



# *National Agromet Advisory Service Bulletin*

*Friday 22<sup>nd</sup> May 2020*  
*(For the period 22<sup>nd</sup> to 26<sup>th</sup> May 2020)*



*Issued by*  
*India Meteorological Department*

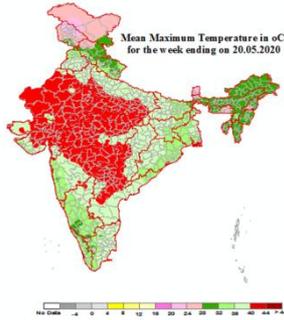
**Weblink For**

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

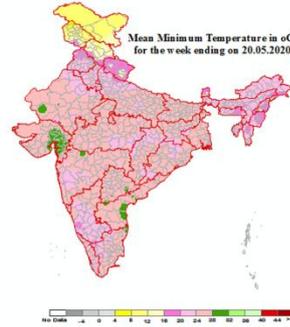
**State Composite AAS Bulletin:** <http://www.imdagrimet.gov.in/node/3544>

## Spatial distribution of weather parameters for the week ending on 20.05.2020

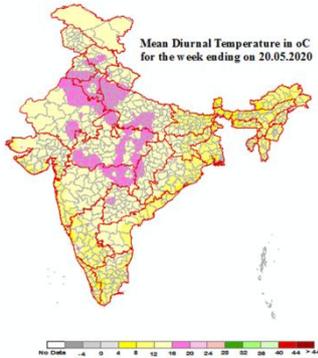
**Mean Maximum Temperature (°C) for the week ending on 20.05.2020**



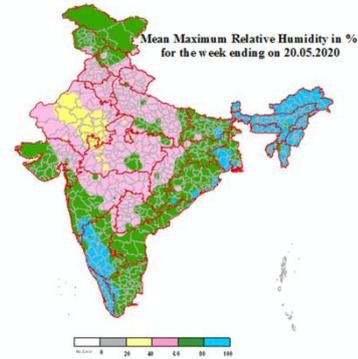
**Mean Minimum Temperature (°C) for the week ending on 20.05.2020**



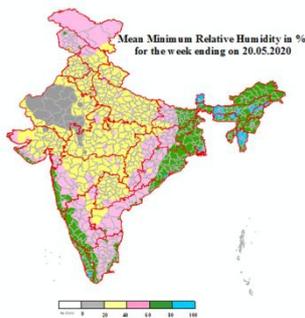
**Mean Diurnal Temperature Variation (°C) for the week ending on 20.05.2020**



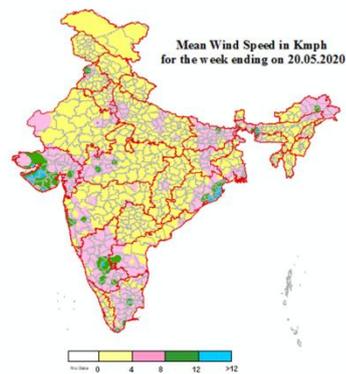
**Mean Maximum Relative Humidity (%) for the week ending on 20.05.2020**



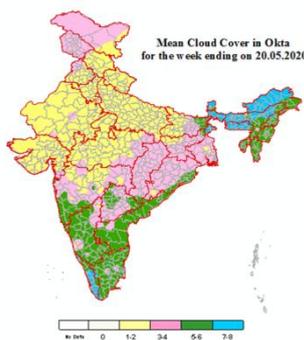
**Mean Minimum Relative Humidity (%) for the week ending on 20.05.2020**



**Mean Wind Speed (km/hr) for the week ending on 20.05.2020**

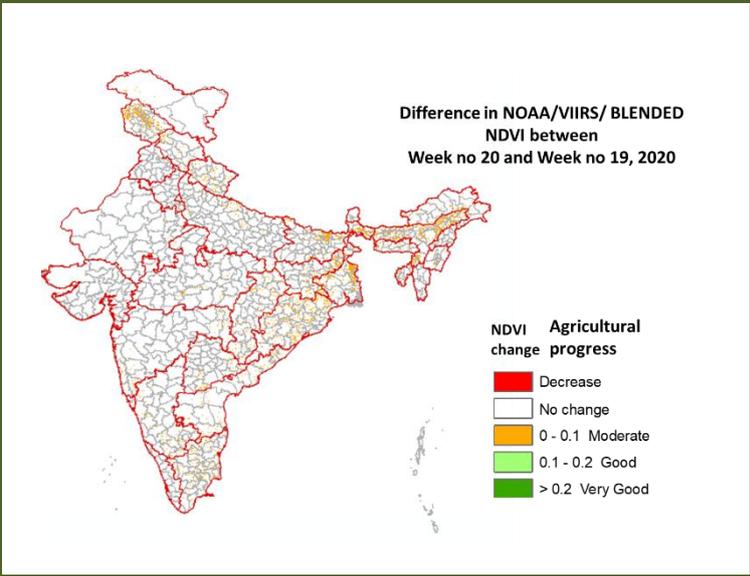
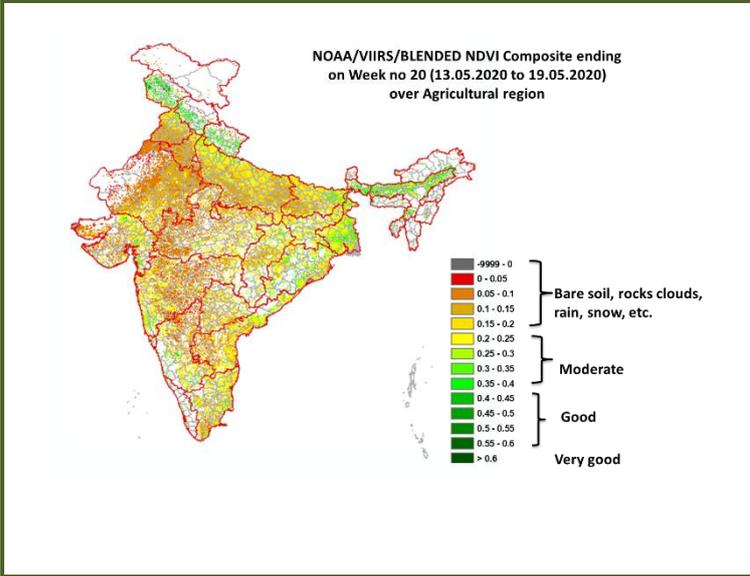


**Mean Cloud Cover (okta) for the week ending on 20.05.2020**



**NOAA/VIIRS/BLENDED NDVI composite for the week number 20 (13.05.2020 to 19.05.2020) over Agricultural regions of India**

**Difference in NOAA/VIIRS/BLENDED NDVI between week number 20, 2020 and week number 19, 2020**

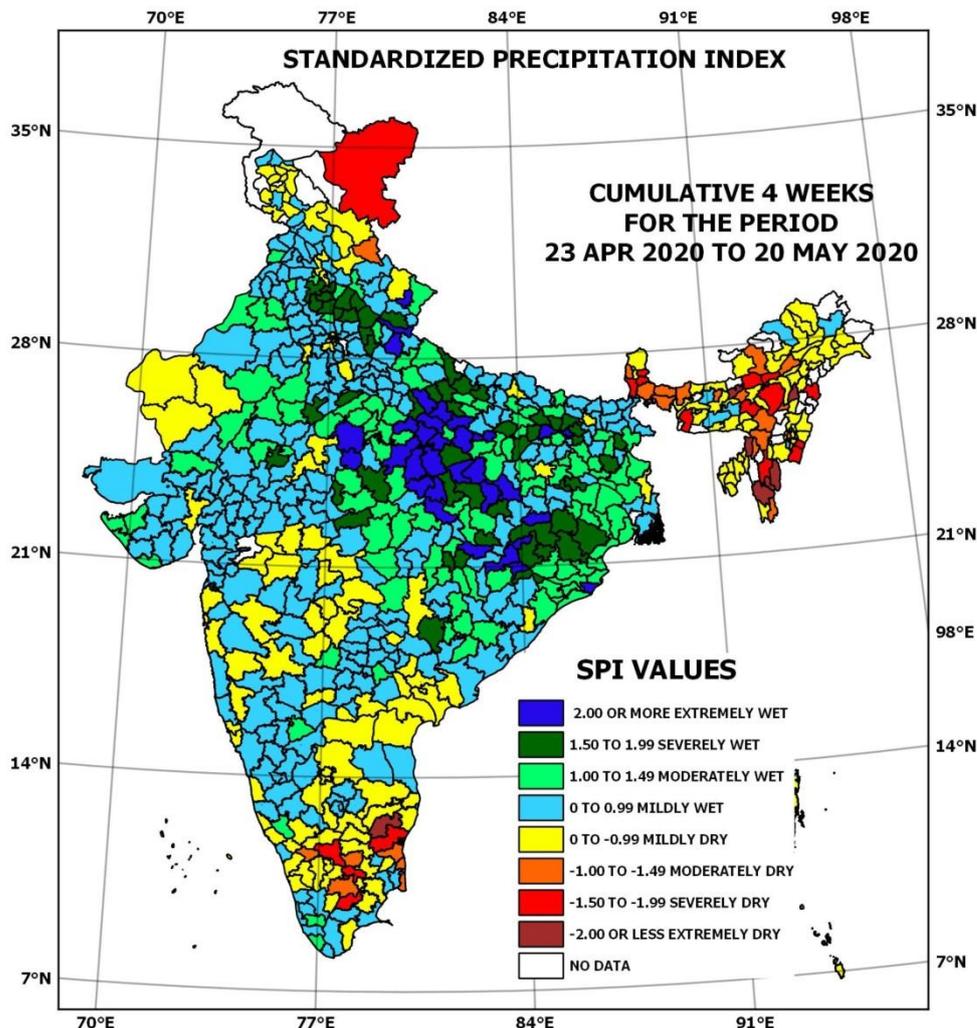


Agricultural vigour was good at few places of Valley region of Jammu & Kashmir; isolated places of Himachal Pradesh, Uttarakhand, North Eastern states & Coastal Karnataka. Rest of the country NDVI could not be captured as crops have been harvested and *pre Kharif* crops are under sowing.

Moderate difference in agricultural vigour was observed over many places of Valley region of Jammu & Kashmir & North eastern states and at few /isolated over rest of the country.

**Standardised Precipitation Index  
Cumulative 4 weeks for the period 23<sup>rd</sup> April to 20<sup>th</sup> May 2020**

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



- Extremely/ Severely wet conditions exist in Begusarai, Bhojpur, Lakhisarai, Patna, Rohtas, Samastipur, Saran, Vaishali districts of Bihar; Ambala, Karnal, Kurukshetra, Kaithal districts of Haryana; Bhopal, Hoshangabad, Neemuch, Shivpuri, Ashoknagar, Chhatarpur, Dindori, Katni, Panna, Rewa, Sagar, Satna, Shahdol, Sidhi, Umaria, Singrauli districts of West Madhya Pradesh; Bargarh, Boudhgarh, Deogarh, Jagatsinghpur, Jharsuguda, Keonjhar, Mayurbhanj, Sambalpur, Sonepur, Sundargarh districts of Orissa; Patiala district of Punjab; Sawai Madhopur, Dholpur districts of Rajasthan; Dadara & Nagar Haveli districts of Union Territory; Allahabad, Bahraich, Banda, Barabanki, Basti, Fatehpur, Ghazipur, Gonda, Kanpur City, Lucknow, Pratapgarh, Rae Bareilly, Unnao, Varanasi, Sahuji Mah Nagar, Sant Ravidas Nagar, Amethi, Bareilly, Bijnor, Hamirpur, Jyotiba Phule Nagar, Muzaffarnagar, Saharanpur, Sambhal districts of Uttar Pradesh; Bokaro, Dumka, Sahibganj, West Singhbhum, Simdega, Ramgarh districts of Jharkhand; Hardwar, Nainital, Udham Singh Nagar, Bageshwar districts of Uttarakhand; Durg, Janjgir, Koriya, Raipur, Surguja, Bijapur, Baloda Bazaar, Balrampur, Surajpur districts of Chhatisgarh.
- Extremely/Severely dry conditions exist in Darrang, Karbi Anglong, Karimganj, Shonitpur districts of Assam; Leh district of Ladakh; Chandel district of Manipur; West Garo Hills district of Meghalaya; Aizwal, Champhai, Lunglei, Serchhip districts of Mizoram; Tuensang, Wokha districts of Nagaland; Erode, Karur, Madurai, Tiruvannamalai, Viluppuram districts of Tamilnadu; Darjeeling district of West Bengal; East Sikkim district of Sikkim.
- Moderately wet to moderately dry conditions were experienced in remaining districts in the country.

## Weather Forecast for next 5 days valid upto 0830 hours of 27<sup>th</sup> May, 2020

- ◆ Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.
- ◆ Maximum temperatures likely to rise by 3-5°C over eastern states during next 48 hours. No significant change in maximum temperatures likely over Gujarat state during next 24 hours and gradual reduction by 2-3°C during subsequent 72 hours.
- ◆ No significant change in maximum temperatures likely over rest parts of the country during next 24 hours.

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

22<sup>nd</sup> May 2020

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

#### % 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 five days:

**22 May (Day 1):** ♦ **Thunderstorm accompanied with lightning & gusty winds** (speed reaching 30-40 kmph) very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Muzaffarabad and Kerala & Mahe and **with lightning** at isolated places over Punjab, Haryana, Chandigarh & Delhi and Lakshadweep.

♦ **Heavy rainfall** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya and Kerala & Mahe.

♦ **Heat wave to severe heat wave conditions** very likely in isolated pockets over West Rajasthan and **heat wave conditions** in isolated pockets over East Rajasthan, West Madhya Pradesh, Vidarbha, Gujarat, Coastal Andhra Pradesh & Yanam, Rayalseema, Telangana, North Interior Karnataka and Tamilnadu, Puducherry & Karaikal. **Duststorm** accompanied with gusty winds (speed reaching 30-40 kmph) very likely at isolated places over Rajasthan.

♦ **Strong surface wind speed** reaching 40-50 kmph very likely to prevail over Southeast & Southwest Arabian Sea, Maldives-Comorin area and Gulf of Mannar. Fishermen are advised not to venture into these areas.

**23 May (Day 2):** ♦ **Thunderstorm accompanied with lightning & gusty winds** (speed reaching 30-40 kmph) very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Muzaffarabad and **with lightning** at isolated places over Punjab, Haryana, Chandigarh & Delhi and Lakshadweep.

♦ **Heavy rainfall** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim.

♦ **Heat wave to severe heat wave conditions** very likely in isolated pockets over West Rajasthan and **heat wave conditions** in isolated pockets over East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Coastal Andhra Pradesh & Yanam, Rayalseema, Telangana, North Interior Karnataka and Tamilnadu, Puducherry & Karaikal.

♦ **Strong surface wind speed** reaching 40-50 kmph very likely to prevail over Southeast & Southwest Arabian Sea, Maldives-Comorin area and Gulf of Mannar. Fishermen are advised not to venture into these areas.

**24 May (Day 3):** ♦ **Thunderstorm accompanied with lightning & gusty winds** (speed reaching 30-40 kmph) very likely at isolated places over Kerala & Mahe and **with lightning** at isolated places over Jharkhand and Coastal & South Interior Karnataka.

♦ **Heavy to very heavy rainfall** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim and **heavy rainfall** at isolated places over Kerala & Mahe.

♦ **Heat wave conditions** very likely in isolated pockets over Rajasthan, Uttar Pradesh, Madhya Pradesh, Vidarbha, Chhattisgarh, Coastal Andhra Pradesh & Yanam, Telangana and Rayalseema.

♦ **Strong surface wind speed** reaching 40-50 kmph very likely to prevail over Southwest Arabian Sea. Fishermen are advised not to venture into this area.

**25 May (Day 4):** ♦ **Thunderstorm accompanied with lightning & gusty winds** (speed reaching 30-40 kmph) likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, South Interior Karnataka, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe and **with lightning** at isolated places over Bihar, Jharkhand, Gangetic West Bengal, Odisha, Coastal Andhra Pradesh & Yanam, Telangana, Rayalseema and Coastal & North Interior Karnataka.

♦ **Heavy to very heavy rainfall** likely at isolated places over Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim and **heavy rainfall** at isolated places over Nagaland, Manipur, Mizoram & Tripura, South Interior Karnataka, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.

◆ **Heat wave conditions** likely in isolated pockets over Rajasthan, Uttar Pradesh, Madhya Pradesh, Vidarbha and Rayalseema.

◆ **Strong surface wind speed** reaching 40-50 kmph likely to prevail over Southwest Arabian Sea. Fishermen are advised not to venture into this area.

**26 May (Day 5):** ◆ **Thunderstorm accompanied with lightning & gusty winds** (speed reaching 30-40 kmph) likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, South Interior Karnataka, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe and **with lightning** at isolated places over Bihar, Jharkhand, Gangetic West Bengal, Odisha, Coastal Andhra Pradesh & Yanam, Telangana, Rayalseema and Coastal & North Interior Karnataka.

◆ **Heavy to very heavy rainfall** likely at isolated places over Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim and **heavy rainfall** at isolated places over Nagaland, Manipur, Mizoram & Tripura, South Interior Karnataka, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.

◆ **Heat wave conditions** likely in isolated pockets over Rajasthan, Uttar Pradesh and West Madhya Pradesh.

◆ **Strong surface wind speed** reaching 40-50 kmph likely to prevail over Southwest Arabian Sea. Fishermen are advised not to venture into this area.

#### **Weather Outlook for subsequent 2 days from 27<sup>th</sup> May to 29<sup>th</sup> May, 2020**

◆ Fairly widespread to widespread rain/ thundershowers likely over northeast India and over adjoining parts of east India. Isolated heavy rainfall is also likely over northeast India.

◆ Isolated to scattered rain/ thundershowers likely over parts of south peninsular India, Islands and Western Himalayan region with isolated heavy rainfall over south peninsular India.

◆ Dry weather likely to prevail over the remaining parts of the country.



- **Advisory for cyclone ‘AMPHAN’:** In Arunachal Pradesh and West Assam & Meghalaya, postpone agricultural operations like ploughing, sowing/transplanting, application of chemicals, etc.; drain out excess water from standing crops and vegetables. In Odisha and West Bengal, drain out stagnant rainwater from crop fields and apply fungicides to prevent fungal diseases like wilting, fruit rot, seedling rot and downy mildew.
- **Advisory for Desert Locust:** In Arid Western Plain Zone of Rajasthan, where there is attack of desert locust in Bikaner, Jaisalmer, Bhilwara, Udaipur, Sriganganagar and Hanumangarh districts, apply Chloropyriphos (50%) @ 1 ml/litre or (20%) @ 2.5 ml/litre of water in standing crops.
- **As Thunderstorm accompanied with lightning & gusty winds** (speed reaching 30-40 kmph) very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan and Muzaffarabad on 22<sup>nd</sup> & 23<sup>rd</sup>, over Kerala & Mahe on 22<sup>nd</sup>, 24<sup>th</sup>, 25<sup>th</sup> & 26<sup>th</sup> and over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal on 25<sup>th</sup> & 26<sup>th</sup>; **with lightning** at isolated places over Punjab, Haryana, Chandigarh & Delhi and Lakshadweep on 22<sup>nd</sup> & 23<sup>rd</sup>, over South Interior Karnataka on 24<sup>th</sup>, over Jharkhand and Coastal Karnataka from 24<sup>th</sup> to 26<sup>th</sup> and over Bihar, Gangetic West Bengal, Odisha, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and Coastal & North Interior Karnataka on 25<sup>th</sup> & 26<sup>th</sup>; **Dust storm** accompanied with gusty winds (speed reaching 30-40 kmph) very likely at isolated places over Rajasthan on 22<sup>nd</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/dust storm.
- As **rain/thundershowers** likely at **most places** over Arunachal Pradesh and Assam & Meghalaya on 22<sup>nd</sup>, 24<sup>th</sup>, 25<sup>th</sup> & 26<sup>th</sup> and over Sub-Himalayan West Bengal & Sikkim from 22<sup>nd</sup> to 25<sup>th</sup>; **at many places** over Kerala & Mahe and Nagaland, Manipur, Mizoram & Tripura on 22<sup>nd</sup>, 24<sup>th</sup>, 25<sup>th</sup> & 26<sup>th</sup> and over Jammu, Kashmir & Ladakh, Arunachal Pradesh and Assam & Meghalaya on 23<sup>rd</sup>; along with **Heavy to very heavy rainfall** very likely at isolated places over Arunachal Pradesh on 24<sup>th</sup> and over Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim from 24<sup>th</sup> to 26<sup>th</sup> and **Heavy rainfall** very likely at isolated places over Arunachal Pradesh and Assam & Meghalaya on 22<sup>nd</sup> & 23<sup>rd</sup>, over Kerala & Mahe on 22<sup>nd</sup>, 24<sup>th</sup>, 25<sup>th</sup> & 26<sup>th</sup>, over Sub-Himalayan West Bengal & Sikkim on 23<sup>rd</sup> and over Nagaland, Manipur, Mizoram & Tripura, South Interior Karnataka, Tamil Nadu Puducherry & Karaikal and Kerala & Mahe on 25<sup>th</sup> & 26<sup>th</sup>, arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.
- **As Heat wave to severe heat wave conditions** very likely in isolated pockets over West Rajasthan on 22<sup>nd</sup> & 23<sup>rd</sup> and **heat wave conditions** in isolated pockets over Gujarat on 22<sup>nd</sup>, over North Interior Karnataka, Tamil Nadu, Puducherry & Karaikal, East Rajasthan and West Madhya Pradesh on 22<sup>nd</sup> & 23<sup>rd</sup>, over Vidarbha and Rayalseema from 22<sup>nd</sup> to 25<sup>th</sup>, Coastal Andhra Pradesh & Yanam and Telangana from 22<sup>nd</sup> to 24<sup>th</sup>, over Chhattisgarh on 23<sup>rd</sup> & 24<sup>th</sup> and over Rajasthan, Uttar Pradesh and Madhya Pradesh from 24<sup>th</sup> to 26<sup>th</sup>, apply irrigation at regular intervals and increase the frequency of irrigation at critical growth stages; carry out mulching with straw/polythene to conserve soil moisture.
- **Undertake the following operations:**
  - land preparation for sowing of green gram and sorghum crops in North Interior Karnataka and sowing of ginger/turmeric in South Interior Karnataka.
  - land preparation for Viruppu rice in Central Zone of Kerala.
  - sowing of groundnut in Nellore district of Andhra Pradesh.
  - sowing of soybean, *kharif* maize and groundnut and planting of ginger in Manipur

- land preparation for sowing rice seeds in nursery and sowing of kharif maize in Bihar
- land preparation for sowing irrigated hybrid cotton and B.T. cotton in Saurashtra & Kutch.
- field preparation for sowing of pigeon pea and cotton in Nimar Valley Zone and field preparation for summer vegetables in Kymore Plateau Zone of Madhya Pradesh.
- sowing of tuber crops like colocasia, turmeric & ginger in Bastar Plateau Zone of Chhattisgarh.
- nursery preparation for sowing of rice in Sub-Tropical Zone and Intermediate Zone of Jammu & Kashmir.
- nursery sowing of rice in Sub Montane and Low Hills Sub Tropical Zone of Himachal Pradesh.
- sowing of rice nursery in Punjab.
- sowing of green gram and cotton in Eastern Zone of Haryana.
- sowing of tomato, brinjal, ginger and cucurbitaceous family vegetables like cucumber, pumpkin, bottle guard, etc. in East Uttar Pradesh and sowing of *sanai* (sunhemp), dhaincha, guar, cowpea, moong, etc. as summer green manure in West Uttar Pradesh.
- nursery preparation/nursery sowing of rice in Hill Zone and Bhabar & Tarai Zone of Uttarakhand.
- sowing of cotton in Rajasthan.

### ***Detailed Agromet Advisories***

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

**Realised Rainfall:** Rainfall occurred in all districts of Coastal Karnataka, in all districts of North Interior Karnataka except Bidar, Kalaburgi, Raichur and Yadgir and in all districts of South Interior Karnataka except Bangalore Rural, Bangalore Urban, Chikaballapur, Kolar and Tumakuru, in all the districts of Kerala except Palakkad. Weather remained mainly dry over rest of the districts of Karnataka.

#### **Advisories:**

- **As Thunderstorm accompanied with lightning & gusty winds** (speed reaching 30-40 kmph) very likely at isolated places over Kerala & Mahe on 22<sup>nd</sup>, 24<sup>th</sup>, 25<sup>th</sup> & 26<sup>th</sup> and over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal on 25<sup>th</sup> & 26<sup>th</sup>; **with lightning** at isolated places over Lakshadweep on 22<sup>nd</sup> & 23<sup>rd</sup>, over South Interior Karnataka on 24<sup>th</sup>, over Coastal Karnataka from 24<sup>th</sup> to 26<sup>th</sup> and over Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and Coastal & North Interior Karnataka on 25<sup>th</sup> & 26<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/dust storm.
- **As rain/thundershowers likely at many places** over Kerala & Mahe on 22<sup>nd</sup>, 24<sup>th</sup>, 25<sup>th</sup> & 26<sup>th</sup>; along with **Heavy rainfall** very likely at isolated places over Kerala & Mahe on 22<sup>nd</sup>, 24<sup>th</sup>, 25<sup>th</sup> & 26<sup>th</sup> and over South Interior Karnataka, Tamil Nadu Puducherry & Karaikal and Kerala & Mahe on 25<sup>th</sup> & 26<sup>th</sup>, arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.
- **As Heat wave conditions** in isolated pockets over North Interior Karnataka, Tamil Nadu, Puducherry & Karaikal on 22<sup>nd</sup> & 23<sup>rd</sup>, over Coastal Andhra Pradesh & Yanam and Telangana from 22<sup>nd</sup> to 24<sup>th</sup> and over Rayalseema from 22<sup>nd</sup> to 25<sup>th</sup>, apply irrigation at regular intervals and increase the frequency of irrigation at critical growth stages; carry out mulching with straw/polythene to conserve soil moisture.

#### **Karnataka**

- In Coastal Karnataka, apply mixture of either Phorate 10 g + sand (1:2) @ 150 g per coconut palm or Phorate 10 g + sand (1:2) @ 150 g per coconut palm in the base of the 3 inner most leaves in the crown.
- In North Interior Karnataka, continue land preparation for sowing of green gram and sorghum crops and procure inputs for sowing. Continue harvesting of matured mango. If the rice crop is at harvesting stage, harvest the crop by using combine harvester.
- In South Interior Karnataka, undertake sowing of ginger/turmeric. Apply 2 kg of Zinc Sulphate and 800 kg of neem oil cake at the time of transplanting of turmeric.

#### **Animal Husbandry**

- In Karnataka, provide sufficient water to poultry birds ad libitum and keep poultry shed cooler in order to sustain production levels.

#### **Kerala**

- In Problem Area Zone, to control attack by Rhinoceros beetle in coconut, after cleaning crown, 4 number of naphthalene balls can be placed at the inner most leaf axils.
- In Central Zone, undertake land preparation for Viruppu paddy. Weather is congenial for Pseudo stem weevil in banana, apply 50 g neem cake powder in leaf axils.
- In Southern Zone, undertake sowing for direct sown crop in few pockets; before sowing, dress seeds with P.fluorecens @ 10g or with Carbendazim 2 g/kg of seeds.
- In Northern Zone, undertake land preparation for sowing of paddy.
- In High Altitude Zone, weather is congenial for quick wilt disease in pepper. Spray Bordeaux mixture (1%) and drench Copper oxychloride (0.2%) as prophylactic against diseases.

#### **Andhra Pradesh**

- In North Coastal Andhra Pradesh, undertake propping in banana and papaya to prevent lodging due to high wind speed. Utilizing the realized rainfall undertake land reparation for rainfed sugarcane, sesame, pearl millet, bajra and mesta on or before 31st May.
- In Scarce Rainfall Zone and South Coastal Andhra Pradesh, take up summer deep ploughing with sub-soiler or chisel plough will help in breaking of hard pans in the sub soil and increases the water holding capacity of the soil and also control the perennial weeds, pest and diseases inoculums.
- In Southern zone, farmers undertaking edagaru (early kharif) nurseries are advised to take up seed treatment compulsory. For dry seed treatment treat 1 kg of seed with 3 g. of Carbendigem and sow the seed in the nursery after 24 hrs. Similarly, for wet seed treatment soak the seed for 24 hrs in the solution prepared with Carbendigem @ 1 g./kg of seed per litre of water and incubate for 24 hrs before sowing in the nursery.
- In Nellore district of Andhra Pradesh, undertake sowings of groundnut by selecting varieties like Kadiri 6, Kadiri 9, Dharani and Dheeraj and do seed treatment with Mancozeb @ 3 g/Kg. Apply Trichodermaviridae mixture in soil at last ploughing operation, which will suppress the growth of soil fungi. To manage sucking pest infestation in early stages, seed treatment with Imidacloprid @ 2 ml /kg seed is recommended.

### Telangana

- In the state, utilizing the recent rains, farmers are advised to take up summer ploughing to control weeds, hibernating pests and disease spores that may damage kharif crops. Dig the pits for planting new orchards.
- Light irrigation may be provided to vegetables. Spraying of the Potassium nitrate @ 5g /litre is recommended at early hours.

### Animal Husbandry

- In Telangana prevailing weather conditions are congenial for the occurrence of Worms, Ranikhet disease and Fowl pox in poultry. To prevent the diseases, vaccinate the birds. To protect the poultry birds arrange fans and foggers in sheds, cover the sheds with paddy straw and arrange sprinklers. Feed with wet mash to increase the feed intake and provide cool water for drinking

### Tamil Nadu

- In Cauvery Delta Zone, leaf mite incidence is noticed in summer paddy; spray Dicofol @ 500 ml/ acre or wettable Sulphur @ 600 g/ acre.
- In Karaikal and Pondicherry, to control thrips and other sucking pest in cotton, spray Imidacloprid 17.8 SL @ 100ml/ha (or) Buprofezin 25 SC @ 1000 ml/ha.
- In High Altitude Hilly Zone, cabbage and cauliflower crops are affected by head rot disease incidence; spray Copper oxychloride @ 2g/litre of water.

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

**Realised Rainfall:** Rainfall occurred in all districts except Upper Siang and West Kameng districts of Arunachal Pradesh; in all districts of Assam except Karbi Anglong and N. C. Hills; in all districts except South Garo Hills of Meghalaya; in Lawngtlai district of Mizoram; in Mokokchung, Mon, Paren, Tuensang and Zunheboto districts of Nagaland and in all districts of Tripura. Weather remained dry/mainly dry over rest of the region.

### Advisories:

- **As Thunderstorm accompanied with lightning & gusty winds** (speed reaching 30-40 kmph) very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 25<sup>th</sup> & 26<sup>th</sup>, provide mechanical support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm/dust storm.
- **As rain/thundershowers likely at most places** over Arunachal Pradesh and Assam & Meghalaya on 22<sup>nd</sup>, 24<sup>th</sup>, 25<sup>th</sup> & 26<sup>th</sup>; **at many places** over Arunachal Pradesh and Assam & Meghalaya on 23<sup>rd</sup>; along with **Heavy to very heavy rainfall** very likely at isolated places over Arunachal Pradesh on 24<sup>th</sup> and over Assam & Meghalaya from 24<sup>th</sup> to 26<sup>th</sup> and **Heavy rainfall** very likely at isolated places over Arunachal Pradesh and Assam & Meghalaya on 22<sup>nd</sup> & 23<sup>rd</sup>, and over Nagaland, Manipur, Mizoram & Tripura on 25<sup>th</sup> & 26<sup>th</sup>, arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess

water from the fields of pulses, maize and vegetables. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

#### **Arunachal Pradesh**

- In Arunachal Pradesh, as there is possibilities of rain during the period, always ensure proper runoff management in upland cultivations of maize.

#### **Assam & Meghalaya**

- In Assam, apply 5% Malathion dust @ 20 kg per ha of land to control gandhi bug insect attack in the *Boro* rice at milky stage. Continue nursery raising for sowing of *Sali* rice.
- In Hill Zone of Assam, continue planting of ginger, papaya, pineapple and banana. Continue gap filling with replanting of dead hills with seedlings of same age of *Ahu* rice. Spray Carbendazim @ 1.0 gram per litre against powdery mildew disease in cucurbitaceous crops and late pea when sky remains clear.
- In Lower Brahmaputra Valley Zone, *Boro* rice is in ripening stage, drain out water due to rainfall from the field immediately because of stagnation water in the field itself delay the maturity of the crop. Apply 5kg Neem cake per palm in addition to organic matter along with 1.5 to 2 kg Sulphur powder against Ganoderama wilt disease in Arecanut and coconut orchard and the drainage should be improved. Due to AMPHAN cyclone, heavy to very heavy rainfall is received over the zone. Hence, farmers are advised to take this advantage of rain water to prepare the main field for transplanting of *Sali* rice.
- In Upper Brahmaputra Valley Zone, in chronically flood affected areas, high lands should be selected for raising of community nursery of *Sali* rice to meet the seedling requirement when flood recedes. Make provisions for small drains at required interval in the orchards to drain out excess water. Harvest the matured vegetables and fruits as early as possible. Provide mechanical support to the crops like banana, citrus, papaya etc. to protect them from lodging due to possible strong winds.
- In Barak Valley Zone, due to favorable weather, there is chance of attack of blast/sheath blight in *Boro* rice field; apply Carbendazim @ 1g/litre of water and subsequently two more sprays of Ediphenphos @ 1 ml/litre of water at an interval of about 15 days against blast disease and for sheath blight spray Mancozeb (2.5g/litre) or hexaconazole 5EC (2 ml/litre) if attack of diseases is above ETL on non rainy day. The farmers are advised to select the high land for nursery bed and prepared the bed for sowing the seeds for *Sali* rice.
- In Central Brahmaputra Valley Zone, as rain and strong wind forecast probability, it is advised to use net for orchard crops to protect from mechanical damage. It is advised to provide mechanical support to banana, vegetables (creeper) and young fruit plants to prevent the crops from lodging due to strong winds. Due to severe cyclone 'Amphan', heavy showers occurred during last two days may result in complete wash out of seeds/seedlings. Farmers are advised for re-sowing of *Oiltorius* varieties if already sown and emerged seedlings are washed away. During excess rain the field may be waterlogged that adversely affect crop growth. Remove excess water from field immediately creating field ditches (20 cm wide and 20 cm depth) along the gradient at 10 m intervals. To protect capsularis jute crop (>4 ft tall) from lodging due high wind speed, the peripheral jute plants (round the field) need to be tied together by taking 4-5 jute plants in a consecutive manner. It will also protect the plant inside the field from the effect of wind.
- In North Bank Plain Zone, spread of stem borer attack in sugarcane at vegetative stage can be checked by burying/burning of infested canes. Apply Phosphamidon 60-70 ml/120 litre of water or Endosulfan/Monocrotophos 150-200 ml/150 litre of water for hand sprayer if attack of stem borer is above ETL. Complete planting of banana.

- In Meghalaya, in case of flood damaged maize crop, undertake re-sowing in damaged fields depending on seed availability. Gap filling to be done by putting maize seeds where germination did not occur.

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

- In Manipur, continue sowing of soybean, *kharif* maize and groundnut and planting of ginger. Undertake nursery plot preparation for raising *kharif* rice nursery; maintain 5-8 cm water level at Pre-*kharif* rice field. Spray Rogor @ 15ml/15 litres water on a clear day against leaf folder attack in Pre-*kharif* rice.
- In Mizoram, make channels around the field of black gram and vegetable crops to drain out excess water. Undertake harvesting of matured cobs of maize. Farmers are advice to prepare of lowland rice nursery due to occurrence of moderate to high rainfall. Cover the rice nursery with thresh grass of conservation of soil moisture for better germination of seed. Undertake planting of ginger / turmeric.
- In Tripura, after 25 days of transplanting, weeding and application of Urea as top dressing may be done in *Aus* rice. Undertake harvesting of Urd/ green gram no non rainy day and keep it at safer place. To protect from strong wind and heavy rain, undertake harvesting of Boro rice if 80 to 85 percent grain turned yellow and shift to safer place. To prevent soil loss during rain at Jhum rice field , the removed weed may be kept across the slope between the two rows.
- In Nagaland, undertake harvesting of potato. Undertake harvesting of matured cobs of maize. To control shoot and fruit borer disease attack in brinjal and tomato crops, infested fruits and shoots should be collected and buried inside the soil. To control aphids disease in Kidney beans and rajma, apply neem oil. Apply 5% Neem Seed Kernel Emulsion (NSKE) or Azadirachtin
- 1500ppm @ 5ml/L water during the initial stage of FAW in maize at vegetative stage.

#### **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) diseases after consultation with local veterinary doctor. Vaccinate pig against Swine Fever.
- In Assam and Meghalaya, keep the animals in dry and high (Raised platform) places. Take proper care of the shelters and look out for any possible outbreak of diseases of livestock. Do not let the animal outside during the thundershower. Avoid water logging of floor of the animal house.

#### **Fishery**

- In Barak Valley Zone of Assam, due to prevailing rainfall the ponds are getting fill up with the rain water so, in this situation there may be chances of bacterial disease to the fishes. To control the diseases apply lime @ 6 kg per bigha of Pond.
- In Assam and Meghalaya, repair damaged dykes of fisheries ponds and take care so that fishes does not escape. Maintain outlet pipe from the pond so that excess water pass away and the water level is maintain. Avoid fishing operations in the river. Movement in boat and motor boats are not advisable.

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

**Realised Rainfall:** Significant rainfall occurred in Kishanganj and Sitamarhi districts of Bihar; in East Singbhum and Jamtara districts of Jharkhand; in Angul, Balasore, Bhadrak, Cuttack, Deogarh, Dhenkanal, Jagatsingpur, Jajpur, Kendrapara, Keonjhar, Khurda, Mayurbhanj, Puri and Sundargarh districts of Odisha; in all districts of Andaman & Nicobar Islands; in Bankura, Birbhum, East Midnapore, Kolkata, North 24 Paraganas, South 24 Paraganas and West Midnapore districts of Gangetic West Bengal and in all districts of Sub-Himalayan West Bengal & Sikkim except Malda and North Dinajpur. Weather remained dry/mainly dry over the rest of the region.

- **As Thunderstorm accompanied with lightning** at isolated places over Jharkhand from 24<sup>th</sup> to 26<sup>th</sup> and

over Bihar, Gangetic West Bengal and Odisha on 25<sup>th</sup> & 26<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/dust storm.

- As **rain/thundershowers** likely at **most places** over Sub-Himalayan West Bengal & Sikkim from 22<sup>nd</sup> to 25<sup>th</sup>; along with **Heavy to very heavy rainfall** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim from 24<sup>th</sup> to 26<sup>th</sup> and **Heavy rainfall** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim on 23<sup>rd</sup>, arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

#### **Odisha**

- Drain out excess water from summer paddy and non-paddy crops and from vegetable nurseries immediately. If harvested pulses and groundnut are in the field and have got soaked in rain water; pick the pods and dry them in sun to avoid viviparous germination in the pod; carry out threshing after drying. Clean the damaged banana plants and go for staking of the partially damaged plants. Drain out water from base of papaya plants, provide staking and drench with Metalaxyl+Mancozeb @ 2g/litre of water. Collar rot may appear in brinjal, chilli and okra and leaf blight and vine rot is likely to appear in pointed gourd; to control, spray Metalaxyl+Mancozeb @ 2g/litre of water. Rust disease is likely to appear in cowpea; spray Chlorothalonil @ 2g/litre of water. Go for summer ploughing followed by sowing of green manure crops in the areas that received fair amount of rainfall. Undertake planting of vegetables immediately after rains for better utilization of rain water.

#### **Bihar**

- Carry out land preparation for sowing rice seeds in nursery; apply cow dung during land preparation for better and healthy seedlings; start nursery sowing of long duration paddy from 25<sup>th</sup> May. Carry out land preparation for *kharif* maize; apply 100-150 quintals of FYM per hectare during land preparation; undertake sowing of maize from 25<sup>th</sup> May. Carry out land preparation for ginger and turmeric; apply 25-30 tonnes of cow dung per hectare land; start sowing from 15<sup>th</sup> May. Carry out weeding and apply irrigation to summer vegetables. Carry out harvesting of matured green gram and black gram crops.

#### **Jharkhand**

- Make drains/channels to drain out excess rain water from ginger, turmeric, yam, bell pepper, chilli, brinjal, tomato and bottle gourd crop fields. Make strong bunds in rice field to maintain 5 cm of water and allow excess water to drain out. Postpone harvesting of maize. Avoid spraying of insecticides and growth regulators in fruit orchards. Carry out digging of pits for new fruit plantations.

#### **West Bengal**

- Make channels to drain out excess rain water from crop fields. Repair the broken structures of greenhouses and vegetable *machas* as early as possible. Due to recent rains, fungal diseases like wilting, seedling rot, fruit rot, downy mildew, etc. may appear in vegetables; spray Copper oxychloride 2.5g/litre of water, Metalaxyl+Mancozeb 2g/litre of water, Carbendazim 50%WP 2 g/litre water, Chlorothalonil & Mancozeb 2g/litre of water respectively utilizing sunny weather of next few days to prevent and counteract the disease.

#### **Andaman & Nicobar Islands**

- Provide sufficient drainage for vegetable fields to drain out excess water and immediately harvest any produce. Avoid application of any fertilizers and pesticides in the vegetable field during next five days. Select good variety nuts of arecanut and coconut and prepare nursery bed with proper drainage.

#### **Animal Husbandry**

- Provide increased amount of protein feed mixed with calcium to milch animals; provide clean drinking water to farm animals and poultry birds. Vaccinate cattle against various diseases before the monsoon commences.

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

**Realised Rainfall:** Significant rainfall occurred in Pune, Sangli and Osmanabad districts of Maharashtra. Weather

remained dry/mostly dry over rest of Maharashtra and dry over Gujarat.

➤ **Advisories:**

- **As Heat wave** very likely in isolated pockets over Gujarat on 22<sup>nd</sup> and over Vidarbha from 22<sup>nd</sup> to 25<sup>th</sup>, apply irrigation at regular intervals and increase the frequency of irrigation at critical growth stages; carry out mulching with straw/polythene to conserve soil moisture.

**Maharashtra**

- In Konkan, continue land preparation in fallow lands and keep inputs ready for sowing of kharif crops like rice, finger millet and groundnut. For new plantations of mango, cashew, coconut and arecanut, clean the area by cutting small shrubs and plants followed by digging pits. Fill the pits with mixture of soil, FYM or Compost @ 30 to 40 kg and single super phosphate @ 1 kg. Continue land preparation in fallow lands and keep inputs ready for sowing of kharif crops like rice and finger millet. As dry weather is prevailing, apply irrigation to orchards like newly planted mango saplings, cashew and sapota. Complete harvesting of rice.
- In Madhya Maharashtra, complete harvesting of matured summer groundnut. Undertake preparatory tillage operation like ploughing for kharif sowing in fallow lands. As dry weather is prevailing, apply irrigation to vegetables and orchards. Complete harvesting of matured summer groundnut. Continue preparatory tillage operations such as ploughing, harrowing, land leveling and bunding in fallow lands to control insects and pathogens. To control mites in chilli, spray Fenpropathrin 30% EC @ 5ml or Fenazaquin 10 EC @ 25 ml per 10 liters of water.
- In Marathawada, undertake the procedure of selection of land for kharif sowing. As dry weather is prevailing, apply irrigation to vegetables, pomegranate and ambia bahar citrus orchards.
- In Vidarbha, continue harvesting of matured rice, sesame, green gram and summer groundnut. Undertake preparatory tillage operation like ploughing for kharif sowing and nursery bed preparation for kharif rice in fallow lands. Apply mulch to orchards to conserve soil moisture. Also apply irrigation to vegetables. Continue harvesting of matured summer groundnut, sesame and green gram. In view of heat wave conditions, apply light and frequent irrigation to vegetables and orchards during evening hours. Undertake nursery sowing of vegetables like chilli, tomato and brinjal.

**Gujarat**

- In Middle Gujarat, apply irrigation in green gram, pearl millet, cowpea, vegetable crops and banana orchards. Protect the papaya fruits using gunny bags under high temperature condition.
- In Saurashtra and Kutch, prepare land for sowing of irrigated hybrid cotton and B.T. cotton. Complete harvesting of sesame, green gram and black gram crops in time, before shattering of seeds. Apply light and frequent irrigation to sesame, groundnut and vegetables crops. Harvest the matured fruits of citrus, papaya, sapota and pomegranate. Constant monitoring of lady finger crop against attack of mite is advised; if population is found more, spray Ethion @ 1.5-2 ml/litre of water.
- In North Gujarat, apply irrigation to pearl millet crop and to vegetable crops. Regularly pluck matured vegetables viz. bhindi, tomato, cucumber. Carry out harvesting of green gram crop.
- In South Gujarat, apply irrigation to mango gardens. Start sowing of leafy vegetables.

**Animal Husbandry**

- In Gujarat, under present weather condition, keep animals under shade or in sheds during noon hours, provide plenty of cool water mixed with minerals for drinking and shower the animals with cold water two to three times in a day.

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

**Realised Rainfall:** Significant rainfall occurred in Ashoknagar and Dindori districts of Madhya Pradesh and in Balod and Bemetara districts of Chhattisgarh. Weather remained dry/mainly dry over the rest of the region.

- **As Heat wave conditions** very likely in isolated pockets over West Madhya Pradesh on 22<sup>nd</sup> & 23<sup>rd</sup>, over Chhattisgarh on 23<sup>rd</sup> & 24<sup>th</sup> and over Madhya Pradesh from 24<sup>th</sup> to 26<sup>th</sup>, apply irrigation at regular

intervals and increase the frequency of irrigation at critical growth stages; carry out mulching with straw/polythene to conserve soil moisture.

### **Madhya Pradesh**

- In Satpura Hill Zone, carry out deep ploughing of the field 45 days prior to the arrival of monsoon so that seeds of grass and weed are destroyed; the pathogen of diseases, insects, their eggs and pupa get destroyed by solar heat and air infiltration and the water holding capacity increases. Irrigate maize, moong, urd and groundnut crops as per the requirement. Apply irrigation to cucurbitaceous and vegetable crops. Carry out rouging of viral infested chilli crop; uproot the infested plants and bury in the soil; afterwards, spray Imidacloprid @ 0.3 ml per litre of water.
- In the Nimar valley Zone, carry out field preparation for sowing of pigeon pea and cotton in this week. Apply light irrigation as per requirement to all vegetable and standing crops in morning/evening hours.
- In Vindhya Plateau Zone, apply irrigation to moong, urd, okra and cucurbitaceous crops. To control red pumpkin beetle in cucurbitaceous crops, spray Chlorpyrifos 1 ml per litre of water @ 600 litres per hectare.
- In Bundelkhand Zone, make a pond in the field to collect rain water during monsoon. Carry out summer ploughing in the bare field; it will help to destroy the seeds of weeds, spores of diseases and eggs of insect and also modifies the physical properties of soils. Continue seed bed preparation for sowing of kharif onion during this week. Carry out digging of pits for establishing new orchards. For red pumpkin beetle and fruit fly in cucurbit crops; spray Trizophos 40 E.C. @ 2.0 ml per litre of water in clear sky condition.
- In Central Narmada Valley Zone, apply irrigation to summer green gram and black gram crops according to weather and as per the requirement of the crops. To control of fruit drop in mango, spray Planofix @ 5 ml per pump. Carry out rouging of viral infested chilli crop; uproot and bury the infected crop; after rouging, spray Imidacloprid @ 0.3 ml per litre of water.
- In Keymore Plateau Zone, carry out deep ploughing of empty fields. Apply regular irrigation to *moong* crop. Carry out field preparation for summer vegetables; procure seeds from a reliable source. Spray Melathion 2ml per liter water to prevent white fly in tomato, brinjal, and coriander crops.

### **Chhattisgarh**

- In Northern Hill Zone, carry out summer ploughing for preparing land for *kharif* crops; after first ploughing, spread FYM or compost in the field and mix it properly in the soil; mix neem or karanj cake in the soil at the time of final land preparation to protect crops against termites. Undertake sowing of green manure crops like sunhemp, dhaincha, etc. @ 20-25 kg seeds per acre to enhance the fertility of the soil of rice field. Apply need-based irrigation to vegetable crops. Dig pits to plant young fruit seedlings during rainy season. To manage the attack of stem borer and top borer insects in spring-planted sugarcane crop, remove the infested parts of crop and burn them.
- In Chhattisgarh Plain Zone, carry out deep ploughing in the field to prevent soil borne diseases and to destroy weeds and insect eggs. Carry out harvesting of matured summer moong crop to prevent loss due to shattering. Provide need-based irrigation to young sugarcane crop as well as tomato, brinjal, chilli, okra and other vegetable crops. Banana and papaya fruits may get damaged because of sun scorching; cover the fruits by using leaves or jute bags; provide wind breaks in west/north-west direction. Make pits for new fruit plantations and give irrigation to existing fruit orchards.
- In Bastar Plateau Zone, carry out deep ploughing in the field; undertake green manuring by sowing dhaincha seeds at @ of 30-35 kg/ha. Store the harvested Rabi crops like cereals, pulses and oilseeds at appropriate moisture content. Arrange seeds of tuber crops like colocasia, turmeric & ginger; undertake sowing of these crops by the end of this month. Apply need-based irrigation to tomato, chilli, brinjal, okra and other vegetable crops; harvest matured vegetables regularly. Make pits for new fruit plantation.

### **Animal Husbandry**

- To avoid dehydration, feed solution of 4-5 teaspoon sugar and one fourth amount of salt every half an hour to dairy animals. Vaccinate animals to prevent Haemorrhagic Septicaemia (HS) and black quarter (BQ) diseases. Hang wet jute bags in and around animal and poultry sheds to reduce heat stress.

**NORTH INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB,**

## HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]

**Realised Rainfall** : Significant rainfall occurred in Bandipore, Baramula and Kupwara districts of Jammu & Kashmir, Taran Taran district of Punjab, Hapur district of West Uttar Pradesh. Weather was mainly dry over rest of the region.

- **Advisories: As Thunderstorm accompanied with lightning & gusty winds** (speed reaching 30-40 kmph) very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan and Muzaffarabad on 22<sup>nd</sup> & 23<sup>rd</sup>; **with lightning** at isolated places over Punjab, Haryana, Chandigarh & Delhi on 22<sup>nd</sup> & 23<sup>rd</sup>; **Dust storm** accompanied with gusty winds (speed reaching 30-40 kmph) very likely at isolated places over Rajasthan on 22<sup>nd</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/dust storm.
- **As Heat wave to severe heat wave conditions** very likely in isolated pockets over West Rajasthan on 22<sup>nd</sup> & 23<sup>rd</sup> and **heat wave conditions** in isolated pockets over East Rajasthan on 22<sup>nd</sup> & 23<sup>rd</sup> and over Rajasthan and Uttar Pradesh from 24<sup>th</sup> to 26<sup>th</sup>, apply irrigation at regular intervals and increase the frequency of irrigation at critical growth stages; carry out mulching with straw/polythene to conserve soil moisture.

### Jammu & Kashmir

- In Sub-Tropical Zone, carry out deep ploughing in fallow fields to conserve soil moisture. Undertake nursery preparation for sowing of rice. Carry out hoeing and weeding operations in green gram. Continue sowing of ginger and turmeric. Monitor the tomato crop for leaf curl; remove virus infected plants and spray Imidacloprid @ 0.5ml/litre of water to check further spread of disease by whitefly.
- In Cold Arid Zone, complete sowing of leafy vegetables.
- In Intermediate Zone, undertake threshing of wheat. Undertake field preparation for nursery sowing of rice. Carry out hoeing in maize for better soil moisture conservation. Carry out hoeing and weeding operations in tomato, brinjal and chilli. Carry out thinning in okra crop to maintain optimum plant population. Provide mechanical support to young plants of tomato and cucurbits to protect them from gusty winds. Apply irrigation to solanaceous vegetables like tomato, brinjal, chilli and capsicum as per requirement.

### Himachal Pradesh

- In Sub Montane and Low Hills Sub Tropical Zone, continue land preparation for nursery sowing of rice. Procure seeds for sowing maize. Carry out intercultural operations in green gram. Carry out weeding operation in potato crop. Continue sowing of coriander and fenugreek. Apply light irrigation in mature onion and garlic crops one week before digging.
- In High Hill Temperate Dry Zone, undertake weeding in pea. Continue sowing of potato. Carry out weeding in barley fields and apply irrigation if required. Undertake transplanting of cabbage and cauliflower.
- In Mid Hills Sub Humid Zone, carry out hoeing and weeding operations in vegetables like tomato, capsicum and brinjal. Continue sowing of okra and arvi.

### Punjab, Haryana, Delhi

- In Western Zone of Punjab, provide mechanical support to young fruit plants, vegetables. Keep already harvested materials at safe places. Continue harvesting onion bulbs. Complete the sowing of paddy nursery during the second fortnight of this month. Complete sowing of cotton including Bt cotton or *desi* cotton during this week. Spray Proclaim 5 SG @80g or Coragen 18.5 SC @ 80ml in 100-125 litres of water per acre to control fruit and shoot borer in brinjal.
- In Undulating Plain Zone of Punjab, plan nursery sowing of rice. Spray sugarcane crop with 350 ml of Dursban/Lethal/Massban/Goldban 20 EC (chlorpyrifos) in 400 litres of water per acre with manually operated sprayer on a clear day to control sap sucking pest black bug; direct the spray into the leaf-whorl for most effective control. Plan irrigation and application of chemicals in bottle gourd and bitter gourd.
- In Central Plain Zone of Punjab, harvest fruits of okra, bottle gourd, cucumber, bitter gourd, sponge gourd,

*tinda* and summer squash. Complete sowing of paddy nursery during the second fortnight of this month. Sugarcane crop requires frequent irrigations at 8 to 10 days interval during summer period.

- In Western Zone of Haryana, due to possibility dry weather conditions, farmers are advised to apply irrigation and complete the sowing of cotton crop. Deep plough the fields, after harvesting of rabi crops. Undertake field preparation for nurseries of rice crop with application of compost *khad* @ 10 to 12 carts per acre. Apply irrigation as per the requirement of sugarcane crop during morning or evening time.
- In Eastern Zone of Haryana, maintain social distancing during harvesting and other agricultural operations. Keeping in view of temperature, apply light irrigation as per requirement in all vegetable and standing crops during morning or in the evening hours. Undertake sowing of green gram and cotton during this week. Maintain optimum moisture level in cucurbitaceous crops by applying light and frequent irrigation as dry conditions may lead to poor pollination and thus drop in yield of the crop. To control shoot and fruit borer in tomato crop, collect and bury the infested fruits and shoots; install pheromone traps @ 2-3 traps per acre; if pest population is high, spray Spinosad 48 EC @ 1 ml /4 litres of water when sky is clear.
- In Delhi, maintain social distancing during harvesting and other agricultural operation in all crops. Apply light irrigation as per requirement in all vegetable and standing crops during morning hours or evening hours. Undertake sowing of pigeon pea, cotton, green gram, cluster bean, senai, gwar, etc during this week. Keeping in view the high temperature, harvest mature vegetables at morning and evening hours and keep harvested crops in shadow. Maintain optimum moisture level in cucurbitaceous crops by application of light and frequent irrigation as dry conditions may lead to poor pollination and drop in yield. Keeping in view high temperature, farmers are advised to protect banana, citrus, mango and kinoo orchards against hot winds by providing physical barrier and frequent irrigation. Monitor chilli crop against attack of mites. Monitor lady finger crop against attack of mite; if population is high, spray Ethion @ 1.5-2 ml/litre of water when sky is clear.

#### **Uttar Pradesh:**

- In East Uttar Pradesh, carry out proper drying of wheat grains and store them in metal/earthen containers or gunny bags; vcarry out fumigation in godowns or rooms where grains are stored. Undertake summer deep ploughing in vacant field and sowing of summer green manure like green gram, cluster bean, sanai, guar, etc. during this week.. Continue sowing of tomato, brinjal, ginger and cucurbitaceous family vegetables like cucumber, pumpkin, bottle guard, etc. Give top dressing of 1/3rd dose of nitrogen in their spring sugarcane field as per proper moisture in soil. Carry out field preparation for sowing of pigeonpea after treatment with Rhizobium culture and Phosphate Solubilizing Bacteria (PSB). To control shoot and fruit borer in brinjal and tomato crops, collect the infested fruits and shoots and bury inside the soil. To control attack of mango fruit fly, use pheromone trap.
- In West Uttar Pradesh, after harvesting and threshing mature crop of wheat, keep grains in a safe place. Undertake sowing of sanai, dhaincha, guar, cowpea, moong, etc. as summer green manure during this week. Apply irrigation to lady finger, cowpea, lobia and pumpkin crops as per the requirement. Carry out weeding in gram and maize crops and apply light irrigation. For stem borer in maize crop, spray Quinalphos 25% EC 2.0 litre / ha or Dimethoate 30% EC 1.0 litre / ha @ in 700-800 litres of water when sky is clear. To prevent mango fruit fall, spray Naphthalene Acetic acid @ 20 mg / litre of water or Planofix 5 mg / 10 litres of water.

#### **Animal Husbandry**

- Undertake vaccination to buffaloes and cows as per schedule. Grazing/feeding may be done during morning/evening hours. Keep animals under shade/shed during noon hours and provide plenty of water for drinking.

#### **Uttarakhand**

- In Sub Humid Sub Tropic Zone, carry out weeding in sugarcane crop; apply irrigation if required. Apply irrigation to jowar crop and vegetables like bottle gourd if required.
- In Hill Zone, continue nursery preparation for sowing of rice; treat the seeds before sowing. Apply light irrigation to tomato crop. Undertake planting of ginger.
- In Bhabar and Tarai Zone, undertake nursery sowing of rice. Undertake planting of ginger. Undertake transplanting of capsicum. Carry out earthing up in potato crop.

#### **Rajasthan**

- In Hyper Arid Partial irrigated zone, continue sowing of cotton; use varieties of R S - 2013, R S - 810, R S T - 9, R S - 875, BikaneriNarma and Maru Vikas (4 kg seed per ha) of American cotton and RG-8, RG-18, RDH-9, HD-23, RG-542 of deshi cotton with 12kg seed per ha.
- In Irrigated North Western Plain Zone, the sowing time of American cotton should be completed by end of May month. Use recommended varieties of RST-9, RS-810, RS-2013, RS-875, Bikaneri Nerma & Maru Vikas (RajHH-16) with seed rate of 4 kg/bigha.
- In Sub Humid Southern Plain and Aravali Hill Zone, transplantation of cabbage from nursery to field should be done. Undertake sowing of cotton. Recommended varieties are: Ankur-3224(BG II) and PCH-9605. Sow non-Bt cotton around the field of Bt cotton. Apply Pendimithalin 30 EC after sowing @ 1 liter in 500 liter water.
- In Semi Arid Eastern Plain Zone, undertake sowing of irrigated cotton. Bikaneri Nerma (190-200 days), Ganganagar Ageti (170-180 days), RST-9 (185-200 days) & RG-8 ( Desi ,170-180 days) are improved varieties. .

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