



# *National Agromet Advisory Service Bulletin*

*Friday 6<sup>th</sup> March 2020*

*(For the period 6<sup>th</sup> to 10<sup>th</sup> March 2020)*



*Issued by*

*India Meteorological Department*

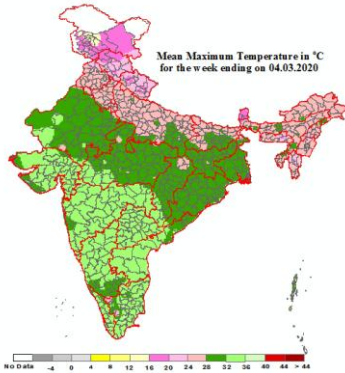
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District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>

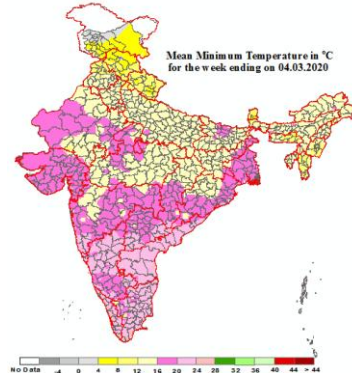
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

## Spatial distribution of weather parameters for the week ending on 04.03.2020

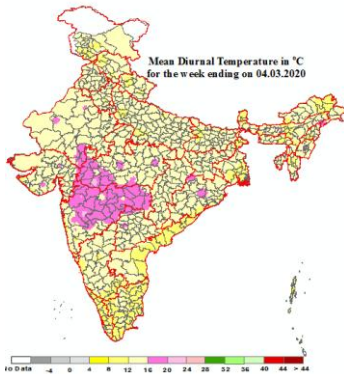
**Mean Maximum Temperature (°C) for the week ending on 04.03.2020**



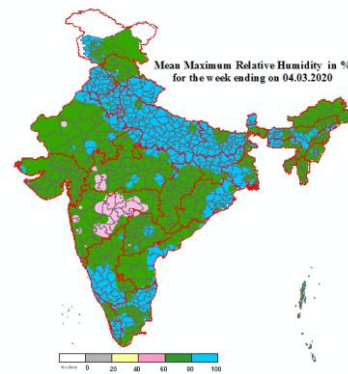
**Mean Minimum Temperature (°C) for the week ending on 04.03.2020**



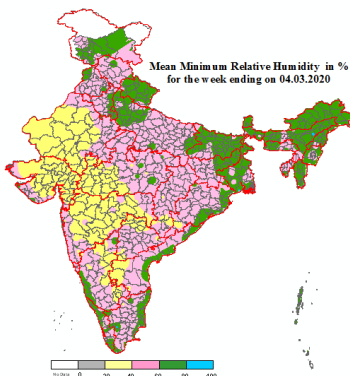
**Mean Diurnal Temperature Variation (°C) for the week ending on 04.03.2020**



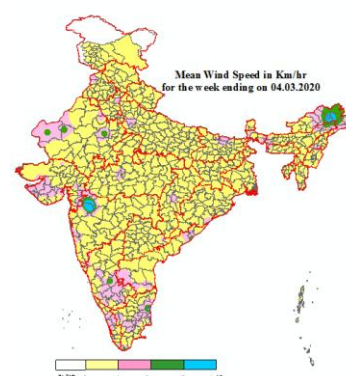
**Mean Maximum Relative Humidity (%) for the week ending on 04.03.2020**



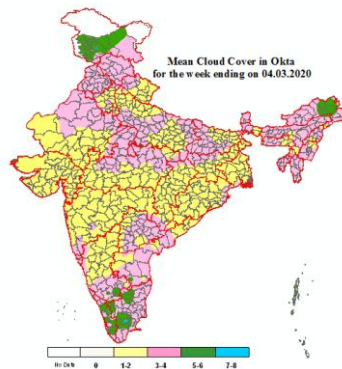
**Mean Minimum Relative Humidity (%) for the week ending on 04.03.2020**

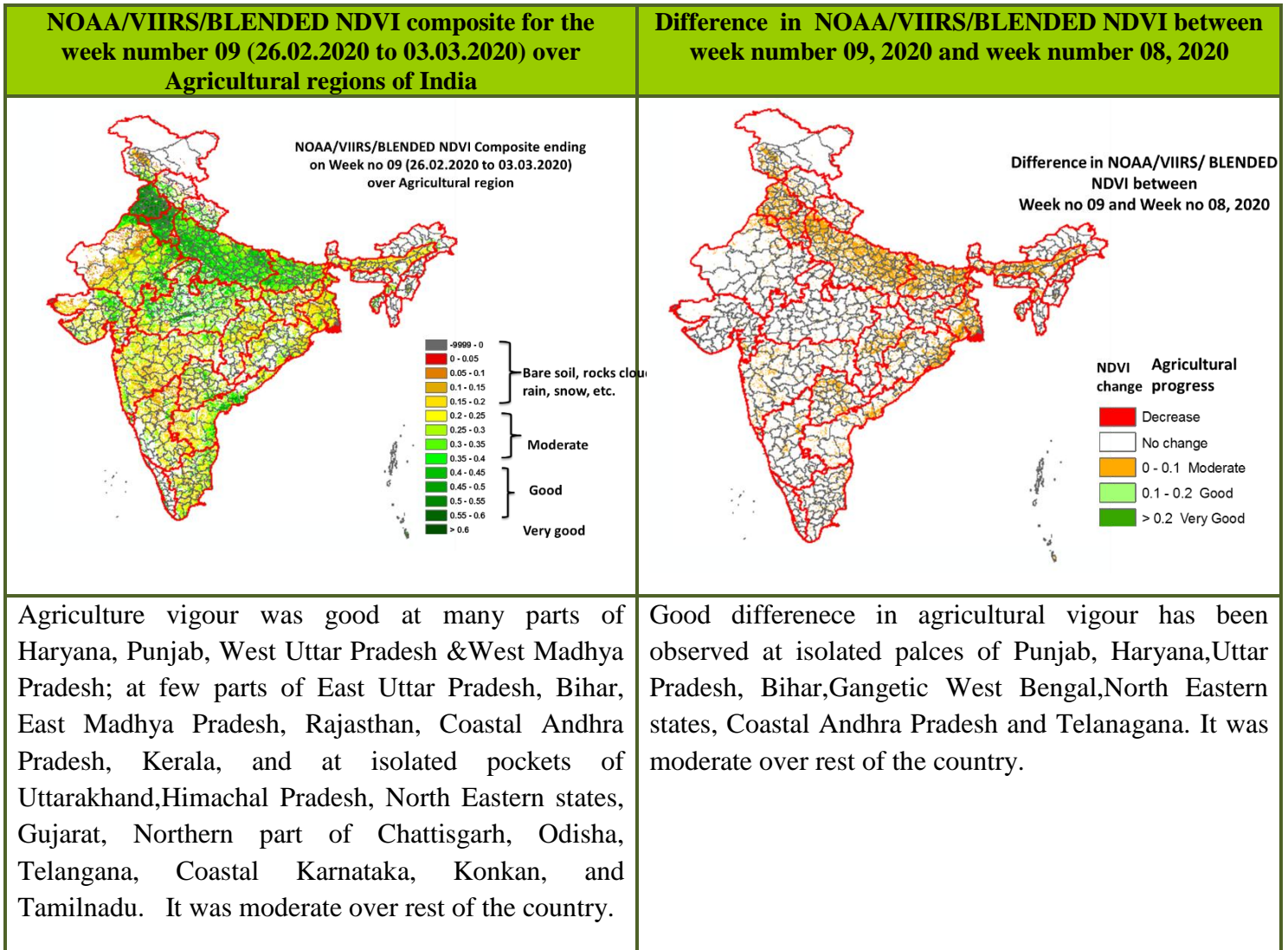


**Mean Wind Speed (km/hr) for the week ending on 04.03.2020**



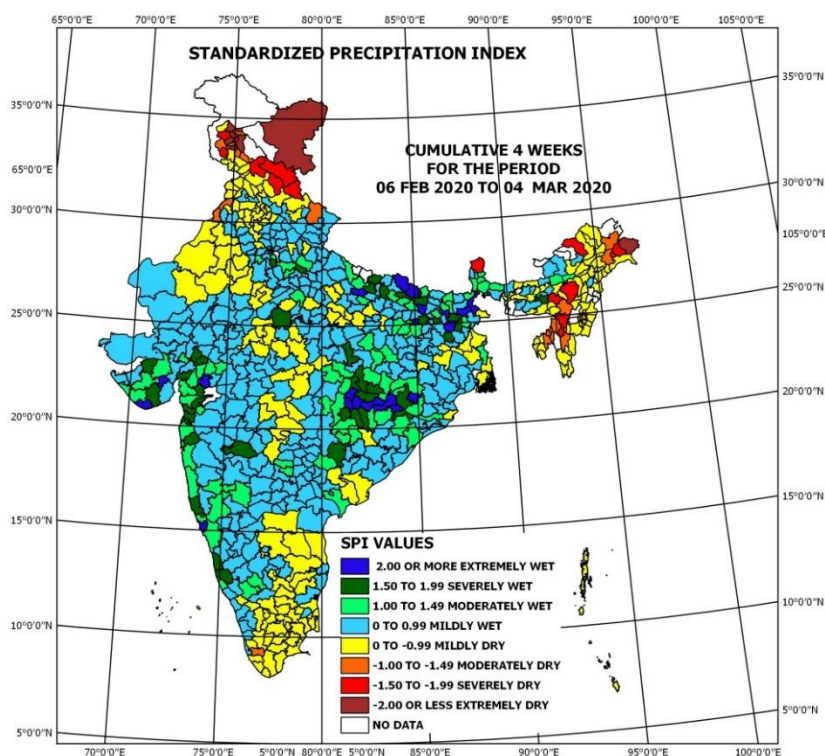
**Mean Cloud Cover (okta) for the week ending on 04.03.2020**





## Standardised Precipitation Index Cumulative 4 weeks for the period 6<sup>th</sup> Feb. to 4<sup>th</sup> March 2020

MINISTRY OF EARTH SCIENCES  
INDIA METEOROLOGICAL DEPARTMENT  
HYDROMET SECTION, CRS PUNE



- Extremely/Severely wet conditions exist in Banka, Bhagalpur, East Champaran, West Champaran, Gopalganj, Jahanabad, Katihar, Khagaria, Lakhisarai, Muzaffarpur, Nalanda, Sheohar, Vaishali districts of Bihar; Valsad, Anand, Narmada, Navsari, Tapi, Aravalli, Chhota Udepur, Mahisagar, Amreli, Botad, Gir Somnath, Morbi districts of Gujarat; Palwal district of Haryana; Dakshin Kannada, Udupi districts of Karnataka; Shivpuri, Shahdol districts of West Madhya Pradesh; Thane, Sindhudurg, Beed districts of Maharashtra; Ri-Bhoi district of Meghalaya; Bargarh, Boudhgarh, Deogarh, Sambalpur, Sonapur districts of Orissa; Diu district of Union Territory; Basti, Faizabad, Gorakhpur, Siddharth Nagar, Kanshiram Nagar districts of Uttar Pradesh; North Dinajpur district of West Bengal; Deoghar, Godda districts of Jharkhand; Bilaspur, Dhamtari, Durg, Janjgir, Mahasamund, Raipur, Bijapur, Balod, Baloda Bazaar, Bemetara, Gariabund, Mungeli districts of Chhatisgarh; South Goa district of Goa.
- Moderately dry conditions exist in Lower Dibang Valley district of Arunachal Pradesh; N. C. Hills, Karimganj, Tinsukia, Hailakandi districts of Assam; Doda, Poonch, Ramban, Shopian, Ganderwal districts of Jammu; Pathanamthitta district of Kerala; Imphal West district of Manipur; Aizwal district of Mizoram; Ferozepur district of Punjab; North Tripura, Dhalai districts of Tripura; Chamoli district of Uttarakhand.
- Extremely/Severely dry conditions exist Anjaw, Lohit, Upper Subansiri districts of Arunachal Pradesh; Cachar, Karbi Anglong districts of Assam; Chamba, Kinnaur, Kullu, Lahaul & Spiti districts of Himachal Pradesh; Anantnag, Baramula, Badgam, Pulwama, Srinagar, Bandipore, Kulgam, Rajouri districts of Jammu; Leh district of Union Territory Ladakh; Kolasib district of Mizoram; North Sikkim district of Sikkim.
- 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 11<sup>th</sup> March, 2020

- Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.
- No significant change in minimum and maximum temperatures over most parts of the country during next 2-3 days.

### 5 Day Rainfall Forecast (MID-DAY)

6<sup>th</sup> March 2020

Met-Sub-Division	06-Mar Today	07Mar Sat	08Mar Sun	09Mar Mon	10Mar Tue
1. Andaman & Nicobar Islands	ISOL	DRY	DRY	DRY	DRY
2. Arunachal Pradesh	FWS	FWS	SCT	ISOL	ISOL
3. Assam & Meghalaya	SCT	SCT	ISOL	ISOL	DRY
4. N. M. M. & T.	SCT	SCT	ISOL	ISOL	DRY
5. S.H. West Bengal & Sikkim	FWS	FWS	ISOL	ISOL	ISOL
6. Gangetic West Bengal	FWS	FWS	ISOL	DRY	ISOL
7. Odisha	FWS	FWS	ISOL	DRY	ISOL
8. Jharkhand	FWS	SCT	DRY	DRY	SCT
9. Bihar	SCT	SCT	DRY	DRY	ISOL
10. East Uttar Pradesh	WS	SCT	DRY	DRY	ISOL
11. West Uttar Pradesh	WS	ISOL	DRY	DRY	ISOL
12. Uttarakhand	WS	FWS	DRY	DRY	ISOL
13. Haryana, Chd & Delhi	WS	SCT	DRY	DRY	ISOL
14. Punjab	WS	ISOL	DRY	DRY	ISOL
15. Himachal Pradesh	WS	FWS	DRY	DRY	ISOL
16. J & K and Ladakh	WS	WS	SCT	ISOL	ISOL
17. West Rajsthan	SCT	DRY	DRY	DRY	ISOL
18. East Rajasthan	SCT	ISOL	DRY	DRY	ISOL
19. West Madhya Pradesh	ISOL	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	ISOL	ISOL	DRY	ISOL	ISOL
21. Gujarat Region	ISOL	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	ISOL	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	DRY	DRY	DRY	DRY	DRY
25. Marathwada	DRY	DRY	DRY	ISOL	DRY
26. Vidharbha	ISOL	DRY	DRY	ISOL	ISOL
27. Chhattisgarh	SCT	ISOL	DRY	DRY	SCT
28. Coastal A. P. & Yanam	SCT	SCT	ISOL	ISOL	ISOL
29. Telangana	ISOL	ISOL	ISOL	DRY	DRY
30. Rayalaseema	ISOL	ISOL	ISOL	DRY	DRY
31. T.N.,Puducherry & Karaikal	ISOL	ISOL	ISOL	DRY	DRY
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 & Mahe	ISOL	ISOL	ISOL	ISOL	DRY
36. Lakshadweep	SCT	DRY	DRY	DRY	DRY

#### % Station Reporting Rainfall

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

## Weather Warning during next 5 days

### 06 March (Day 1):

- **Thunderstorm accompanied with lightning, Hail & gusty wind** (speed reaching 30-40 kmph) very likely at isolated places over West Uttar Pradesh, Uttarakhand, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya; **with lightning & hail** at isolated places over Rajasthan and Nagaland, Manipur, Mizoram & Tripura; **with lightning & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, East Uttar Pradesh, Jharkhand, Gangetic West Bengal and Odisha and **with lightning** at isolated places over Jammu & Kashmir, Ladakh, Gilgit- Baltistan, Arunachal Pradesh, Coastal Andhra Pradesh & Yanam, Telangana and Rayalaseema.
- **Heavy Rain/Snow** very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Himachal Pradesh and Uttarakhand. **Heavy Rain** at isolated places over Punjab, Haryana, Chandigarh & Delhi and Odisha.

### 07 March (Day 2):

- **Thunderstorm accompanied with lightning & hail** very likely at isolated places over Uttarakhand; **with lightning & gusty wind** (speed reaching 30-40 kmph) at isolated places over Jharkhand, West Bengal & Sikkim, Odisha and Assam & Meghalaya and **with lightning** likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Himachal Pradesh, East Madhya Pradesh, Chhattisgarh, Bihar, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam and Telangana.
- **Heavy Rain/Snow** very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan.

**08 March (Day 3): Thunderstorm accompanied with lightning** likely at isolated places over Assam & Meghalaya.

**09 March (Day 4): Thunderstorm accompanied with lightning** likely at isolated places over Vidarbha.

**10 March (Day 5): Thunderstorm accompanied with lightning, Hail & gusty wind** (speed reaching 30-40 kmph) very likely at isolated places over Vidarbha; **with lightning & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over East Madhya Pradesh, Jharkhand and Gangetic West Bengal and **with lightning** at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Himachal Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, Chhattisgarh and Odisha.

## Weather Outlook for subsequent 2 days from 11<sup>th</sup> to 13<sup>th</sup> March, 2020

- Scattered to fairly widespread rain/snowfall likely over Western Himalayan Region and rainfall likely over northwest and east India; Isolated to scattered rainfall likely over northeast India and Kerala & Lakshadweep.
- Weather likely to be mainly dry over rest of the country.

## Salient advisories

### ➤ Advisory for Desert Locust:

- In Arid Western Plain Zone of Rajasthan, where there is attack of locusts 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, hail & gusty wind** (speed reaching 30-40 kmph) very likely at isolated places over West Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, Bihar, Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya on 6<sup>th</sup> and over Vidarbha on 6<sup>th</sup> and 10<sup>th</sup>; **lightning & hail** at isolated places over Rajasthan and Nagaland, Manipur, Mizoram & Tripura on 6<sup>th</sup> and over Uttarakhand on 7<sup>th</sup>; **lightning & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, East Uttar Pradesh on 6<sup>th</sup>

over Odisha on 6<sup>th</sup> & 7<sup>th</sup>, over Gangetic West Bengal on 6<sup>th</sup> & 10<sup>th</sup>, over Jharkhand on 6<sup>th</sup>, 7<sup>th</sup> & 10<sup>th</sup>, over West Bengal & Sikkim and Assam & Meghalaya on 7<sup>th</sup> and over East Madhya Pradesh on 10<sup>th</sup>, **lightning** at isolated places over Rayalaseema on 6<sup>th</sup>, over Arunachal Pradesh, Coastal Andhra Pradesh & Yanam and Telangana on 6<sup>th</sup> & 7<sup>th</sup>, over Jammu & Kashmir, Ladakh, Gilgit- Baltistan on 8<sup>th</sup>, 7<sup>th</sup>, & 10<sup>th</sup>, over East Madhya Pradesh, Bihar and Nagaland, Manipur, Mizoram & Tripura on 7<sup>th</sup>, over Himachal Pradesh and Chhattisgarh on 7<sup>th</sup> & 10<sup>th</sup>, over Assam & Meghalaya on 8<sup>th</sup>, over Vidarbha on 9<sup>th</sup> and over Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh and Odisha on 10<sup>th</sup>, 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 Uttarakhand, Uttar Pradesh, Punjab, Haryana, Chandigarh & Delhi and Himachal Pradesh on 6<sup>th</sup> and over Jammu & Kashmir on 6<sup>th</sup> and 7<sup>th</sup> and at many places over Jharkhand on 6<sup>th</sup>, over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, West Bengal & Sikkim and Odisha on 6<sup>th</sup> & 7<sup>th</sup> and over Uttarakhand and Himachal Pradesh on 7<sup>th</sup> along with **Heavy Rain/Snow** very likely at isolated places over Himachal Pradesh and Uttarakhand on 6<sup>th</sup> and over Jammu & Kashmir, Ladakh, Gilgit-Baltistan on 6<sup>th</sup> & 7<sup>th</sup> and **Heavy Rain** at isolated places over Punjab, Haryana, Chandigarh & Delhi and Odisha on 6<sup>th</sup>, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- Undertake sowing/ transplanting of following crops:
  - Continue planting of pepper in High Altitude Zone of Kerala.
  - Undertake sowing of summer groundnut in Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan.
  - Continue land preparation for sowing of green gram and black gram in Assam.
  - Undertake land preparation for sowing of cow pea, black gram and green gram in Tripura.
  - Underatke sowing of summer maize in Odisha.
  - Continue sowing of summer groundnut, sesame and gram as well as planting of brinjal, lady finger, ridge gourd, bottle gourd, sponge gourd, bitter gourd, cluster bean and water melon in Saurashtra.
  - Prepare field for the sowing of *mung*, *urd* and cucurbitaceous vegetables and continue transplanting of brinjal in Vindhya Plateau Zone of Madhya Pradesh.
  - Undertake sowing of summer moong in Chhattisgarh.
  - Continue sowing of sunflower in Sub Montane and Low Hills Sub Tropical Zone of Himachal Pradesh.
  - Undertake nursery sowing of cucurbits in polyhouses in Cold Arid Zone of Jammu & Kashmir.
  - Undertake nursery preparation for chilli, tomato and brinjal, sowing of okra (bhindi) in East Uttar Pradesh. Continue sowing of maize and black gram in West Uttar Pradesh.

### *Detailed Agromet Advisories*

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

**Realised Rainfall:** Significant rainfall occurred in Alappuzha in Kerala, in Dakshin Kannada district of Karnataka. Weather remained dry/mainly dry over rest of the region.

**Advisories:**

- As **Thunderstorm accompanied with lightning** at isolated places over Rayalaseema on 6<sup>th</sup>, over Coastal Andhra Pradesh & Yanam and Telangana on 6<sup>th</sup> & 7<sup>th</sup>, 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 Problem Area Zone, Irrigate coconut garden as coconut trees produce nuts round the year; adequate supply of water is essential for the absorption of nutrients and proper growth. Soil moisture is essential for.
- In High Altitude Zone, continue planting of pepper. Cultivate crops like ginger turmeric vegetables, etc. as an intercrop in irrigated coconut gardens..
- In Central Zone, undertake sowing of vegetable cowpea in rice fallow @60kg/ha. Weather is congenial for whitefly attack on coconut leaves, spray 2% *neem* oil emulsion on the leaves.
- In Southern Zone, there is a chance of Pseudostem borer in banana; spray Chlorpyrifos 1.5 ml/litre of water in the bore holes.

### **Andhra Pradesh**

- In Scarce Rainfall Zone, weather is congenial for tikka leaf spot incidence in groundnut, spray Mancozeb @ 400 g + Carbendazim @ 200 g (or) Hexaconazole @ 400 ml per acre.
- In High Altitude Tribal Zone, weather is congenial for fall army worm in maize, spray Emamectin Benzoate @ 0.4 g or Chlorantraniliprole @ 0.3 ml per litre of water. For Turcicum leaf blight in maize, spray Mancozeb @ 1g or Carbandizam @ 1.5g per litre of water.
- In Krishna Godavari Zone, avoid moisture stress conditions to the crops which are at flowering to fruiting stage.
- In Southern Zone, wherever flowering is delayed in mango, farmers are advised to give irrigation and spray potassium nitrate 10 g and Urea 5 g per litre of water to enhance the flowering.

### **Telangana**

- In Southern Telangana Zone, weather is congenial for incidence of blast in paddy; 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 North Telangana Zone, weather conditions are favourable for *spodoptera exigua* in Bengal gram, spray Thiodicarb @ 1g or Quinolphos @ 2ml or Acephate @ 1.5 g per litre of water.

### **Tamil Nadu**

- In Cauvery Delta Zone, weather is congenial for the infestation of sucking pests including hoppers, thrips and white flies in rice fallow black gram; spray Azadirachtin 0.03% EC @ 3ml or Triazophos 2.5 ml per litre of water.
- In Western Zone, as maize crop is most sensitive moisture stress at 45 to 65 days after sowing, ensure optimum moisture availability by providing irrigation to avoid yield loss at harvest.
- In High Altitude Hilly Zone, weather is congenial for collar rot disease in beans; undertake soil drenching with copper oxy chloride 1 g/litre of water.
- In High Rainfall Zone, form basins around trees. Apply coir compost to conserve moisture in banana, pepper, clove, nutmeg, cinnamon and coconut.
- In North Eastern Zone of Tamil Nadu, farmers are advised to prevent chicks from diarrhoea disease; separate the diseased chicks and allow them to drink medicated water for 5 days during morning and evening with combination of 1 litre of water and 2gm Microzal powder or 2gm Bactrisol powder mix with 5 ml of Vimeral syrup.

### **Karnataka**

- In North Interior Karnataka, carry out harvesting of wheat on priority basis. Harvest safflower, *Rabi* sorghum, Bengal gram, red gram, niger, chick pea and pigeon pea crops and keep them in a safer place. Avoid picking of kapas during early morning hours; sundry kapas for a day before sending to market to get higher price.
- In South Interior Karnataka, carry out harvesting of mature rhizomes of ginger and turmeric. To manage



blast disease in paddy, remove the weed hosts around the field; spray Carbendazim @ 4 gm or Tricyclozol @ 0.6 g or Edifenphos @ 1 ml per litre of water in 200-300 litres of water per acre.

#### **Animal Husbandry:**

- In Karnataka, vaccinate livestock against FMD, Black Quarter and Haemorrhagic Septicaemia; vaccinate sheep and goats against Enterotoxemia.

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

**Realised Rainfall:** Significant rainfall occurred in East Kameng, West Kameng, East Siang, West Siang and Lower Subansari districts of Arunachal Pradesh; Barpeta, Dhemaji, Kamrup (Metro), Lakhimpur, Sonitpur and Udalgiri districts of Assam; East Garo Hills, East Khasi Hills, Ribhoi and West Khasi Hills of Meghalaya. Weather remained mainly dry over rest of the region.

#### **Advisories:**

- **As Thunderstorm accompanied with lightning, Hail & gusty wind** (speed reaching 30-40 kmph) very likely at isolated places over Assam & Meghalaya on 6<sup>th</sup>, **lightning & hail** at isolated places over Nagaland, Manipur, Mizoram & Tripura on 6<sup>th</sup>, **lightning & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Assam & Meghalaya on 7<sup>th</sup>, **lightning** at isolated places over Arunachal Pradesh on 6<sup>th</sup> & 7<sup>th</sup>, over Nagaland, Manipur, Mizoram & Tripura on 7<sup>th</sup> and over Assam & Meghalaya on 8<sup>th</sup>, provide mechanical support to banana, young fruit plants and vegetables 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 many places over Arunachal Pradesh and Nagaland, Manipur, Mizoram & Tripura on 6<sup>th</sup> & 7<sup>th</sup>, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

#### **Arunachal Pradesh**

- In Arunachal Pradesh, avoid spraying synthetic insecticides in mustard at flowering stage as it may cause harm to honey-bees and affect pollination. Dust ash on mustard crop in case of aphid attack, during clear weather. Ensure proper support to field pea plants and cover the base with soil. Harvest green pea pods at 4-5 days interval so as to stimulate generation of new flowers. In case of infestation of pod borer in pea, apply Azadirachtin 0.03 % WSP 2500-5000 g/ha during clear weather.

#### **Assam & Meghalaya**

- In Hill Zone of Assam, undertake water management in crops like wheat, field pea, gram, lentil, linseed, safflower and sunflower. Continue land preparation for sowing of green gram and black gram. Apply irrigation to onion crop at an interval of 6-8 days. To control thrips and blight disease in onion crop, spray Mancozeb 30 gm or Diathane M-45, 30 gm or Bavistin 10 gm fungicide on a clear day.
- In Lower Brahmaputra Valley Zone, carry out weeding operation in summer rice 20 days after transplanting. Continue sowing of *kharif* maize, summer green gram and black gram. To control blast disease in wheat, spray 2 gm Bavistin /litre of water on a clear day.
- In Central Brahmaputra Valley Zone, undertake sowing of summer green gram and black gram. Undertake harvesting of mustard. Present weather condition is congenial for incidence of aphids in wheat at ear head stage. To control, spray Dimethoate 30EC or Chlorpyrifos 20EC @1ml per litre of water during afternoon on a clear day.
- In North Bank Plain Zone, carry out weeding in *Boro* rice, 20 days after transplanting. Plough the main field of transplanted *Ahu* rice to conserve moisture. Continue sowing of green gram and black gram.
- In Upper Brahmaputra Valley Zone, continue land preparation for sowing of maize. Continue harvesting of potato.
- In Barak Valley Zone, chili plant may be infested by anthracnose or fruit rot disease; to control the

disease, spray Captan 50 WP 0.2% @ 2g per litre of water or Dofolatan 0.2%. on a clear day

- In Meghalaya, undertake harvesting of matured pea pods in the morning. Undertake transplanting of 1 month old seedlings of brinjal, chilli, tomato and capsicum. Irrigate immediately after transplanting. Undertake harvesting of mustard.

#### **Manipur, Mizoram, Tripura and Nagaland**

- In Manipur, continue transplanting of pre-kharif rice; after 3-4 days of transplanting, maintain water level of 5-8 cm. Undertake transplanting of brinjal seedlings.
- In Mizoram, Continue harvesting of field pea crop; harvest when the pod is wet during early morning or night to prevent seed shatter. Undertake harvesting of mustard. Carry out weeding in potato.
- In Tripura, maintain 4-5 cm standing water in the *Boro* rice field. Undertake land preparation for sowing of black gram and green gram. Undertake land preparation for sowing of cowpea. Maintain optimum moisture in the maize field through irrigation and apply mulching to hold moisture in the field.
- In Nagaland, apply irrigation to vegetable pea in flowering and fruit setting stage.

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

**Realised Rainfall:** Significant rainfall occurred in Sheohar district of Bihar; in Saraikela district of Jharkhand; in Nadia and West Midnapore districts of Gangetic West Bengal and in East Sikkim, Jalpaiguri, North Sikkim and South Sikkim districts of Sub-Himalayan West Bengal & Sikkim. Weather remained dry/mainly dry over the region.

#### **Advisories:**

- **As Thunderstorm accompanied with lightning, Hail & gusty wind** (speed reaching 30-40 kmph) very likely at isolated places over Bihar and Sub-Himalayan West Bengal & Sikkim on 6<sup>th</sup>; **lightning & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over Odisha on 6<sup>th</sup> & 7<sup>th</sup>, over Gangetic West Bengal on 6<sup>th</sup> & 10<sup>th</sup>, over Jharkhand on 6<sup>th</sup>, 7<sup>th</sup> & 10<sup>th</sup> and over West Bengal & Sikkim on 7<sup>th</sup>, **lightning** at isolated places over Bihar on 7<sup>th</sup> and over Odisha on 10<sup>th</sup>, provide mechanical support to banana, young fruit plants and vegetables 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 many places over Jharkhand on 6<sup>th</sup>, over West Bengal & Sikkim and Odisha on 6<sup>th</sup> & 7<sup>th</sup> along with **Heavy Rain** at isolated places over Odisha on 6<sup>th</sup>, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

#### **Odisha**

- Continue final land preparation for sowing vegetables, pulses and oilseed crops. It is optimum time for sowing summer maize. Undertake sowing of cowpea, cluster bean, cucumber, pumpkin and water melon. Rainfed mustard sown during October is at maturity stage; carry out harvesting; dry the plants under sun for easy threshing and safe storage. Pluck out matured cabbage and cauliflower and other vegetables. To control collar rot in groundnut, carry out field drenching with Carbendazin 12% + Mancozeb 63% WP @ 2 g/litre of water on a clear day.

#### **Bihar**

- Undertake land preparation and sowing of *moong*. Take up land preparation for sowing of summer vegetables such as okra, pumpkin, cucumber, sponge gourd, ridge gourd and bitter gourd; apply 15-20 tonnes of FYM during land preparation. Carry out harvesting of potato tubers in clear weather. To control cutworm in wheat, apply Carbaryl 50% WP @ 800g in 800 liters of water/acre or Dichlorvos 76% EC @ 112-150ml in 200-400 liters of water/acre on a clear day.

#### **Jharkhand**

- Continue transplanting of 21-25 days old summer paddy seedlings. Continue sowing of summer maize. Continue sowing of summer *moong* bean and *urd* bean. Postpone harvesting of mustard as rainfall is forecast. To control thrips in onion leaves(white spot), spray neem seed kernel @ 5% per litre of water on clear days. Prevailing night temperature and wind speed favours the spread of loose smut spore. Uproot the affected plant and buried in the soil.

### West Bengal

- In Sub-Himalayan West Bengal, complete sowing of maize crop. Carry out weeding in Boro rice field. Avoid irrigation to mustard and potato crops; maintain proper drainage in the field. Carry out harvesting of matured pods of garden pea. For fruit and shoot borer attack in brinjal crop, spray Cartap Hydrochloride 50% SP @ 1g/litre of water on a clear day.
- In Gangetic West Bengal, Boro rice is at active tillering stage; keep the field weed-free; maintain 2 cm water level in the field; skip irrigation as light rainfall is forecasted. Provide proper drainage in potato, tomato and okra fields. To control stem phylum blight in lentil, apply Captan+ Hexaconazole 1 g or Mancozeb 2.5g or Saaf 2.5g per litre of water on clear days. To control pod borer in pea and Bengal gram apply Lancergold 1g/litre of water on clear day.

### Andaman & Nicobar Islands

- Harvest fully ripe areca nut and keep it for sundry for 30-40 days. To conserve soil moisture in coconut, do mulching with coconut waste around the basin. Spray neem seed extract 5% in pulses at maturing stage to avoid insect attack. Remove the fruit fly infected fruits of cucumber and make soil mount around the plant. Control fruit fly in snake gourd at fruiting stage by applying 3 % neem oil as foliar spray.

### Animal Husbandry

- As availability of grass is poor in this dry season, feed animals with concentrate feed @ 150-350 g/animal/day. Feed cows with mineral mixture @ 50 – 60 grams to adult and 30-40 grams to growing animals every day to boost their immunity.

### Fishery

- In West Bengal, undertake pond preparation through cultivation of Dhaincha @ 1-1.5 kg/bigha for 30-45 days for seasonal and new pond.

## WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

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

### Advisories:

#### Maharashtra

- **As Thunderstorm accompanied with lightning, Hail & gusty wind** (speed reaching 30-40 kmph) very likely at isolated places over Vidarbha on 6<sup>th</sup> and 10<sup>th</sup>; **lightning** at isolated places over Vidarbha on 9<sup>th</sup>, 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.
- In Konkan, undertake harvesting of matured horse gram. To control blast in rice, spray Tricyclazole @ 10 g or Isoprothiolion @ 10 ml per 10 liters of water. Undertake harvesting of cashewnut. To improve production and quality of mangoes (pea and marble size), spray 1% Potassium nitrate.
- In Madhya Maharashtra, continue harvesting of matured gram and wheat. Continue harvesting of matured gram and wheat. Undertake intercultural operation like weeding in groundnut. To control leaf miner in water melon/ musk melon, spray Profenophos @ 20 ml per 10 litres of water. Continue harvesting of matured gram and wheat. To control aphid in chilli, spray Imidacloprid 17.8 % @ 5 ml

per 10 litres of water.

- In Marathwada, harvest matured gram and wheat as early as possible. Keep the harvested produce in safer place. Apply Nitrogen @ 100 kg per ha to sugarcane (one and half month old).
- In Vidarbha, harvest matured gram and wheat as early as possible. Keep the harvested produce in safer place. To control sap sucking pest in brinjal, spray 5 % Neemark. Continue sowing of summer green gram (varities: Pusa Vaishakhi, PKV-AKM-4). To control thrips in onion, spray Quinolphos 25% EC @ 12 ml + Mancozeb 75 % WP @ 25 g + Sandovit sticker @ 50 ml per 10 liters of water.

#### **Gujarat:**

- In Middle Gujarat, apply irrigation to vegetables at an interval of 3 to 4 days as there is chance of increase in temperature. Carry out harvesting of matured wheat crop. Carry out picking of matured fruits of vegetable and fruit crops. Stop irrigation to potato crop two weeks prior to harvesting of matured tubers; carry out harvesting of the crop. Spray Quinalphos 25 EC 20 ml in 10 litres of water at evening hours for control of shoot and fruit borer in brinjal.
- In Saurashtra, continue sowing of summer groundnut, sesame and gram. Continue planting brinjal, lady finger, ridge gourd, bottle gourd, sponge gourd, bitter gourd, cluster bean and water melon. To control thrips in onion and garlic crops, spray neem seed extract 5% and apply alternate sprays of Profenofos 20 ml and Lambda-Cyhalothrin 14 ml in 10 liters of water.
- In Kutch, prepare land for sowing groundnut, sesame and pearl millet. Carry out sowing of okra, cluster bean and cowpea as summer season vegetables and transplanting of brinjal seedlings during evening hours. For effective control of aphids, spray Dimethoate @10ml or Phosphamidon @ 3ml adding in 10 liters of water.
- In North Gujarat, carry out sowing of okra, cluster bean and cowpea as summer season vegetables and transplanting of brinjal seedlings. Prepare land for sowing green gram, groundnut, sesame, cowpea and pearl millet. Continue harvesting matured castor, mustard and potato crops. For control of blight in fennel, spray of Mancozeb (0.25%) @ 30 gm plus 20 ml desi soap solution adding in 10 litre water.
- In South Gujarat heavy Rainfall Zone, carry out land preparation for nursery of summer paddy by ploughing harrowing & planking; add sufficient quantity of FYM/organic matter; undertake planting when temperature start rising. Apply irrigation to sugarcane crop.

#### **Animal Husbandry:**

- In Gujarat, keep animal sheds hygienic and clean to avoid flies and mosquitoes. Feed animals with a mixture of green and dry grasses. Strictly follow the vaccination schedules for infectious diseases like FMD, tuberculosis and Brucellosis.

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

**Realised Rainfall:** Significant rainfall occurred in Dindori and Panna districts of Madhya Pradesh. Weather remained dry/mainly dry over the region.

#### **Advisories:**

- **As Thunderstorm accompanied with lightning, Hail & gusty wind** (speed reaching 30-40 kmph) very likely at isolated places over Madhya Pradesh and Chhattisgarh on 6<sup>th</sup>; **lightning & gusty wind** (speed reaching 30-40 kmph) likely at isolated places over East Madhya Pradesh on 10<sup>th</sup>, **lightning** at isolated places over East Madhya Pradesh on 7<sup>th</sup>, provide mechanical support to banana, young fruit plants and vegetables 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, monitor for symptoms of termite in wheat crop; if noticed, apply a mixture of

20 kg sand with Chlorpyrifos 20 EC @ 2.0 litre/acre in evening hours on a clear day. Monitor gram crop for pod borer; install pheromone traps @ 3-4 traps per acre if flowering has reached 10-15%; install. "T" shaped bird perches in and around crop field for controlling insect population. Monitor early stage mustard crop for aphids; cut and destroy the infested part of the plant.

- In Vindhya Plateau Zone, prepare field for the sowing of mung, urd and cucurbitaceous vegetables. Continue transplanting of brinjal. There is a possibility of gram pod borer due to cloudy weather coupled with high day temperature; fix T or Y shaped pegs as bird perches @ 40 to 50 nos./ acre for biological control of caterpillars.
- In Jhabua Hills Zone, apply fifth irrigation to wheat crop at milking stage (80-85 DAS) and sixth irrigation at dough stage (95-100 DAS). Harvest mature early sown chick pea and mustard crops. Dig mature tubers of ginger.
- In Nimar Valley Zone, undertake sowing of okra. Spray neem oil @ 50 ml/ pump to control sucking pest in vegetable crops. Spray 350 ml/acre Imezethapyr 10% SL in between 15-20 days after sowing green gram at sufficient soil moisture.
- In Central Narmada Valley Zone, give light irrigation to wheat crop at 20 days intervals. Prepare nursery of summer brinjal and chilli. Gram crop is at pod filling stage; keep watch over pod borers; spray Indoxacarb 14.5 % SC @ 12-15 ml/pump in the initial stage of infestation on a clear day.

### Chhattisgarh

- In the Chhattisgarh Plain Zone, undertake sowing of summer moong. Go for harvesting of lathyrus, mustard and toria crops followed by threshing. Carry out immediate harvesting of cauliflower if weather is cloudy. Prepare seedlings of cucurbitaceous vegetables in bags under net house for getting early produce. Spray Rynaxypyr (Fertera) @ 10 kg/ha or Kartap @ 20 kg/ha for control of stem borer attack in transplanted summer paddy on a clear day.
- In Northern Hill Zone, timely sown wheat crop is at heading stage; though this stage is very much sensitive to moisture stress, irrigate crop considering the realized rainfall during past few days. Harvest mustard crop when siliqua turns bright yellow in colour; dry the harvested crop in the sun for 2-3 days before threshing. Early to medium duration variety potato crop is at maturity stage; remove the upper leaves/parts (Dehaulming) of the crop 7- 10 days prior to digging. Spray Rynaxypyr (Fertera) @ 10 kg/ha or Kartap @ 20 kg/ha for control of stem borer attack in transplanted summer paddy on a clear day.
- In Bastar Plateau Zone, undertake sowing of summer/Zaid moong. Carry out digging of turmeric and tuber crops and store them in safer places.

### Animal Husbandry

- For maintaining milk production in milch animals, feed mixture of Gud and concentrate.

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

**Realised Rainfall** : Rainfall occurred in Gurdaspur, Jalandhar, Nawanshahr districts in Punjab; in Faridabad, Palwal district in Haryana and Northeast Delhi, Aligarh and Kanshiramnagar districts of West Uttar Pradesh, in Solan district of Himachal Pradesh; Kathua, Kupwara, Ramban, Reasi and Udhampur districts of Jammu & Kashmir and Rudraprayag district of Uttarakhand. Weather was mainly dry over rest of the region.

### Advisories:

- **As Thunderstorm accompanied with lightning, Hail & gusty wind** (speed reaching 30-40 kmph) very likely at isolated places over West Uttar Pradesh and Uttarakhand on 6<sup>th</sup>; **lightning & hail** at isolated places over Rajasthan and Uttarakhand on 7<sup>th</sup>; **lightning & gusty wind** (speed reaching 30-40

kmph) likely at isolated places over Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, East Uttar Pradesh on 6<sup>th</sup>, **lightning** at isolated places over Jammu & Kashmir, Ladakh, Gilgit- Baltistan on 8<sup>th</sup>, 7<sup>th</sup>, & 10<sup>th</sup>, over Himachal Pradesh on 7<sup>th</sup> & 10<sup>th</sup> and over Uttarakhand, Haryana, Chandigarh & Delhi and Uttar Pradesh on 10<sup>th</sup>, 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 Uttarakhand, Uttar Pradesh, Punjab, Haryana, Chandigarh & Delhi and Himachal Pradesh on 6<sup>th</sup> and over Jammu & Kashmir on 6<sup>th</sup> and 7<sup>th</sup> and at many places over Uttarakhand and Himachal Pradesh on 7<sup>th</sup> along with **Heavy Rain/Snow** very likely at isolated places over Himachal Pradesh and Uttarakhand on 6<sup>th</sup> and over Jammu & Kashmir, Ladakh, Gilgit-Baltistan on 6<sup>th</sup> & 7<sup>th</sup> and **Heavy Rain** at isolated places over Punjab, Haryana, Chandigarh & Delhi on 6<sup>th</sup>, 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 preparation of trenches and polyhouses for raising seedlings; undertake nursery sowing of cucurbits in polyhouses; cover the trenches and low tunnels with polythene and blankets during the night to avoid damage due to sudden dip in temperature below -100C. Carry out pruning in orchards. Carry out grafting in apples and apricots.
- In Sub-Tropical Zone, avoid irrigation in wheat, mustard, gram and vegetables as there is a chance of rainfall; postpone spraying of fertilizers, insecticides and pesticides on the crops.
- In Intermediate Zone, weather is congenial for the attack of white rust and/ or downy mildew in mustard crop. If observed, apply Mancozeb @ 0.2% or Copper Oxchloride 50% @ 0.3% during clear weather conditions. To avoid soft rot/root rot disease in rabi pulses, maintain proper drainage in crop fields. Undertake staking in pea with dry wooden branches.

### **Himachal Pradesh**

- In Mild Hills Sub Humid Zone, spray Bordeaux mixture (2 Kg white Wash + 2 kg Copper Carbonate in 200 litres of water) immediately after pruning of pear to prevent from fungal infection at the cut ends.
- In Sub Montane and Low Hills Sub Tropical Zone, continue sowing of sunflower. To control pod borer in the 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. Weather is congenial for attack of thrips on onion crop. Spray Carbaryl @ 2 grams per litre of water with sticky material (Tipol 1.0 gram /litre). To control downy mildew in garlic, spray Diathane M 45, 2.5 g or Bavistine 1 g per litre of water during clear weather conditions.
- In High Hill Temperate Dry Zone, undertake grafting work in apple nursery.

### **Punjab, Haryana, Delhi**

- In Western Plain Zone of Punjab, withhold irrigation to crops. Undertake planting of spring sugarcane. Present weather is conducive for severe attack of mustard aphids; monitor the crop regularly.
- In Western Plain of Punjab, as 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, continue sowing/transplanting of summer vegetables like okra, brinjal, cucurbits when weather become clear. Monitor potato crop regularly; if symptoms of late blight are observed, spray Indofil M-45/Mass M45/Markzeb/Kavach @ 500-750g using 250-350 liters of water per acre at 7 days interval on a clear day.
- In Central Plain Zone of Punjab, 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, withhold application of irrigation and fertilizer doses in mustard, wheat and barley crops. In the view of anticipated weather, monitor for sucking pest in mustard crop. Carry out intercultural operations in Bengal gram/chickpea for conserving soil moisture.
- In Eastern Zone of Haryana, harvest the sugarcane crop. Keeping in view moderate rain accompanied with hailstorm and squall, withhold irrigation carry out and proper management in all standing crops. Monitor wheat crop against brown and black rust; spray Dithane M- 45 @ 2.5 g or Carbendazim 1.0 g or Propiconazole 1.0 g per litre of water when sky is clear. Install pheromone traps @ 2-3 traps per acre in tomato field for monitoring the tomato fruit borer.
- In Delhi, undertake proper management in all standing crops. Undertake transplanting of late varieties of cabbage, cauliflower and knolkhol as well as sowing of lady finger, green gram and black gram. Considering the increase in temperature, apply light irrigation in standing crops and vegetables as per requirement. Monitor vegetable and mustard crops for attack of aphids. Monitor timely sown onion crop for attack of thrips and infection of purple blotch; spray Confidor @ 0.5 ml per 3 litres of water with sticky material (Tipol 1.0 gram /litre for thrips and Dithane-M -45 @ 3 grams per litre of water with sticky material (Tipol 1.0 g/litre) for purple blotch disease. Monitor wheat crop against rust disease; if symptoms of black, brown or yellow rust appear, spray Dithane M-45 @ 2.5 grams per litre of water on a clear day.

#### **In East Uttar Pradesh,**

- Considering the forecasted rainfall, avoid irrigation in wheat crop. Prepare nursery for chilli, tomato and brinjal crops and start sowing of okra (bhindi). Harvest mature mustard crop and dry it during clear sky. Undertake digging of mature potato crop. If symptoms of brown or black rust appear on wheat crop, spray Dithane M- 45 @ 2.5 g or Carbendazim 1.0 g or Propiconazole 1.0 g per litre of water when sky is clear. Monitoring timely sown onion crop for attack of thrips; for effective control, spray Imidacloprid @ 0.5 ml per litre of water with sticky material (Tipol 1.0 gram/litre) when sky is clear.

#### **In West Uttar Pradesh,**

- Prepare fields for sowing of pulses and summer vegetables like pumpkin, loki, cucumber, bhindi, musk melon, water melon, etc. Undertake sowing of maize and black gram. Carry out harvesting of mustard crop when 70% of siliqua turn golden yellow in colour. Carry out digging of mature potato crop. There is a possibility of outbreak of pod borer insects in the gram and pea crops; for prevention, spray Qunalphos 25 EC@ 2 liters per hectare in 500 to 600 liters of water in clear sky. For outbreak of midge insects in mango blossom; spray Fenitrothion solution in 1.0 ml / liter of water to prevent during clear sky.

#### **Uttarakhand**

- In Bhabar and Tarai Zone, postpone harvesting of mustard crop in view of rainfall forecast; keep the harvested crop in safe place. Postpone sowing of spring sugarcane crop. Carry out weeding and hoeing in onion crop. Undertake sowing of capsicum crop.
- In Sub Humid Sub Tropic Zone, avoid irrigation to wheat. Avoid spraying of fertilizers and pesticides / insecticides. Keep the harvested mustard crop in safe place. Dig out mature potatoes and keep them in safe place.
- In Hill Zone, avoid irrigation and postpone spraying of insecticides and pesticides. Cover the vegetable seedlings by polythene sheet or hail nets to protect from hail. Carry out weeding and hoeing in vegetable pea. Undertake direct sowing of French bean in open fields. Undertake transplanting of temperate fruit saplings like walnut, apple and apricot and carry out mulching around its main trunk.

#### **Rajasthan**

- In Sub Humid Southern Plain and Aravali Hill Zone, harvest mustard at physiological maturity to avoid shattering losses. Undertake sowing of summer groundnut.
- In Arid Western Plain Zone, timely sown gram crop at ripening stage; harvest the matured crop and keep it at safe place. Weather is congenial for fruit borer in tomato; spray Acephate 75 SP @ 0.5 gm per litre water.
- In Semi-Arid Eastern Plain Zone, undertake sowing of Zaid crops viz. green gram, okra, sorghum (fodder), pearl millet (fodder) & summer cucurbits like bottle gourd, round guard, bitter guard, water melon and musk melon.
- In Flood Prone Eastern Plain Zone, harvest mustard when 75% siliquae turn yellow and seed moisture content is about 35% seed weight; oil content is maximum at this stage.

**Animal Husbandry**

- In Uttar Pradesh, Keep animals at dry place; use paddy straw or ash as litter in animal houses. Add supplements, vitamins, and energy food items as well as calcium content to the chicken feed.

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