolated heavy falls over Jammu & Kashmir) likely over Western Himalayan region. Isolated to scattered rain/thundershowers likely over northeast India and Isolated rainfall over adjoining plains of Western Himalayan region and southern peninsula.
- ♦ Weather is likely to be dry over rest of the country.

Salient advisories

➤ **Advisory for Desert Locust:**

In Arid Western Plain Zone of Rajasthan, where there is attack of desert locust in Bikaner and Jaisalmer districts, apply Chloropyriphos (50%) @ 1 ml/litre or (20%) @ 2.5 ml/litre of water in standing crops.

- As **Thunderstorm accompanied with lightning & gusty wind** (speed reaching 30-40 kmph) very likely at a few places with **hailstorm** at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Himachal Pradesh and Punjab on 27th; **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Uttarkhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, Rajasthan and Madhya Pradesh on 27th, over Arunachal Pradesh on 28th, over Vidarbha on 28th and 29th, over Madhya Maharashtra on 29th, over Marathwada on 29th & 30th, over Odisha on 30th and over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Himachal Pradesh on 31st; with **lightning & gusty wind** (speed reaching 30-40 kmph) very likely over Vidarbha on 27th, over Marathwada on 27th & 28th, over Madhya Maharashtra on 27th, 28th & 30th, over Assam & Meghalaya on 28th, over Madhya Pradesh and Arunachal Pradesh on 29th; over Telangana and south Madhya Pradesh on 30th and over north Coastal

Andhra Pradesh, Punjab and Haryana, Chandigarh & Delhi on 31st; with **lightning** at isolated places over Uttarakhand, Himachal Pradesh, Nagaland and Sikkim on 28th; over Jammu & Kashmir, Ladakh, Gilgit-Baltistan on 28th & 30th, over Odisha on 29th, over north Coastal Andhra Pradesh and Chhattisgarh on 29th & 30th, over Telangana on 29th & 31st and over West Uttar Pradesh and Uttarakhand on 31st, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.

- As **rain/thundershowers** likely at most places over Jammu Kashmir & Ladakh, Himachal Pradesh, Punjab, Haryana Chandigarh & Delhi, Uttarakhand and West Uttar Pradesh on 27th; at many places over East Uttar Pradesh and East Rajasthan on 27th, over Arunachal Pradesh on 28th and over Jammu Kashmir & Ladakh on 31st, along with **Heavy rainfall** very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan and Himachal Pradesh on 27th, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- Undertake the following operations:
 - sowing of cowpea in rice fallow in Southern Zone of Kerala.
 - nursery sowing of *Ahu* rice and land preparation/planting of turmeric and ginger in Upper Brahmaputra Zone of Assam.
 - sowing of sesame, summer moong, urd, banana, papaya, cucumber, guar, ridge gourd, okra, pumpkin, etc. in Odisha.
 - sowing of summer pearl millet, green gram and cowpea in Middle Gujarat.
 - preparation of field for the sowing of mung, urd and cucurbitaceous vegetables and transplanting of brinjal in Vindhya Plateau Zone of Madhya Pradesh.
 - sowing of okra and transplanting of tomato, brinjal and chilli in Sub-Tropical Zone of Jammu & Kashmir.
 - sowing of sunflower, green gram and black gram in Sub Montane and Low Hills Sub Tropical Zone of Himachal Pradesh.
 - sowing of maize, green gram and black gram In West Uttar Pradesh.
 - sowing of green gram in Eastern Zone of Haryana as well as Bhabhar and Tarai Zone of Uttarakhand.
 - sowing cluster bean, cowpea and green gram in Southern Humid Plain Zone of Rajasthan.

Detailed Agromet Advisories

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

Realised Rainfall: Significant rainfall occurred in Kalaburgi, Bengaluru Rural, Ramanagara districts of Karnataka; Idukki, Kollam, Kottayam, Pathanamthitta of Kerala; Sirkakulam, Visakhapatnam, Vizianagram of Andhra Pradesh, Y. Bhuvanagiri of Telangana. Weather remained dry/mainly dry over rest of the region.

Advisories

- As **Thunderstorm accompanied lightning & gusty wind** (speed reaching 30-40 kmph) very likely over Telangana on 30th and over north Coastal Andhra Pradesh 31st; with **lightning** at isolated places over north Coastal Andhra Pradesh on 29th & 30th and over Telangana on 29th & 31st, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.

Kerala

- In Southern Zone, go for sowing of cowpea in rice fallow.
- In High Altitude Zone, tapioca can be planted during this month. With the onset of rain, tapioca is planted in mounds. Irrigation can be done in alternate days during the initial period.
- In Problem Area Zone, weather is congenial for late sown crop attack of rice bug in paddy, spray fish Jaggery extract @6ml/Litre of water.
- In Southern Zone, infested nuts and leaves turn yellow and finally dry up. Remove and destroy all dried up inflorescence and unproductive buttons. Apply neem oil garlic emulsion on infected bunches.

Andhra Pradesh

- In Scarce Rainfall Zone, the prevailing weather conditions are favorable for incidence fruit fly in mango. Farmers are advised to keep Methyl Uzanol traps @ 6-7 /acre to trap the fruit fly
- In North Coastal Zone, weather is congenial for incidence of Banded sheath blight in maize which is at cob development stage. Spray hexaconazole @ 2 ml or propiconazole @ 1 ml per litre.
- In Krishna Godavari Zone, current seasonal conditions are congenial for incidence of sucking pest in sesame, spray Monocrotophos@ 1.6 ml or Dimethoate@ 2ml per liter of water. Undertake harvesting of pigeon pea and chick pea.
- In Nellore district of Southern Zone, before undertaking the sowings of paddy treat the seeds with Carbendizem @ 1 g/L of water.

Telangana

- In Southern Telangana Zone, prevailing weather conditions are congenial for incidence of Hoppers, Mealy Bugs and Scale Insects in Mango. To control, spray Dimethoate @ 2 ml per litre of water. To avoid fruit drop, spray 1% urea (10 g urea per litre of water) or Planofix @ 1 ml per 4.5 litre of water
- In North Telangana Zone, the prevailing weather conditions are favourable for Stemborer in paddy. To control, spray Cartap hydrochloride 50 S.P@ 2 gr. or Chlorantriliprole @ 0.3 ml per litre of water.

Tamil Nadu

- In Cauvery Delta Zone, in rice fallow black gram, spray DAP (2%) + KCl (1%) solution on morning or evening at flower initiation and another at 15 days interval. Alternatively “pulse wonder” at 5.0 kg/ha can be sprayed during flower initiation.
- In Western Zone, attack of rhinoceros beetle is being observed in coconut; remove the tree top debris and keep naphthalene balls @ 3 to 4 numbers per tree along with sand. Looking at the increase in maximum and minimum temperatures, coconut may be irrigated with 100 liters of water per day per tree through drip irrigation system.
- In North Western Zone, to induce the drought resistance in crops, farmers are requested to give foliar spraying with PPFM @10 ml / liter of water.

- In South Zone, weather is congenial for Top shoot borer in sugarcane. To control release *Isotima Javensis* at 100pairs/ha. Spray any one of the following insecticides, Carbofuran 3% G 33.3kg/ha.
- In Hilly Zone, undertake planting potato, use disease resistant varieties like Kufri Giridhari and Kufri Swarna.
- In High Rainfall Zone, undertake planting of pulses using Yellow Mosaic vein resistant varieties viz., Vamban 6 and Vamban 8 in the Rice fallow land.

Karnataka

- In North Interior Karnataka, complete harvesting of wheat, safflower, sorghum, Bengal gram, red gram and pigeon pea crops. Continue sowing of sunflower and watermelon. Carry out hand weeding in summer groundnut crop. For control of Blossom blight in mango, spray 2.0 gm Mancozeb 75 WP / litre of water. Due to prevailing weather infestation of leaf spot was noticed in summer groundnut; spray Hexaconazole or Difenoconazole @ 1.0 ml/litre of water.
- In South Interior Karnataka, undertake sowing of ginger/turmeric. Continue harvesting of pepper. Provide irrigation to mango orchard, as the fruits are in marble stage. To manage stem borer in rice, spray Manocrotophose @ 1 gm / litre of water or Chlorpyriphos @ 0.6 gm/litre of water .About 250-300 liter of spaying solution is required for one acre.
- In Coastal Karnataka, apply irrigation in the areca nut, coconut and pepper gardens. For control of Bud necrosis in water melon, remove and destroy infected plants and spray the crop with Imidacloprid @ 0.5 ml / litre or Dimethoate @ 1.5 ml per litre of water.

Animal Husbandry:

- In Tamilnadu, famers are advised to keep the floor of the animal habitation dry to avoid hoof infection and to prevent fly breeding.
- In Karnataka, vaccinate (ET vaccine) sheep and goats against Enterotoxemia. Proper ventilation should be maintained for free circulation of air in the sheds.

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

Realised Rainfall: Significant rainfall occurred in all districts except Tawang of Arunachal Pradesh; Kokrajhar of Assam; East Garo Hills and West Khasi Hills districts of Meghalaya; Wokha of Nagaland; Weather remained dry over the rest of the region.

- **Advisories:** As **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Arunachal Pradesh on 28th with **lightning & gusty wind** (speed reaching 30-40 kmph) very likely over Assam & Meghalaya on 28th and Arunachal Pradesh on 29th; with **lightning** at isolated places over Nagaland on 28th; provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.

Arunachal Pradesh

- In Arunachal Pradesh, continue harvesting of green pods of field pea at 4-5 days interval. Continue sowing of maize. Provide proper drainage in potato field.

Assam & Meghalaya

- In Hill Zone of Assam, undertake land preparation for sowing of direct seeded *Ahu* rice. Continue land preparation/ sowing of summer vegetables, green gram and black gram. Current weather condition is favourable for attack of stem borer in *Boro* rice; if eggs of the pests are noticed, apply ‘Darsban’ or Monocrotophos @ 2 tea spoon per 5 litre of water in the field.
- In Upper Brahmaputra Valley Zone, continue nursery sowing of *Ahu* rice and land preparation for planting of banana. Undertake land preparation/planting of turmeric and ginger. Maintain 5±2 cm depth of standing water in the *Boro* rice fields.
- In Lower Brahmaputra Valley Zone, continue sowing of summer vegetables. Apply Chloropyriphos 20 EC at the

concentration of 0.02% solution or Carbofuran 3G @ 4 kg/bigha against major insect pests like, Whorl maggot, Hispa, Stem borer etc. at the time of tillering stage of summer rice. Undertake sowing of jute.

- In Central Brahmaputra Valley Zone, continue harvesting of wheat, rapeseed/ mustard and potato. Continue sowing of Capsularis jute and summer vegetables like lady's finger, bottle guard, pumpkin, ridge guard, cucumber, etc. Continue land preparation for planting of ginger and turmeric.
- In North Bank Plain Zone, continue main field preparation for sowing of direct seeded *Ahu* rice and nursery bed preparation for transplanted early *Ahu* rice. Farmers of flood affected low lying areas are advised to collect suitable varieties of *Bao* rice as March-April is the ideal time for sowing. Continue planting of ginger and turmeric and sowing of summer green/black gram. .
- In Meghalaya, continue harvesting of matured pea pods as well as rapeseed/mustard in the morning. Undertake transplanting of 1 month old seedlings of cucurbits, brinjal, chilli, tomato and capsicum; irrigate immediately after transplanting. Undertake sowing of pumpkin and bottle gourd.

Manipur, Mizoram, Tripura and Nagaland

- In Manipur, continue transplanting of pre-kharif rice and maintain water level up to 5cm in transplanted rice. Undertake land preparation for sowing of groundnut.
- In Mizoram, undertake land preparation for sowing of Urd/ green gram and cowpea. harvesting of matured maize cobs.
- In Tripura, to manage the attack of yellow rice stem borer in Boro rice, maintain 4 to 5 cm water in field which kills larvae and pupae or apply Thiomethoxam 1ml per 10 litre of water, twice at 7 days interval. Apply light irrigation in the field of green gram, cow pea and maize.
- In Nagaland, continue land preparation for planting of ginger and sowing of okra, brinjal.

Animal Husbandry

- In Northeastern region, before the onset of monsoon, immunize the farm cattle against FMD (Foot & Mouth Disease), HS (Hemorrhagic Septicemia) and BQ (Black Quarter) disease after consultation with local veterinary doctor.

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

Realised Rainfall: Significant rainfall occurred in Nawada, Purnea districts of Bihar, Balasore, Bhadrak, Cuttack, Gajapati, Jagatsingpur, Jajpur, Kalahandi, Kendrapara, Mayurbhanj, Rayagada districts of Odisha; Nadia, 24 Pargana (N) in West Bengal, North Sikkim, South Dinajpur and South Sikkim districts of Sikkim. Weather remained dry/mainly dry over the rest of the region.

- As **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Odisha on 30th; with **lightning** at isolated places over Sikkim on 28th and over Odisha on 29th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.

Odisha

- Undertake sowing of sesame, summer moong, urd, banana, papaya, cucumber, guar, ridge gourd, okra, pumpkin, etc. Harvest winter vegetables and mature pods of green gram and black gram. Provide irrigation to sugarcane and onion crops. Transplanted paddy is at late tillering to soft dough (6 - 10 week) stage in main field; monitor for stem borer infestation; spray 80ml Chlorantraniliprole 18.5% SC @ 0.4ml/litre water or 400g or Cartap Hydrochloride 50% SP @ 2g/litre water per acre for its control.

Bihar

- Irrigate maize crop. Avoid irrigation to mango and citrus fruit plants during flowering stage for good fruit setting. Monitor mango for mealy bugs and leaf hoppers. Monitor vegetable crops for aphids and onion crop for thrips; to control, spray Imidacloprid @ 0.25 to 0.5 ml per litre of water.

Jharkhand

- Irrigate linseed, summer moong and summer urd crops. Harvest chickpea, pigeon pea and mustard crops. When leaves and stems of wheat crop start drying and become yellowish brown due to rise in temperature, harvest the crop and store the grains after sun drying. To manage stem borer in summer paddy at maximum tillering and panicle initiation stage, release eggs of parasitoid *Trichogramma japonicum* thrice at weekly interval followed by the release of *Trichogramma chilonics* at 35, 45 and 50 DAT or apply Carbofuran @ 12 kg or Ferterra @ 4 kg or Cartap @ 8 kg per acer.

West Bengal

- In Sub-Himalayan West Bengal, complete sowing of maize crop. Irrigate cardamom and mustard as per the requirement. Carry out harvesting of matured tubers of potato. Prepare land for ginger and turmeric cultivation. Spray Fipronil 1.5mg/ litre of water to control the infestation of stem borer in Boro paddy at vegetative stage.
- In Gangetic West Bengal, maintain proper water level in Boro paddy field, arrange proper solarisation within the row by stirring the plants after each 2 rows. Harvest sunflower, sun dry it and carry out threshing. Spray Profenofos @ 1.5ml/litre of water during evening time to control leaf eating caterpillar in green gram at vegetative stage.

Andaman & Nicobar Islands

- Remove and burn the plants showing viral infection such as leaf curling, yellowing and mosaic in bhendi, chilli and cucumber. Carry out land shaping activity and perform repair works of pond and BBF. Carry out soil application of 2.5 kg *Trichoderma viridae* mixed with 12.5 tones farmyard manure in 1 ha of coconut palm.

Animal Husbandry

- Feed 50-60 grams of mineral mixture to pregnant animals every day to boost their immunity.

Fishery

- In Andaman & Nicobar Islands, feed the Indian major carp with rice bran and ground nut oil cake at 1:1 ratio at the rate of 5 % of body weight.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Weather remained dry/mainly dry over the region.

- As **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Vidarbha on 28th and 29th, over Madhya Maharashtra on 29th, over Marathwada on 29th & 30th, with **lightning & gusty wind** (speed reaching 30-40 kmph) very likely over Vidarbha on 27th, over Marathwada on 27th & 28th and over Madhya Maharashtra on 27th, 28th & 30th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.

Maharashtra

- In Konkan, apply 3rd dose of nitrogen @ Urea 43 kg/ ha to rice (flowering stage), apply irrigation to groundnut, orchards and vegetables, to control anthracnose in cashewnut, spray 0.2% Mancozeb @ 20 g per 10 litre of water.
- In Madhya Maharashtra, undertake sowing fodder crops like sorghum, pearl millet, maize with assured irrigation facilities. To control thrips in onion, spray Dimethoate 30% @ 15 ml or Lambdacyhalothrin 5% @ 6 ml per 10 litres of water. Undertake harvesting of cashew. Keep the harvested produce in safer place. Provide mechanical support young mango saplings.
- In Marathwada, harvest matured safflower, wheat, grapes, muskmelon and watermelon as early as possible. Keep the harvested produce in safer place. Undertake pruning in pomegranate orchards and then spray of Carbendazim @ 10 g per 10 liter of water.
- In Vidarbha, harvest matured wheat as early as possible. To control stem borer in rice, spray Acephate 75% WP @ 20 g or Quinalphos @ 32 ml in 10 liters of water.

Gujarat:

- In Middle Gujarat, undertake sowing of summer pearl millet, green gram and cowpea. Complete harvesting and threshing of wheat crop. Carry out de-navelling practices for better growth of banana fruits.
- In South Gujarat, continue nursery preparation for summer rice, brinjal, chilli and planting of sugarcane.

For higher flowering in mango, foliar spray of 0.5 % urea solution is advised.

- In North Gujarat, complete harvesting matured wheat, castor crops and keep harvested produce at safer places. Undertake sowing of groundnut, pearl millet, sesame, green gram, cowpea crops and muskmelon. Harvest the matured fruits of papaya.
- In Saurashtra and Kutch, complete sowing of groundnut, sesame, green gram, black gram and vegetable crops. In brinjal and tomato, constant monitoring of borers by using pheromone 4-6 traps /acre is advised; if insect population is above ETL spray Chlorantraniliprole 18.5 % SC 3.0 ml or DDVP 7 ml/10 litres of water against fruit borer.

Animal Husbandry:

- In Gujarat, for prevention of New castle disease/Ranikhet disease, do vaccination in poultry. Keep animals under shade during noon hours. Make arrangement of curtains for poultry house.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Weather remained dry/mainly dry over the rest of the region.

- **Advisories:** As **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Madhya Pradesh on 27th; with **lightning & gusty wind** (speed reaching 30-40 kmph) very likely over Madhya Pradesh on 29th and over south Madhya Pradesh on 30th; with **lightning** at isolated places over Chhattisgarh on 29th & 30th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.

Madhya Pradesh

- In Malwa Plateau Zone, carry out harvesting of wheat crop at physiological maturity or at 10-12 % grain humidity. Harvest chickpea crop and store safely. Harvest mustard crop in a timely manner because in the type of weather there may be loss of seeds due to the crackling of the pods; store at a safe place. Undertake sowing of summer seasons vegetables like lady finger, cluster bean, chilli, tomato, etc.
- In the Keymore Plateau Zone, irrigate wheat crop at critical stages like flowering and grain development as per requirement. Prepare field and sow okra, barwati, beans, french beans, etc. after seed treatment with fungicide Bavistin or SAAF at the rate of 2 g per kg seeds.
- In Vindhya Plateau Zone, prepare field for the sowing of mung, urd and cucurbitaceous vegetables. Continue transplanting of brinjal. Carry out gap filling in mango orchards with new plants. Irrigate late sown or long duration wheat crops. Carry out harvesting of matured wheat crop and other standing rabi crops.
- In Nimar Valley Zone, continue sowing of green gram and black gram after seed treatment with crop specific Rhizobium culture as well as phosphorus solubilising bacteria (PSB). Apply 10-15 gram urea/plant in cucurbitaceous crop which are 20-25 days old. Avoid irrigation mango and lemon plants at flowering stage; monitor for mealy bugs and mango hoppers.

Chhattisgarh

- In Northern Hill Zone, undertake harvesting, drying and threshing of the crops like wheat, gram, lathyrus, linseed, lentil and mustard crops which was turned wet from the rain; keep clean and healthy seed for sowing for next year. Ploughing the field and keep it ready for summer crops like sesamum, green gram, black gram and vegetables. Irrigate banana and papaya seedlings once a week and irrigation time should be more in the drip system. Complete planting of sugarcane after treating sugarcane sets with fungicide like Agallol.
- In Bastar Plateau Zone, timely sown/early duration wheat crop is ready for harvest; after harvesting, store the grains at 12% moisture for longer storage life. Cut the portion of potato crop above ground 1 to 2 weeks prior to digging out tubers; this practice increases the quality of potato. In case of infestation of sucking insects in moong and other crops, spray Imidachloprid @ 0.3 ml per litre of water in the afternoon hours. Spray Rynaxypyr (Fertera) @ 10 kg/ha. or Kartap @ 20 kg/ha for the control of stem borer attack in summer rice crop.

Animal Husbandry

- Provide green fodder and clean fresh water to cattle twice a day.

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

Realised Rainfall : Significant rainfall occurred in Bandipore, Baramula, Kupwara, Rajouri, Ramban in Jammu and Kashmir, Kullu district of Himachal Pradesh, Garhwal Tehri, Rudraprayag districts in Uttarakhand. Weather remained dry/mainly dry over the region.

- **Advisories:** As **Thunderstorm accompanied with lightning & gusty wind** (speed reaching 30-40 kmph) very likely at a few places with **hailstorm** at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Himachal Pradesh and Punjab on 27th; **Thunderstorm accompanied with lightning, hail & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Uttarkhand, Haryana, Chandigarh & Delhi, Uttar Pradesh and Rajasthan on 27th and over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Himachal Pradesh on 31st; with **lightning & gusty wind** (speed reaching 30-40 kmph) very likely over Punjab and Haryana, Chandigarh & Delhi on 31st; with **lightning** at isolated places over Uttarakhand and Himachal Pradesh on 28th; over Jammu & Kashmir, Ladakh, Gilgit-Baltistan on 28th & 30th and over West Uttar Pradesh and Uttarakhand on 31st, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely at most places over Jammu Kashmir & Ladakh, Himachal Pradesh, Punjab, Haryana Chandigarh & Delhi, Uttarakhand and West Uttar Pradesh on 27th; at many places over East Uttar Pradesh and East Rajasthan on 27th, over Arunachal Pradesh on 28th and over Jammu Kashmir & Ladakh on 31st, along with **Heavy rainfall** very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan and Himachal Pradesh on 27th, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

Jammu & Kashmir

- In Cold Arid Zone, undertake nursery sowing of vegetables like tomato, brinjal, chilli and capsicum. Undertake sowing of onion. Carry out pruning of fruit plants.
- In Valley Temperate Zone, carry out weeding followed by hoeing operation in wheat, oats, lentil, pea and chickpea. Undertake weeding in vegetables.
- In Sub-Tropical Zone, undertake transplanting of tomato, brinjal and chilli. Undertake sowing of okra. To control loose smut in wheat, rogue out affected plants and destroy by burning or deep burying under soil to avoid further dispersal. Spray Imidacloprid @ 0.5ml/litre of water to control aphids in mustard. Install bird perch stands in gram fields or collect the caterpillars of heliothis and kill them manually.
- In Intermediate Zone, when diameter of onion bulb has attained size of 5 to 8 cm, stop irrigation to avoid rotting of bulb. Undertake transplanting of cucurbits and solanaceous vegetables. Weather conditions are congenial for the attack of white rust and/ or downy mildew in mustard crop. If observed, apply Mancozeb @ 0.2% or Copper Oxychloride 50% @ 0.3%. Monitor the *rabi* pulses for wilt and blight incidence. If symptoms observed, drench the affected spots with Carbendazim @ 1 gm / litre of water during clear weather conditions.

Himachal Pradesh

- In High Hill Temperate Dry Zone, carry out grafting in apple nursery.
- In Sub Montane and Low Hills Sub Tropical Zone, continue sowing of green gram and black gram. Undertake sowing of sunflower. Continue sowing of okra, French bean, cluster bean and summer raddish. To control shoot and fruit borer in brinjal and tomato crops, infested fruits and shoots should be collected and buried inside the soil. Also install pheromone trap @ 25 per hectare. If the pest population is high, spray Spinosad 48 EC @ 1 ml /4 litres of water when the sky is clear. To control attack of thrips in onion crop, spray Carbaryl @ 2 g per litre of water with sticky material (Tipol 1.0 g /litre).

- In Mid Hills Sub Humid Zone, complete sowing of bitter gourd, cucumber, pumpkin and other gourd crops. Continue nursery sowing of tomato, capsicum and red chilli.
- In Mild Hills Sub Humid Zone, spray Bordeaux mixture (2 kg white wash + 2 kg Copper Carbonate in 200 litres of water) on pear trees immediately after pruning to prevent from fungal infection at the cut ends. Apply chaubatia paste at the cut ends of pruned apple trees to prevent them from fungal infections.
- In Western Zone of Punjab, monitor the crop fields for infestation of disease/insect-pest and take appropriate measures. Weather is favourable for incidence of army worm in wheat crop; spray 400 ml of Ekalux 25 EC using 80-100 litres of water. Monitor wheat crop for appearance of yellow rust; if noticed, spray Caviet @ 200g or Opera or Tilt or Shine @ 200 ml in 200 litres of water per acre on a clear day. Monitor mustard crop as prevailing weather is favourable for spread and development of white rust; spray Ridomil Gold @ 250g in 100 litres of water per acre on a clear day.
- In Undulating Plain Zone of Punjab, plan irrigation and spray in different crops as per weather. Remove excess water from the fields of bengal gram, maize and lentil. Regularly monitor the wheat crop for yellow rust to detect the initial foci of infection; carry out spot application surrounding the infected area with 0.1% Caviet / Opera / Tilt / Shine / Bhumper / Markzole / Stilt / Compass.
- In Central Plain Zone of Punjab, weather, regularly monitor wheat crop for yellow rust to detect the initial foci of infection; carry out spot application surrounding the infected area with 0.1% Caviet/Opera/Tilt /Shine /Bhumper/Markzole/Stilt/Compass.
- In Central Plain Zone of Punjab, prevailing weather is favourable for spread and development of white rust in rapeseed and oil seeds; spray Ridomil Gold @ 250g in 100 litres of water per acre. If needed, repeat the spray after 20 days interval on a clear day.
- In Western Zone of Haryana, considering the possibility of variable weather and rainfall, undertake harvesting of matured mustard crop and keep at safe place. Withhold application of irrigation and chemical spray in wheat, barley and chickpea crops. Monitor for pod borer insect in chick pea and yellow rust in wheat and barley crops.
- In Eastern Zone of Haryana, harvest the mustard crop immediately and sugarcane. A void irrigation and spraying in the crops. Undertake sowing of green gram. Install pheromone trap @ 2-3 traps per acre in tomato field for monitoring the fruit borer. If pest population is high, spraying of Bt. 1.0 gram/litre of water is advised. After 15 days if pest population is more than ETL, farmers are advised to spray Spinosad 48 EC @ 1 ml. /4 litres of water. In present weather condition, monitor constantly timely sown seed onion crop against attack of thrips. Constant monitoring of mango mealy bug and leaf hopper are advised in mango. Possibility of appearance of yellow rust disease in wheat; regularly monitor the crop; if symptom observed spray 200 ml Propiconazole 25% EC in 200 litre water per acre on clear day.
- In Delhi, keep harvested crop produce in safe places. Do not irrigate and spray standing crops and vegetables. Undertake sowing of green gram. Present temperature is suitable for incidence of powdery mildew disease in cucurbitaceous crops and late pea. If symptoms are found, spray Carbendazim @ 1.0 gram per litre of water. In present weather condition, monitor timely sown seed onion crop against attack of thrips. Installation of bird perches in tomato, pea, brinjal and gram crops is advised to control fruit borer insect. For monitoring the fruit borer install pheromone trap @ 2-3 traps per acre and spray Spinosad 48 EC @ 1 ml. /4 litres of water when sky is clear. Monitor vegetables crops against attack of aphid, spray Imidacloprid @ 0.25 ml per litre of water when sky is clear. Constant monitoring of mango mealy bug and leaf hopper are advised in mango.

Uttar Pradesh:

- In East Uttar Pradesh, continue harvesting mature mustard crop. Continue sowing of green gram, fodder maize, amaranthus, vegetable lobia, French bean and cow pea. Prepare nursery for tomato crops. Use the T-shape puppet for protecting the tomato crops by birds pod borer and fruit borer insects. To control attack of thrips, and infection of purple blotch, spray Dithane M-45 @ 2 grams per litre of water with sticky material (Tipol 1.0 gram /litre) on onion.
- In West Uttar Pradesh, continue sowing of maize, green gram and black gram. Continue harvesting of mustard crop in clear weather when 70% of siliqua turn golden yellow in colour. Undertake harvesting of mature crops of field pea. There is a possibility of outbreaks of pod borer insects in the bengal gram, chick

pea and field pea crop; spray Quinalphos 25 EC@ 2 liters per hectare in 500 to 600 liters of water on a clear day. Also spray Phenylrothian solution in 1.0 ml / litre water to prevent outbreak of midge insect in mango.

Uttarakhand

- In Sub Humid Sub Tropic Zone, avoid irrigation in wheat field. Continue planting of sugarcane. Continue threshing in mustard crop. Continue harvesting of potato.
- In Bhabar and Tarai Zone, continue sowing of green gram. Continue transplanting of tomato. Continue plucking of pea pods. Undertake transplanting of chilli. Complete harvesting of mustard crop.
- In Hill Zone, undertake sowing of potato. Continue transplanting of tomato. Undertake threshing of matured mustard crop. Carry out hoeing and weeding in vegetable pea. Spray Cypermethrin @ 0.5ml/litre of water, if thrips appear on onion. Apply second dose after 10-12 days. Prevailing weather condition is congenial for yellow rust disease over wheat; if seen on leaves, spray Propiconazole @ 1ml/litre of water on a non rainy day. If powdery mildew appears, spray Dinocap or Propiconazole @ 1ml/litre of water.

Rajasthan

- In Southern Humid Plain Zone, start sowing cluster bean, cowpea and green gram.
- In Arid Western Plain Zone, isabgol, mustard, cumin and barley crops are at physiological maturity stage; carry out harvesting. Undertake transplanting of tomato.
- In Flood Prone Eastern Plain Zone, harvest wheat crop and continue threshing operations.
- In Southern Humid Plain Zone, start harvesting of gram, sowing of maize, summer moong and okhra.
- In Hyper arid Partial irrigated zone, weather is congenial for attack of wilt in cumin, drench Carbendazim 2.0 ml/lit in rows of crops.

Animal Husbandry:

- In West Uttar Pradesh, cattle sheds should be kept dry as far as possible. Keep goat in dry and shaded place and provide green fodder, fresh and clean water three times in a day. Cattle and poultry shed must be properly ventilated and provide clean drinking water 3- 4 times in a day.

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