



# *National Agromet Advisory Service Bulletin*

*Friday 21<sup>st</sup> June 2019*  
*(For the period 21<sup>st</sup> to 25<sup>th</sup> June 2019)*



*Issued by*  
*India Meteorological Department*

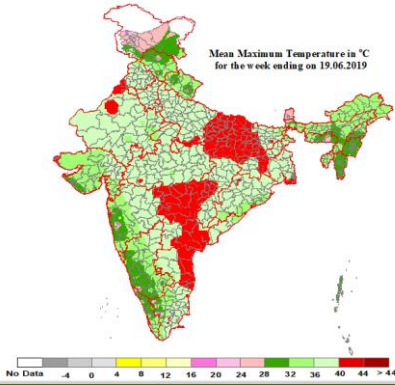
**Weblink For**

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

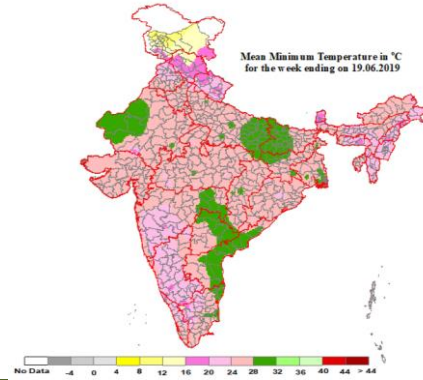
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

**Spatial distribution of weather parameters for the week ending on 19.06.2019**

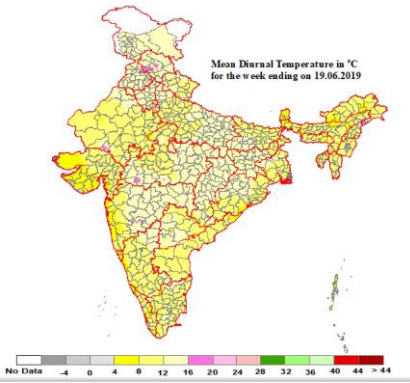
**Mean Maximum Temperature (°C) for the week ending on 19.06.2019**



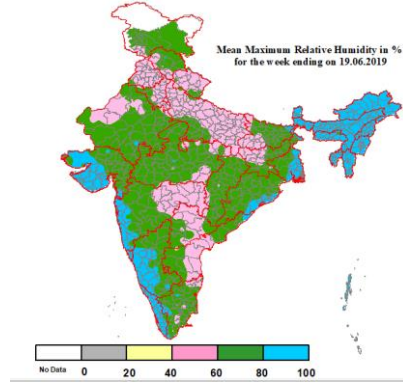
**Mean Minimum Temperature (°C) for the week ending on 19.06.2019**



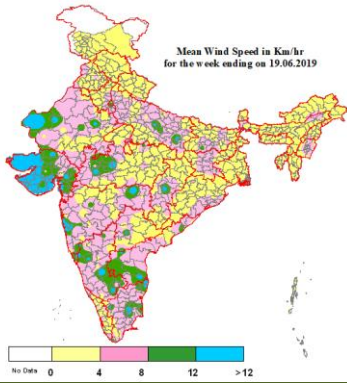
**Mean Diurnal Temperature Variation (°C) for the week ending on 19.06.2019**



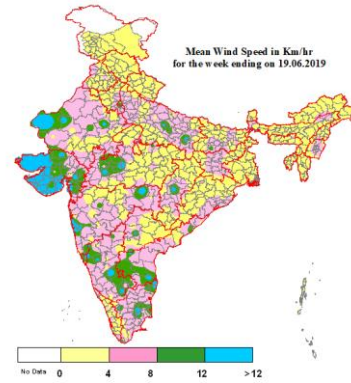
**Mean Maximum Relative Humidity (%) for the week ending on 19.06.2019**



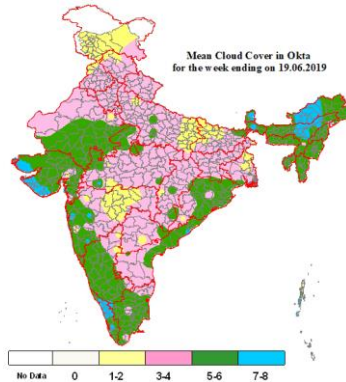
**Mean Minimum Relative Humidity (%) for the week ending on 19.06.2019**



**Mean Wind Speed (km/hr) for the week ending on 19.06.2019**

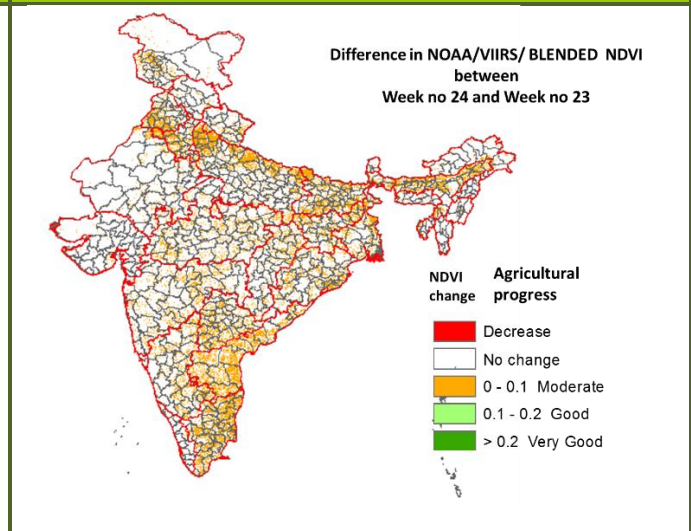
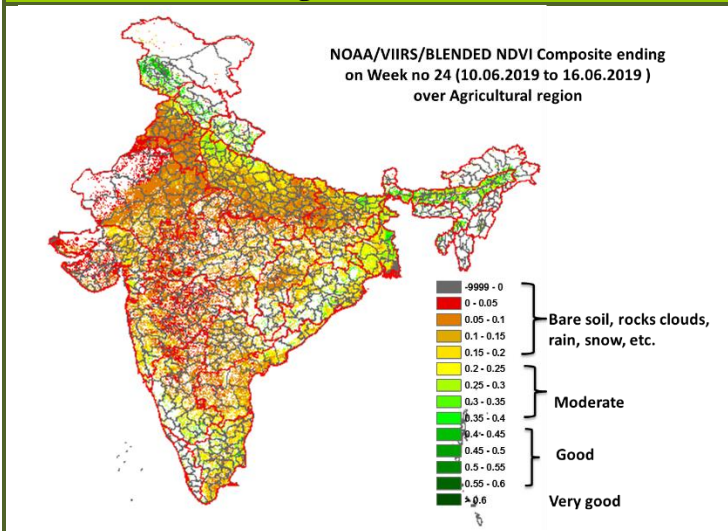


**Mean Cloud Cover (okta) for the week ending on 19.06.2019**



**NOAA/VIIRS/BLENDED NDVI composite for the week number 24 (10.06.2019 to 16.06.2019) over Agricultural regions of India**

**Difference in NOAA/VIIRS/BLENDED NDVI between week number 24 and week number 23**

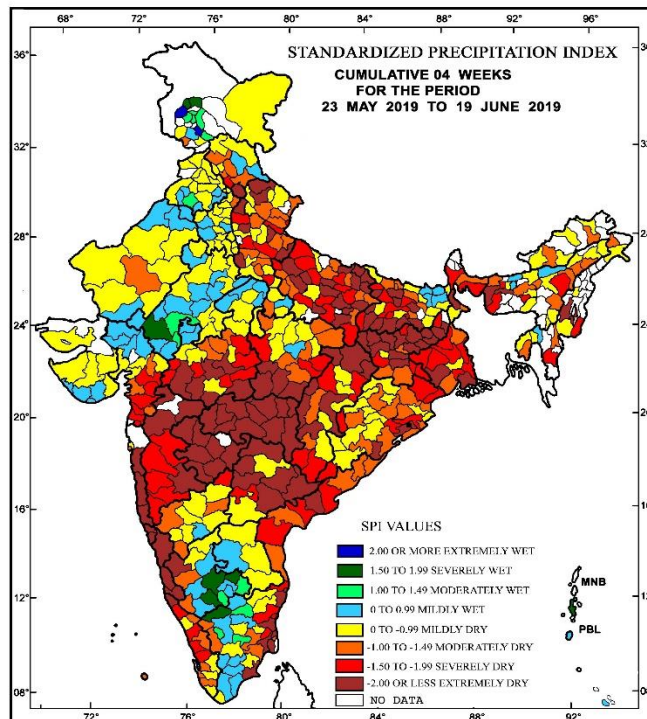


Agriculture vigour is good at a few places over valley region of Jammu & Kashmir and at isolated places over North Eastern States, Himachal Pradesh, Uttarakhand, Tamilnadu and West Bengal.

Moderate difference in agricultural vigour was noticed mostly over Bihar, Andhra Pradesh & Tamilnadu and at many places over Jammu & Kashmir, Punjab, Haryana, Uttar Pradesh, Odisha, Gangetic West Bengal, North Eastern States, Telangana and South Interior Karnataka.

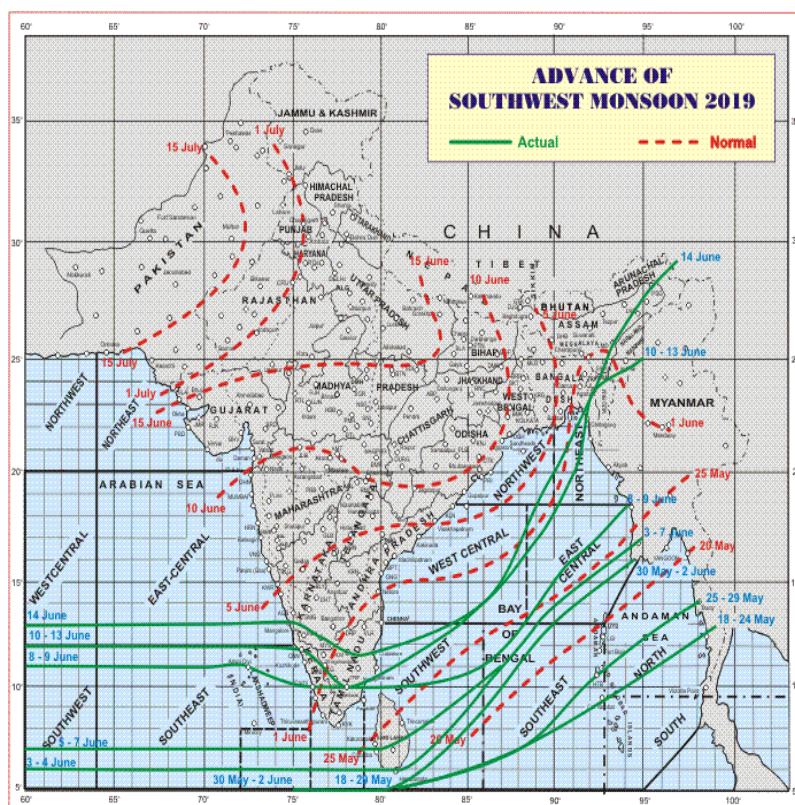
**Standardised Precipitation Index  
Cumulative 4 weeks for the period 23<sup>rd</sup> May to 19<sup>th</sup> June 2019**

MINISTRY OF EARTH SCIENCES  
INDIA METEOROLOGICAL DEPARTMENT  
HYDROMET SECTION, PUNE



- Extremely/severely wet conditions experienced in Baramula, Kupwara, Ramban, Bandipore districts of Jammu & Kashmir; Chamarajanagar, Tumkur, Chickballapur district of Karnataka; Udaipur district of Rajasthan and North & Middle Andaman districts of Andaman & Nicobar islands.
- Moderately wet conditions experienced in Anantnag, Doda, Badgam, Pulwama, Srinagar districts of Jammu; Kolar, Ramanagara districts of Karnataka; Bhatinda district of Punjab; Chittorgarh, Pratapgarh districts of Rajasthan; Dharmapuri, Karur, Tirupur districts of Tamilnadu.
- Extremely/Severely dry conditions experienced in East Godavari, West Godavari, Krishna, Prakasam, Adilabad, Khammam, Medak, Nalgonda, Nizamabad, Warangal, Rangareddy districts of Andhra Pradesh; Darrang, Goalpara, Dhubri, Karbi Anglong, Bongaigaon districts of Assam; Aurangabad, Begusarai, Bhabua, Buxar, Gaya, Gopalganj, Jahanabad, Jamui, Muzaffarpur, Nawada, Patna, Rohtas, Samastipur, Saran, Sheikhpura, Siwan, Vaishali, Arwal districts of Bihar; Baroda, Valsad, Narmada, Navsari, Tapi districts of Gujarat; Sirmaur, Solan districts of Himachal Pradesh.
- Moderately/ mildly dry conditions experienced in remaining districts in the country.

## Advance of SouthWest Monsoon 2019



- ♦ Southwest Monsoon has further advanced into some more parts of south Madhya Maharashtra, most parts of Karnataka, remaining parts of Tamilnadu, Puducherry & Karaikal, entire Andhra Pradesh, most parts of Telangana, some parts of south Chhattisgarh & Odisha, remaining parts of Bay of Bengal, most parts of West Bengal and some parts of Jharkhand and Bihar.
- ♦ Northern Limit of Monsoon (NLM) passes through Lat. 17°N/Long. 60°E, Lat. 17°N/Long. 70°E, Ratnagiri, Sangli, Bijapur, Ramagundam, Jagdalpur, Phulbani, Jamshedpur, Asansol, Purnea and Lat. 28°N/Long. 87°E.
- ♦ Conditions are becoming favourable for further advance of Southwest Monsoon into remaining parts of Central Arabian Sea, Karnataka, Telangana, Konkan & Madhya Maharashtra, entire Marathwada, some parts of Vidarbha, remaining parts of Chhattisgarh, Odisha, West Bengal, Bihar & Jharkhand and some parts of East Madhya Pradesh and East Uttar Pradesh during next 72 hours.
- ♦ Strong winds and rough sea in association with the Southwest Monsoon are prevailing over southwest & central Arabian Sea, Lakshadweep area and around the low pressure area over north Bay of Bengal.

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

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

### 5 Day Rainfall Forecast (MID-DAY) 21 June 2019

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

#### % 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

**21 Jun (Day 1):** ◆ **Thunderstorm accompanied with lightning & gusty winds (30-40 kmph)** at isolated places very likely over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Rajasthan and Vidarbha. **Thunderstorm accompanied with lightning** at isolated places very likely over Bihar, Jharkhand, Gangetic West Bengal, Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

♦ **Heavy to Very Heavy Rainfall** at isolated places very likely over Chhattisgarh, Odisha and Coastal Karnataka. **Heavy rainfall** at isolated places over Coastal Andhra Pradesh, Telangana, Rayalseema, Interior Karnataka, Tamilnadu, Puducherry & Karaikal, Kerala & Mahe, Lakshadweep, Konkan & Goa, Jharkhand, Gangetic West Bengal and Assam & Meghalaya.

♦ **Heat wave conditions** very likely in isolated pockets over Vidarbha.

♦ **Rough Sea conditions** are likely to prevail over southwest and central Arabian Sea, Lakshadweep area & north Bay of Bengal. Fishermen are advised not to venture into these areas.

**22 Jun (Day 2):** ♦ **Thunderstorm accompanied with gusty winds (30-40 kmph) & lightning** at isolated places very likely over Rajasthan. Thunderstorm accompanied with lightning at isolated places over Bihar, Jharkhand and Gangetic West Bengal.

♦ **Heavy rainfall** at a few places **with very heavy rainfall** at isolated places over Coastal Karnataka; **Heavy to Very Heavy rainfall** at isolated places over Interior Karnataka, Kerala & Mahe and Marathawada and **heavy rainfall** at isolated places over Coastal Andhra Pradesh & Yanam, Telangana, Tamilnadu, Puducherry & Karaikal, Konkan & Goa, Madhya Maharashtra, East Uttar Pradesh, Chhattisgarh and Odisha.

♦ **Rough Sea conditions** are likely to prevail over southwest and central Arabian Sea & north Bay of Bengal. Fishermen are advised not to venture into these areas.

**23 Jun (Day 3):** ♦ **Thunderstorm accompanied with lightning, hail & gusty winds (40-50 kmph)** at isolated places likely over Uttarakhand; **with gusty winds (30-40 kmph) & lightning** at isolated places very likely over Jammu & Kashmir and **with lightning** at isolated places over Bihar and Jharkhand.

♦ **Heavy rainfall** at a few places **with very heavy rainfall** at isolated places over Coastal Karnataka; **Heavy to Very Heavy rainfall** at isolated places over Kerala & Mahe and Madhya Maharashtra and **heavy rainfall** at isolated places over Interior Karnataka, Konkan & Goa, Marathawada, Uttarakhand, East Uttar Pradesh, Arunachal Pradesh and Assam & Meghalaya.

♦ **Rough Sea conditions** are likely to prevail over southwest and central Arabian Sea. Fishermen are advised not to venture into these areas.

**24 Jun (Day 4):** ♦ **Thunderstorm accompanied with lightning, hail & gusty winds (40-50 kmph)** at isolated places likely over Uttarakhand; **with gusty winds (40-50 kmph) & lightning** at isolated places very likely over Jammu & Kashmir and Himachal Pradesh; **with gusty winds (30-40 kmph) & lightning** at isolated places very likely over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh and **with lightning** at isolated places over Odisha.

♦ **Heavy to very heavy rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya and **heavy rainfall** at isolated places over Uttarakhand, Bihar, Andaman & Nicobar Islands, Arunachal Pradesh and Coastal Karnataka.

**25 Jun (Day 5):** ♦ **Thunderstorm accompanied with gusty winds (30-40 kmph) & lightning** at isolated places likely over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh; **with lightning** at isolated places over Odisha.

♦ **Heavy to Very Heavy rainfall** with **extremely heavy falls** at isolated places likely over Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya; **Heavy to very heavy rainfall** at isolated places over Arunachal Pradesh and **heavy rainfall** at isolated places over Bihar and Andaman & Nicobar Islands.

♦ Strong wind speed of the order of 35-45 kmph is likely over west central and south Bay of Bengal, 35-45 kmph over southwest Bay of Bengal.

#### **Weather Outlook for subsequent 2 days from 26<sup>th</sup> to 28<sup>th</sup> June 2019**

- Widespread rainfall with isolated heavy/very heavy falls likely over northeast and adjoining eastcentral India.
- Scattered to fairly Widespread rainfall likely over central India & adjoining south Peninsula and along the West coast and Islands.
- Isolated to scattered rainfall likely over the rest of the country.

#### **Advisory for fishermen**

**Rough Sea conditions** are likely to prevail over southwest and central Arabian Sea. Fishermen are advised not to venture into these areas.

## Salient advisories

- Southwest Monsoon has further advanced into most parts of Karnataka, remaining parts of Tamilnadu, Puducherry & Karaikal, entire Andhra Pradesh, most parts of Telangana, some parts of south Chhattisgarh & Odisha, most parts of West Bengal and some parts of Jharkhand and Bihar, conditions are becoming favourable for further advance of Southwest Monsoon into remaining parts of Karnataka, Telangana, Konkan & Madhya Maharashtra, entire Marathwada, some parts of Vidarbha, remaining parts of Chhattisgarh, Odisha, West Bengal, Bihar & Jharkhand and some parts of East Madhya Pradesh and East Uttar Pradesh during next 72 hours:
  - continue land preparation and transplanting of Virippu rice in **Kerala**. In **Coastal Karnataka**, continue sowing of drill sown rice and nursery preparation for rice. In **South Interior Karnataka**, continue land preparation and undertake sowing of kharif crops like pulses (cowpea, green gram, black gram, horse gram, field bean etc), ragi, sunflower and maize. In **Telangana**, continue land preparation for sowing of rained crops and undertake sowing of rainfed crops like Soybean, Jowar, Maize, Redgram, Greengram, Cotton etc., only after receiving cumulative rainfall of 50-60 mm in light soils and 60-75 mm in heavy soils. In Assam, continue nursery bed preparation / nursery sowing of *Sali* rice. In **Konkan**, continue nursery sowing of rice and nagli.
  - In Odisha, prepare the land for nursery raising for Kharif rice. Start land preparation and go for sowing of cotton, maize, arhar, ragi and groundnut. Undertake nursery sowing of long duration rice varieties in Chhattisgarh.
- Thunderstorm **accompanied with lightning, hail and gusty winds (40-50 Kmph)** at isolated places very likely over Uttarakhand on 23<sup>rd</sup> & 24<sup>th</sup> ; **Thunderstorm accompanied with lightning and gusty winds (30-40 Kmph)** at isolated places very likely over Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh on 24<sup>th</sup> & 25<sup>th</sup> and over Rajasthan on 21<sup>st</sup> and 22<sup>nd</sup> June, **Thunderstorm accompanied with lightning** at isolated places very likely over Odisha during the period, over Bihar and Jharkhand from 21<sup>st</sup> to 23<sup>rd</sup> and over Gangetic West Bengal on 21<sup>st</sup> & 22<sup>nd</sup> June, it is advised to use hail net for orchard crops to protect from mechanical damage in Uttarakhand. Provide mechanical support to young fruit plants, staking of vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane in Odisha, Punjab and Haryana. Avoid application of plant protection measures and fertilizers to the standing crops during strong / squally / gusty winds.
- As rain/thundershowers likely rain/thundershowers likely at most places over **Coastal Karnataka** and at most/many places over **Kerala**, over **North & South Interior Karnataka** during the period, at most/many places over **Coastal Andhra Pradesh** and **Telangana** from 21<sup>st</sup> to 23<sup>rd</sup> and over **Rayalaseema** on 21<sup>st</sup> & 22<sup>nd</sup> June along with heavy/heavy to very heavy rainfall at isolated places over Kerala and Interior Karnataka, heavy rainfall at a few places with very heavy rainfall at isolated

places over Coastal Karnataka from 21st to 23rd June, rain/thundershowers at most/many places over **Sub-Himalayan West Bengal and Sikkim** during the period, over **Odisha** from 21<sup>st</sup> to 23<sup>rd</sup>, over **Gangetic West Bengal and Jharkhand** on 21<sup>st</sup> & 22<sup>nd</sup>, over **Bihar** on 25<sup>th</sup> June along with heavy to very heavy rainfall **with extremely heavy falls** at isolated places likely over Sub-Himalayan West Bengal and Sikkim on 24<sup>th</sup> & 25<sup>th</sup> June, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields Provide adequate drainage in standing crop fields in Coastal Karnataka, Interior Karnataka, Kerala and in Sub-Himalayan West Bengal and Sikkim .

## ***Detailed Agromet Advisories***

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

**Realised Rainfall:** Rainfall occurred in all districts of Kerala, all districts of Coastal Karnataka, Chikkamagaluru, Kodagu, Shivanogga districts of South Interior Karnataka during the week. Weather remained mainly dry over rest of the region during the week.

**Advisories:**

- As rain/thundershowers likely at most places over Coastal Karnataka and at most/many places over Kerala, over North & South Interior Karnataka during the period, at most/many places over Coastal Andhra Pradesh and Telangana from 21<sup>st</sup> to 23<sup>rd</sup> and over Rayalaseema on 21<sup>st</sup> & 22<sup>nd</sup> June along with heavy/heavy to very heavy rainfall at isolated places over Kerala and Interior Karnataka, heavy rainfall at a few places with very heavy rainfall at isolated places over Coastal Karnataka from 21st to 23rd June, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields Coastal Karnataka, Interior Karnataka and Kerala.

**Kerala:**

- Continue land preparation and transplanting of *Virippu* rice and continue sowing of direct sown paddy crop. Undertake planting of new seedlings of coconut and banana.
- In Northern Zone, undertake transplanting of coconut seedlings.
- In Southern Zone, attack of sucking pests on vegetables, spray Pride @ 2.5 g/10L or Rogor @ 1.5ml/Litre of water.

**Andhra Pradesh:**

- In Southern Zone of Andhra Pradesh, farmers are advised to take up groundnut sowing only if 50-60 mm rainfall in light soils and 60-70 mm in heavy soils got accumulated.
- In North Coastal Andhra Pradesh, undertake land preparation for rainfed sugarcane and procure paddy seed and green manure seed.
- In Scarce rainfall Zone of Rayalaseema, procure the seed and fertilizers and keep the inputs ready to take up sowing only after receiving sufficient rainfall after onset of monsoon. Undertake sowing only after receiving 50mm rainfall for red soils and 75 mm rainfall for black soils. Also prepare the land for sowing of kharif crops.
- In Krishna Godavari Zone of Andhra Pradesh, undertake land preparation for sowing of kharif crops and complete the sowing of green manure crops.

**Telangana:**

- In Southern Telangana, continue land preparation for timely sowing of rainfed crops. Undertake sowing of rainfed crops like Soybean, Jowar, Maize, Redgram, Greengram, Cotton etc., only after receiving cumulative rainfall of 50-60 mm in light soils and 60-75 mm in heavy soils or the soil should be wet up to top 15-20 cm after onset of South-West monsoon rains.
- In Northern Telangana, undertake land preparation for sowing of rainfed crops like maize, soybean, redgram, greengram and cotton etc and undertake sowing when soil is wet up to top 15-20 cm. after onset rains. Procure and keep ready the seed, fertilizer and for timely sowing rainfed crops.
- In Southern Telangana, the prevailing weather conditions are congenial for incidence of sucking pests in vegetables. To control, spray Fipronil @ 2ml or Thiomethoxim @ 0.3g per litre of water. Prevailing weather conditions are congenial for the incidence of Shoot & Fruit Borer in Brinjal. To control, spray Flubendiamide @ 0.4 g or Chlorantriliniprole @ 0.2ml per liter of water two times at weekly interval. Prevailing weather conditions are congenial for the incidence of Thrips in Tomato. Monitor the pest, if noticed control it by spraying Dimethoate @ 2 ml per liter of water.

**Tamil Nadu:**



- In Cauvery Delta Zone, continue nursery sowing of kuruvai season rice.
- In North Western Zone, undertake land preparation and sowing of groundnut. Farmers are advised to seed treatment of groundnut seeds with pseudomonas bio control agent (10 g / 1 kg of seeds) before sowing to control root rot disease during early vegetative phase of groundnut crops.
- In South Zone, the prevailing weather condition is conducive for incidence of citrus canker disease, spray of Copper oxychloride (COC) @ 0.3% followed by 4 sprayings with Streptocyclin 100 ppm + COC @ 0.3 % at monthly intervals after pruning.

#### **Karnataka:**

- In Coastal Karnataka, continue sowing of drill sown rice crop. Continue nursery preparation for rice crop. Continue planting of arecanut.
- In South Interior Karnataka, continue land preparation, undertake sowing of pulses (cowpea, green gram, black gram, red gram, horse gram, field bean etc), ragi, sunflower, maize, minor millets, planting of sugarcane and vegetable crops. Under mono cropping the long duration crops red gram, castor, maize and under double cropping the short duration crops sesame, groundnut, cowpea, green gram and black gram are suggested.
- In North Interior Karnataka, continue land preparation for sowing of *kharif* crops sunflower, Bt. cotton, green gram, red gram, bajra, maize, sesamum, Navane and groundnut (bunch type). After receiving sufficient rainfall, undertake sowing of these crops and planting of fruit trees. Intercropping of bajra+ groundnut (bunch) in 2:4 row proportion; bajra + red gram in 2:1 row proportion; groundnut (bunch) + red gram in 3:1 or 4:2 row proportion, red gram + sesamum in 1:2 or 2:4 row proportion is suggested. Undertake sowing of sorghum, maize (African tall), cowpea, short-duration bajra for fodder purpose.

#### **Animal Husbandry:**

- In Karnataka, keep cattle in shed during heavy rainfall period. Vaccinate the animals.

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

**Realised Rainfall:** Rainfall occurred in all districts except Tawang of Arunachal Pradesh; all districts except Golghat, Kamrup (Rural), Karbi Anglong, Morigaon and Sibsagar of Assam; all districts except Ri-Bhoi of Meghalaya; all districts of Mizoram; Churachandpur, Imphal West, Senapati, Tamenglong and Ukhrul districts of Manipur; all districts of Nagaland except Mon and Wokha and all districts of Tripura.

#### **Advisories:**

- As rain/thundershowers likely at most/many places over **Arunachal Pradesh, Assam & Meghalaya** during the period, over **Nagaland, Manipur, Mizoram & Tripura** on 21<sup>st</sup>, 24<sup>th</sup> & 25<sup>th</sup> June along with heavy rainfall at isolated places likely on 21<sup>st</sup> to 23<sup>rd</sup> and heavy to very heavy rainfall **with extremely heavy falls** at isolated places likely on 24<sup>th</sup> & 25<sup>th</sup> over Assam & Meghalaya, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in Assam & Meghalaya.

#### **Arunachal Pradesh:**

- Continue transplanting of kharif rice.
- To control infestation of leaf blast & leaf spot in jhum rice, spray Carbendazim @2g/litre water after current spells of rain.

#### **Assam & Meghalaya:**

- In Assam, continue nursery raising of *Sali* rice. Undertake the main field preparation for transplanting of *Sali* paddy.
- In Hill Zone of Assam, continue sowing of pigeon pea and cotton and in Central Brahmaputra Valley of Assam, continue sowing of arhar and groundnut after current spells of heavy rain.
- In Meghalaya, undertake nursery raising and main field preparation for sowing of low land *Sali* rice.
- In Meghalaya, spray with Bioformulation like Trichoderma spp. and Pseudomonas spp. @ 2.5g/litre at 30 days intervals to prevent late blight along with Neem oil based formulations of Azadirachtin (as per label) to control fruit & shoot borer disease attack in chilli/brinjal after current spells of rain.

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

- In Nagaland, continue field preparation for TRC/WRC paddy.
- In Manipur, continue main field preparation and transplanting of kharif rice.
- In Manipur, apply Bordeaux mixture (5:5:50) or Captan @ 1.5 g/litre of water against leaf spot in turmeric after current spells of rain.
- In Mizoram, continue sowing of maize, green gram, black gram and planting of ginger and turmeric.
- In Tripura, continue transplanting of Aus rice and maintain 2-3 cm of water in the field. Select long duration high yielding variety as per land suitability. Undertake nursery bed preparation for *Aman* rice. Continue sowing of maize and groundnut. Maintain good drainage to avoid stagnant water in the field of cowpea at pod formation stage.

**Animal Husbandry:**

- In Nagaland and Manipur, pig should be vaccinated against all infectious diseases before the monsoon starts.
- In Lower Brahmaputra Valley of Assam, during monsoon season the calves are infected more by the worms. To reduce the problem, it is advised to give Piperzine or Mebendazole at recommended dose in consultation with veterinary doctor.
- In Central Brahmaputra Valley of Assam, immunizations against FMD, HS and BQ in cattle & buffaloes and swine fever in pigs may be carried out during monsoon season. During monsoon season the calves are infected more by the worms. To reduce the problem, it is advised to give Piperzine or Mebendazole at recommended dose in consultation with veterinary doctor.
- In Meghalaya, avoid water logging in and around the animal house. Store sufficient dry feed for the rainy period for sufficient feeding.

**Fishery:**

- In Meghalaya, maintain proper drainage system and fix the net in the drainage pipe in the fish pond. Maintain of proper dyke.
- In Barak Valley Zone of Assam, due to prevailing rainfall the ponds are getting filled up with the rain water so, in this situation there may be chances of bacterial disease in fishes. To control the diseases apply lime @ 6 kg per bigha of pond.

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

**Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands; in Araria, Katihar and Kishanganj districts of Bihar; in Simdega district of Jharkhand; in Angul, Bargarh, Bhadrak, Bolangir, Boudh, Cuttack, Deogarh, Dhenkanal, Jajpur, Jharsuguda, Kalahandi, Kandhamal, Keonjhar, Nawarangpur, Nayagarh, Sambalpur, Sonapur and Sundargarh districts of Odisha; in Bankura, Hooghly, Kolkata and North 24 Paraganas districts of Gangetic West Bengal and in Cooch Behar, Darjeeling, East Sikkim, Jalpaiguri, North Sikkim and South Sikkim districts of Sub-Himalayan West Bengal and Sikkim. Weather remained mainly dry over rest of the region.

**Advisories:**

- **Thunderstorm accompanied with lightning** at isolated places very likely over Odisha during the period, over Bihar and Jharkhand from 21<sup>st</sup> to 23<sup>rd</sup> and over Gangetic West Bengal on 21<sup>st</sup> & 22<sup>nd</sup> June, provide mechanical support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane in Odisha. Avoid application of plant protection measures and fertilizers to the standing crops during strong / squally / gusty winds.
- As rain/thundershowers likely at most/many places over Sub-Himalayan West Bengal and Sikkim during the period, over Odisha from 21<sup>st</sup> to 23<sup>rd</sup>, over Gangetic West Bengal and Jharkhand on 21<sup>st</sup> & 22<sup>nd</sup>, over Bihar on 25<sup>th</sup> June along with heavy to very heavy rainfall **with extremely heavy falls** at isolated places likely over Sub-Himalayan West Bengal and Sikkim on 24<sup>th</sup> & 25<sup>th</sup> June, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in Sub-Himalayan West Bengal and Sikkim.

**Odisha:**

- Prepare the land for nursery raising for Kharif paddy. Go for sowing nursery if assured irrigation is available or wait for a good shower of monsoon rain. Start land preparation and go for sowing of cotton. Carry out land preparation and sowing of maize, arhar, ragi and groundnut. Undertake growing of vegetables like Lady's finger, Cowpea, Cluster bean, Brinjal, Tomato and chillies in uplands. Complete the planting of turmeric & ginger.
- In case of fruit and shoot borer in brinjal, go for application of 60ml Coragen 20 SC in 200 litres of water/acre. In case of capsicum and chilli thrips, go for application of 200 ml Dimethoate 30 EC in 200 litres of water/ acre. To minimize infestation of top shoot borer in sugarcane, spray Lambda Cyhalothrin @2ml/litre of water

**Bihar:**

- Keeping in view of light to medium rainfall in next few days, take up land preparation for nursery sowing of medium duration varieties of paddy. Carry out land preparation for sowing of pigeon pea (*arhar*), sesamum (*til*), sunflower and kharif vegetable crops. Continue land preparation for kharif maize and kharif onion. Continue harvesting of early sown green gram and black gram during clear weather. Continue sowing of turmeric. Intercultural operation and monitoring of pests is advised in vegetables such as lady's finger, pumpkin, cucumber, sponge gourd, bottle gourd, etc.
- Spray Dimethoate 30 EC @ 2 ml+10 gram sugar /litre of water for infestation of fruit fly in cucurbit crops.

**Jharkhand:**

- Repair the broken bunds of the field to saturate the soil with rain. Start land preparation for timely sowing of direct seeded upland rice. Complete the sowing of upland rice by 30th June. Prepare field for early vegetables like long gourd, round gourd, bitter guard, sponge gourd, ridge gourd, cucumber and cowpea. Keeping in mind of irregularities of rainfall, farmers may prefer cultivation of crops having least water requirement like arhar, urd (blackgram), marua (finger millet), jowar, bajra, soybean, etc. Dig pits for plantation of timber & fruit trees in

gravel upland.

**West Bengal:**

- In Sub-Himalayan West Bengal, carry out planting of ginger and turmeric in the main field after current spells of heavy rain. Undertake field preparation for transplanting of Aman rice.
- To control stem rot of jute, spray Copper Oxochloride @ 3-4gram/litre of water and for management of sucking pest, spray Dinotefuran 20% SG @ 1g/litre + 0.5ml/litre sticker. Undertake plant protection methods after current spells of rain.
- In Gangetic West Bengal, complete the final land preparations in upland areas and go for sowing of the paddy crop as early as possible. In the low land, raise paddy nursery by using treated seeds in required amount. Provide proper drainage channels to remove excess water from the nursery. Avoid flood irrigation to betel vine; apply only sprinkler irrigation during afternoon hours.
- Collect and destroy the borer affected fruits of bhindi, chilli and brinjal crops and spray Neem oil @ 5ml/litre of water at clear weather conditions.

**Andaman & Nicobar Islands:**

- In Andaman & Nicobar Islands, prepare rice nursery for medium duration varieties and use seed rate @ 40 kg/ha. Harvest the mature banana and provide support to the fruit bearing banana tree as wind speed may rise to 38 km/h. Avoid spraying of bio-pesticide in vegetables, as moderate to heavy rainfall is expected during next five days.

**Animal Husbandry:**

- In Bihar, vaccinate cattle against Anthrax, BQ and HS diseases.
- In Odisha, do not allow cattle to graze during the hotter parts of the day. Provide cool drinking water.
- In West Bengal, carry out vaccination and de-worming of cattle before the monsoon season. Do not cover poultry cages and keep less number of birds per cage.
- In Andaman & Nicobar Islands, keep the day old chicks under light preferably 40 watt bulb during cloudy days and provide clean drinking water.

**Fishery:**

- In Odisha, remove the predatory and unwanted fishes from the pond for better culture practices. Dry out the pond and plough it properly with application of lime @250kg/ha. Make it clean and free from any aquatic weeds. Excavate new pond of rectangular size at low, swampy and unutilized land. Keep the pond depth 6-7 feet from the ground level.
- In West Bengal, prepare pond for carp cultivation. Apply mahua cake for destruction of harmful insects and fish and let the pond remain in such way for 21 days.

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

- **Realised Rainfall:** Rainfall occurred in all districts in Konkan and Kolhapur district of Madhya Maharashtra; Ahmedabad, Aravalli, Banaskantha, Gandhinagar, Mahisagar, Mehsana, Navsari, Patan, Sabarkantha, Surat districts of Gujarat Region, in all districts of Saurashtra & Kutch except Kutch, Morbi and Surendranagar districts. Weather remained mainly dry over rest of the districts of Gujarat State.

**Advisories:**

- As rain/thundershowers likely at most/many places over **Konkan & Goa** during the period, over Madhya Maharashtra and Marathwada from 22<sup>nd</sup> to 24<sup>th</sup> June, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.

**Maharashtra:**

- In Konkan region, continue nursery sowing of rice and nagli. Apply Urea @ 1 kg and single super phosphate @ 3 kg of with sufficient quantity of FYM per 1 Are (R) area of nursery after current spell of rain. Undertake land preparation for sowing of groundnut after current spell of heavy rain. Undertake nursery sowing of kharif vegetables like chilli, brinjal, tomato, okra, cucumber, bitter gourd, snake gourd, ridge gourd, Snap melon etc. Okra should be sown on ridges and furrows and sowing of gourd vegetables be done on soil mounts.
- In Madhya Maharashtra, undertake sowing kharif groundnut, green gram and soybean. For the control of stem borer in maize, spray 25% Carbaryl 50 WP @ 20g per 10 liters of water. Complete land preparation and keep the inputs ready for kharif sowing like soybean, tur and cotton. Continue nursery bed preparation for kharif rice and nagli. Complete land preparation and keep inputs ready for kharif sowing of crops like groundnut, soybean, maize, green gram.
- In Marathwada, continue land preparation for sowing of kharif crops like cotton, pigeon pea, black gram and groundnut. Undertake harvesting of matured vegetables as early as possible. Keep the harvested produce in safer place. Preparatory tillage of fields for kharif sowing may immediately be completed for soybean and cotton. Spread FYM/compost uniformly over the field and then undertake harrowing in the surface layer.
- In Vidarbha, preparatory tillage of fields for kharif sowing may immediately be completed for soybean and cotton. Spread FYM/compost uniformly over the field and then undertake harrowing in the surface layer. In cotton at the time of sowing, grow trap crops like maize, marigold, cow pea and sorghum. Grow non BT cotton seed around the BT cotton field as a trap crop for bollworm complex. Undertake seed treatment with Azotobactor and PSB @25 g per kg of seed is advisable before sowing of cotton.

- Undertake seed treatment with Rhizobium @ 25 gm/kg, PSB @ 25 gm/kg and bio-fungicide Trichoderma @ 4 gm/kg of seed before sowing of soybean. Continue land preparation for pigeon pea, cotton and soybean. Continue nursery bed preparation for rice in east Vidarbha. Undertake seed treatments with 3 % brine salt solution (300 g in 10 lit. of water) before nursery sowing.

#### **Gujarat:**

- In North Gujarat, continue land preparation for sowing of irrigated hybrid cotton and B.T. cotton crop. Carry out picking of matured pods/ fruits of vegetable crops and harvesting of mango papaya, sapota, lemon and pomegranate etc. Carryout gap filling and intercultural operations in early sown Hybrid / B.T. cotton. Complete harvesting of groundnut, pearl millet and green gram crops.
- In Middle Gujarat, continue sowing of Bt. cotton. Continue land preparation for pearl millet, groundnut crops. Undertake nursery sowing of rice, vegetable crops (tomato, chili, etc).
- In Saurashtra & Kutch, carryout gap filling and intercultural operations in early sown Hybrid / B.T. cotton. Continue sowing of irrigated hybrid cotton and B.T. cotton crop in Kutch. Continue land preparation for sowing of groundnut, sesame, pulses and pearl millet crops. Carry out picking of matured pods/ fruits of vegetable crops and harvesting of mango papaya, sapota, lemon and pomegranate etc. Complete harvesting of groundnut, pearl millet, green gram crops. Keep harvested produce at safer places.
- In South Gujarat, continue land preparation for sowing of pigeon pea, green gram and black gram crops. Complete nursery sowing of rice crop. Maintain 2-3 cm water level in rice field.
- **Animal Husbandry**
- In Gujarat, keep animals indoor during rainfall.

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

**Realised Rainfall:** Rainfall occurred in Katni and Satna districts in East Madhya Pradesh ; Agar, Bhind, Bhopal, Khandwa, Mandsaur, Morena, Neemuch, Rajgarh, Ratalam, Sheopur Kalani and Ujjain districts in West Madhya Pradesh ; Balrampur, Bastar, Dantewara, Dhamtari, Gariaband, Kondagaon, Korba, Mahasumund, Raigarh and Sukma districts of Chhattisgarh. Weather remained mainly dry over the rest of region during the week.

#### **Advisories:**

##### **Madhya Pradesh**

- In Central Narmada Valley Zone, continue nursery sowing of rice early and medium duration varieties of rice (Early varieties- Sahbhagi, Danteshwari, JR 201, BVD109, Medium duration varieties: Pusa 1460, WGL-32100, Pusa Sugandha 3, Pusa Sugandha 4, MTU-1010, IR 64, IR 36, JR 353, JR 201, JR 81, JRB 1, Improved Chinnor, Improved Jira Shankar). Keep inputs ready for sowing of soybean and maize. Select disease and pest resistant variety of Soybean for sowing like Ahilya-2(NRC-12), JS 95-60, JS 75-46, JS 97-52, JS 20-29, RVS 2001-4, JS 20-34, JS 20-69, JS 20-94, JS 20-98, NRC-86. Farmers are advised to start digging of pit of appropriate size and distance for new orchard establishment. To control fruit drop in mango, spray planofix 5 ml per pump.
- In Malwa Plateau Zone, continue field preparation for sowing of pigeon pea and cotton. Farmers are advised to procure good quality seeds from certified source. Prepare the fields and undertake planting of ginger and turmeric.
- In Kymore Plateau and Satpura Hill Zone, undertake field preparation for sowing of vegetables.
- In Satpura Plateau Zone, due to the prevailing high maximum temperature and hot and dry winds banana and papaya fruits are damaged because of sun scorching. Hence, farmers are advised to cover the fruits by using leaves or Jute bags to protect the fruits from sun scorching. It is also advised to provide wind breaks in west/north-west direction. Optimum moisture level should be maintained in cucurbitaceous crops by light and frequent irrigation as dry conditions may lead to poor pollination and thus drop in yield of the crop.

##### **Chhattisgarh:**

- In North Hill Zone, prepare nursery for sowing of long duration rice varieties and undertake land preparation for sowing of vegetables. Farmers who are growing fruit crops are suggested for digging of pit for the planting of fruit crops i.e. Papaya, Guava, Mango, Litchi, and Pomegranate etc.
- In Chhattisgarh Plain Zone, deep ploughing of the field should be done and covered with polythene. This will prevent crops from soil borne diseases, weeds and insect eggs will be destroyed in the soil. Farmers are advised to keep seeds of kharif crops ready for sowing. Before nursery sowing or direct seeding of rice crop, rice seeds should be treated with 17 % salt solution. Farmers having the assured irrigation facilities are advised to irrigate the fields for preparing the raised land for rice nursery and undertake sowing of rice nursery. For sowing of soybean, maize, groundnut crops, fields should be well prepared so that perennial grass are destroyed.

##### **Animal Husbandry**

- In Madhya Pradesh, before the onset of monsoon, dairy farmers are advised to arrange the vaccines to protect the animals from FMD and jahari fever disease.
- In Chhattisgarh, vaccinate animals against Hemorrhagic Septicaemia (H.S.), Block quarter (B.Q.), etc. To avoid dehydration, feed solution of 4-5 teaspoon sugar and one fourth amount of salt every half an hour to dairy animals.

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

## DELHI, UTTAR PRADESH & RAJASTHAN]

**Realised Rainfall:** Rain occurred in Chamba, Kangra and Una districts of Himachal Pradesh and Anantnag, Bandipore, Baramula, Doda, Ganderbal, Kupwara, Ramban, Reasi and Udhampur districts of Jammu & Kashmir during the week. Weather remained mainly dry/dry over rest of the region.

### **Advisories:**

- Thunderstorm **accompanied with lightning, hail and gusty winds (40-50 Kmph)** at isolated places very likely over Uttarakhand on 23<sup>rd</sup> & 24<sup>th</sup> ; **Thunderstorm accompanied with lightning and gusty winds (30-40 Kmph)** at isolated places very likely over Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh on 24<sup>th</sup> & 25<sup>th</sup> and over Rajasthan on 21<sup>st</sup> and 22<sup>nd</sup> June, it is advised to use hail net for orchard crops to protect from mechanical damage in Uttarakhand. Provide mechanical support to young fruit plants, staking of vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds.
- As rain/thundershowers likely at most/many places over Jammu & Kashmir and Uttarakhand from 23<sup>rd</sup> to 25<sup>th</sup> , over Himachal Pradesh on 24<sup>th</sup> & 25<sup>th</sup>, 16<sup>th</sup> to 18<sup>th</sup> and at many places over Uttar Pradesh from 22<sup>nd</sup> to 24<sup>th</sup> June, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.

### **Jammu & Kashmir:**

- In Sub Tropical Zone, undertake land preparation for transplanting of rice. Undertake sowing of maize. Undertake land preparation for sowing of rainy season sponge gourd & bitter gourd. To control fruit borer in cucurbits, spray profenofos + cypermethrin (4:40) @ 1ml/litre of water. Install pheromone traps @ 2/kanal along with spray of neem oil @ 3ml/litre to control fruit borer in tomato.
- In Intermediate Zone, undertake land preparation for transplanting of rice. Maintain optimum water level in the rice nursery. Undertake sowing of maize after receipt of rainfall. Carry out intercultural operations like weeding and hoeing in tomato, brinjal and chilli. Apply irrigation to vegetables.
- In Valley Temperate Zone, continue transplanting of rice. Use light traps for management of cut worm in maize crop where the seedling stage is over. Undertake harvesting of rabi pulses like lentils, pea and red gram. Undertake harvesting of oilseeds. Avoid over ripening to prevent shattering of seeds from the pods.

### **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, complete sowing of rice nursery. Complete sowing of maize crop. Carry out intercultural operations in pulses.
- In Mid Hills Sub Humid Zone, in case of attack of aphids on pomegranate, apply Imidacloprid @ 60ml/200 litres of water. Spray Myclobutanil (80 gm ) or Mancozeb (600gm) or Propineb (600 gm) or Dodine (150 gm) per 200 litres water for the control of scab in apple. Spray Fenazaquin (50ml) or Propargite (200ml) per 200 litres of water, in case of mite infestation in apple.
- In High Hill Temperate Dry Zone, carry out weeding operation in pea. Carry out weeding in potato crop.

### **Punjab, Haryana and New Delhi**

- In Punjab, undertake transplanting of vegetables (tomato, chilli, brinjal, cauliflower). Complete sowing of cotton including Bt cotton or desi Cotton and planting of turmeric. Undertake transplanting of rice. Irrigate the vegetable and fruit crops. Apply sugarcane trash as mulch to conserve soil moisture. Carry out soil moisture conserving interculture operations in vegetables.
- In Haryana, continue sowing of cotton, transplanting of matured seedlings of tomato, cauliflower, cabbage in prepared field and complete the sowing of ladyfinger, bottle gourd, cucumber, ridge gourd and summer radish. Undertake field preparation of nursery sowing of rice and land preparation for sowing for pulses i.e. green gram, lobia, moth and pigeonpea. Undertake intercultural/hoeing operation as per requirement of the cotton crop for removal of weed and conserved the soil moisture. Apply light irrigation in nursery of rice, planted vegetable crops and fruits at morning or evening hours.
- In Delhi, undertake transplanting of nursery for early cauliflower, tomato, chilli, brinjal whose seedlings are ready and land preparation of rice. Monitor paddy nurseries against attack of bakanae disease, spray Carbendazim @ 2.0 gram per litre of water. Undertake sowing of cucurbits in rainy season and prepare the fields for maize crop.
- In Western Plain Zone of Punjab, summer moong is severely attacked by the thrips, spray the crop at flower bud initiation stage with 600 ml triazophos 40 EC or 100 ml Rogor 30 EC in 80-100 litres of water per acre.
- In Undulating Plain Zone, prevailing weather conditions may increase attack of fruit borer in tomato and fruit & shoot borer in brinjal, spray Coragen 18.5 SC @ 60 ml in tomato and 80 ml in brinjal for control of the insects.

### **Uttar Pradesh**

- In East Uttar Pradesh, prepare land for rice nursery and procure disinfected and certified seeds of rice..Apply cow-dung as fertilizer for guava, papaya, mango, amla and plum trees.
- In West Uttar Pradesh, prepare of nursery for chilli and brinjal. It is also advised to use shed nets, which helps in reducing soil borne disease and thus produce healthy seedlings. Sowing of cotton may be done in this week. Field preparation for sowing of pigeon pea may be done in this week. Before sowing pigeon pea seeds should be treated with crop specific Rhizobium culture.

### **Uttarakhand:**

- In Hill Zone, undertake sowing of finger millets, soybean and black gram. Continue transplanting of rice. Undertake harvesting of onion and garlic crop. Undertake harvesting of mature vegetables like tomato, brinjal, chilli and capsicum in valley. Carry out mulching and weeding operations in ginger. Undertake transplanting of vegetables in high altitude. Use black polythene as a mulch to avoid weed emergence. Carry out earthing up, mulching and weeding operations in potato.
  - In Bhabar and Tarai Zone, complete sowing of soybean. Continue field preparation for nursery sowing of rice. Continue transplanting of capsicum and brinjal in the polyhouse in mid and high hills and apply irrigation. To control the leaf spot disease in cucurbitaceous crops, spray mancozeb @ 2.5g/litre of water.
  - In Sub-Humid Sub-Tropic Zone, maintain proper soil moisture in rice nursery. Maintain soil moisture in maize crop. Carry out intercultural operations in sugarcane crop and maintain proper soil moisture.
- Rajasthan:**
- In Irrigated North Western Plain Zone and South eastern Humid Plain Zone, continue nursery preparation of rice.
  - In Semi-Arid Eastern Plain Zone, undertake planting of fruit crops like mango, plum, pomegranate, Aonla.
  - In Arid Western Plain Zone, undertake sowing of cucurbit vegetables.
- Animal Husbandary:**
- In Uttar Pradesh, feed mixture of 60% green fodder and 40% dry fodder to animals. Give them sufficient drinking water and minerals. Keep them in dry and clean shed. Vaccinate animals according to schedule.

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