



National Agromet Advisory Service Bulletin

Friday 12th July 2019

(For the period 12th July to 16th July 2019)



Issued by

India Meteorological Department

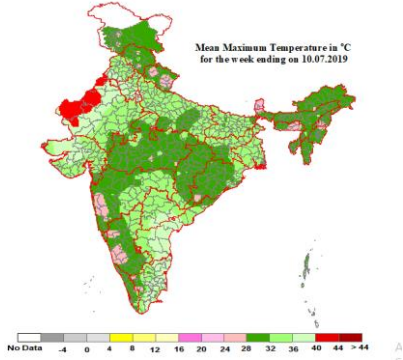
Weblink For

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

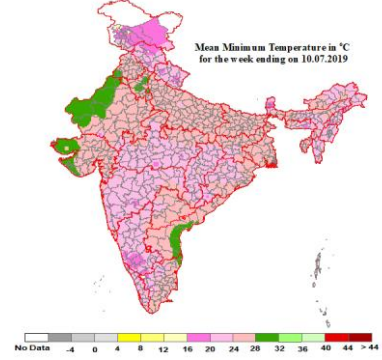
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending on 10.07.2019

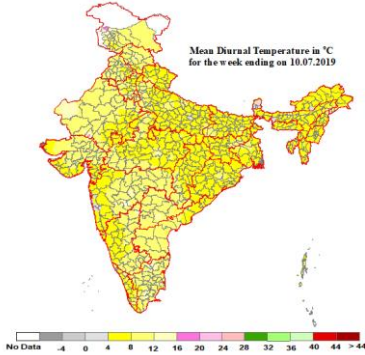
Mean Maximum Temperature (°C) for the week ending on 10.07.2019



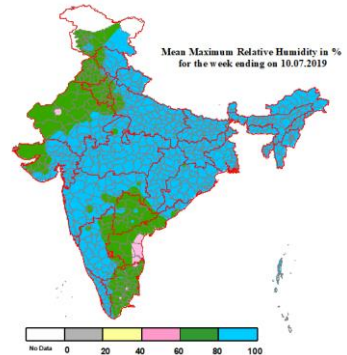
Mean Minimum Temperature (°C) for the week ending on 10.07.2019



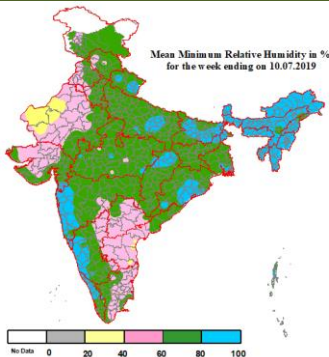
Mean Diurnal Temperature Variation (°C) for the week ending on 10.07.2019



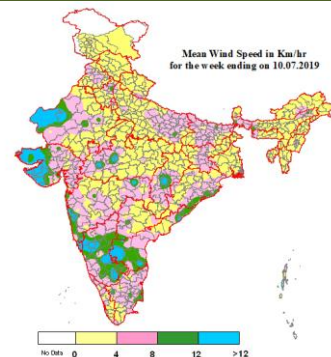
Mean Maximum Relative Humidity (%) for the week ending on 10.07.2019



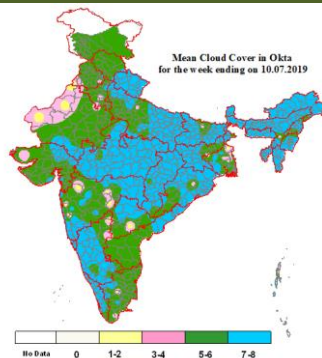
Mean Minimum Relative Humidity (%) for the week ending on 10.07.2019



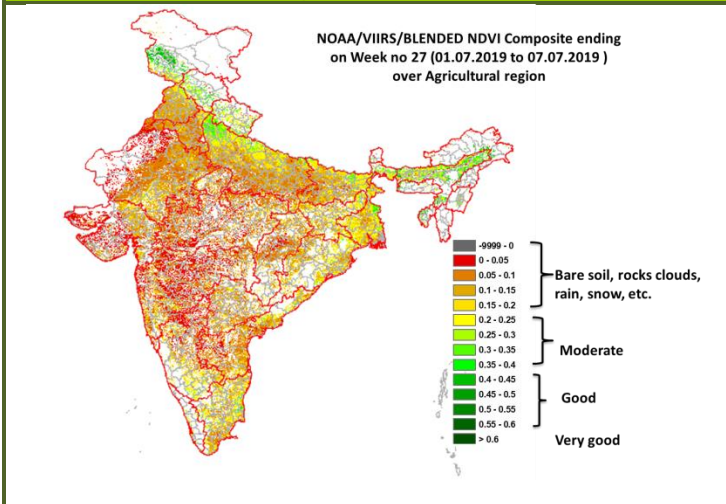
Mean Wind Speed (km/hr) for the week ending on 10.07.2019



Mean Cloud Cover (okta) for the week ending on 10.07.2019

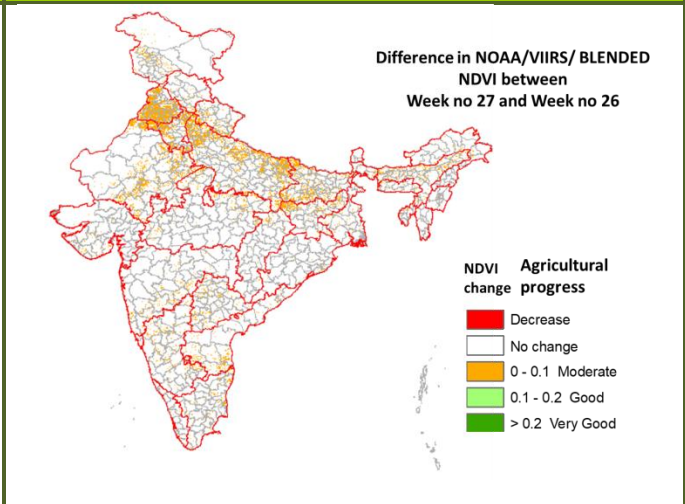


NOAA/VIIRS/BLENDED NDVI composite for the week number 27 (01.07.2019 to 07.07.2019) over Agricultural regions of India



Agriculture vigour is good at many places over valley region of Jammu & Kashmir; at a few places over North Eastern States and at isolated places over Himachal Pradesh and Jammu Division of Jammu & Kashmir.

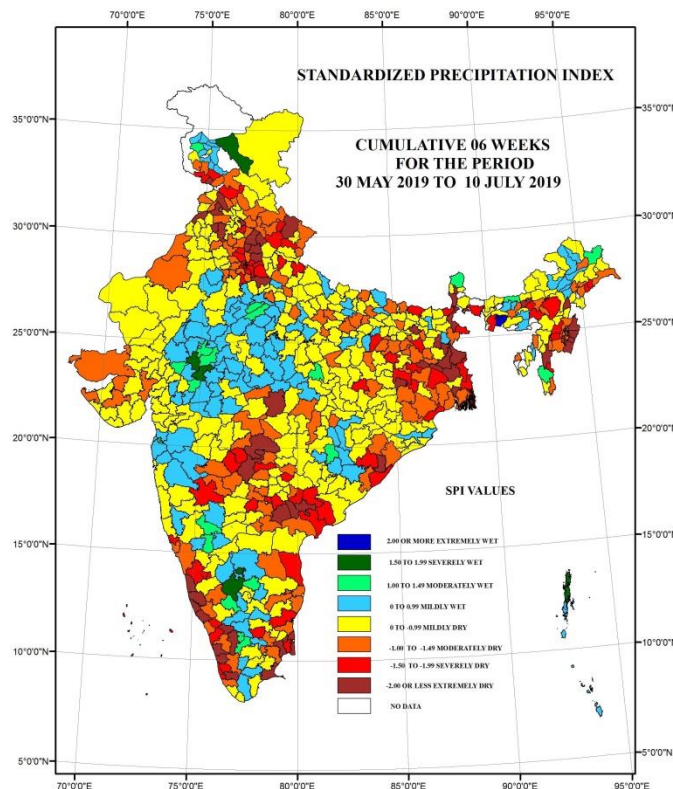
Difference in NOAA/VIIRS/BLENDED NDVI between week number 27 and week number 26



Moderate difference in agricultural vigour was noticed at many places over Punjab; at a few places over valley region of Jammu & Kashmir, Haryana, Uttar Pradesh, Bihar, Rayalaseema and Telangana.

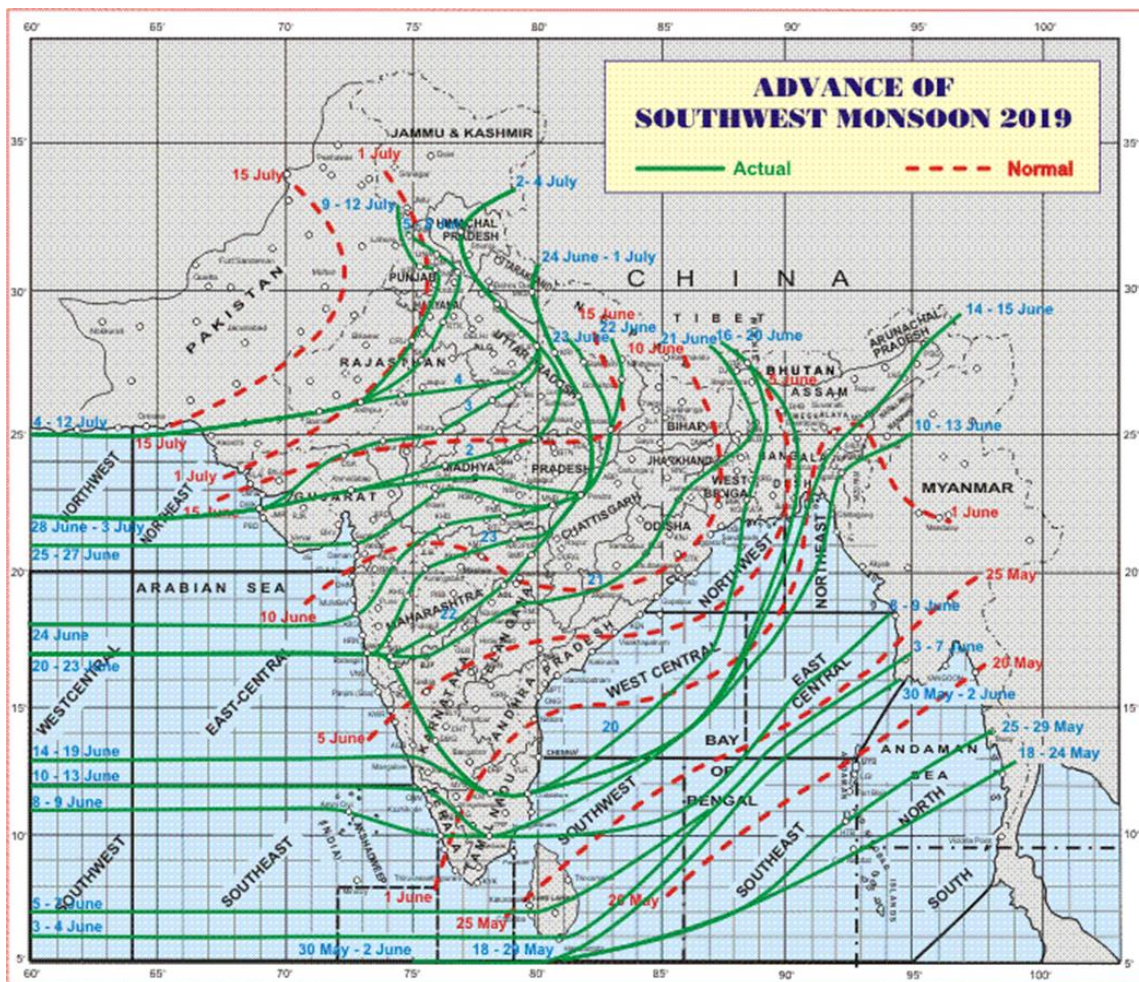
**Standardised Precipitation Index
Cumulative 6 weeks for the period 30th May to 10th July 2019**

MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



- Extremely/Severely wet conditions exist in Ratlam district of West Madhya Pradesh, East Garo Hills district of Meghalaya, Pratapgarh district of Rajasthan.
- Moderately wet conditions exists in Lower Dibang Valley district of Arunachal Pradesh, Baksa district of Assam, Baramula district of Jammu, Bagalkote, Gadag, Mandya, Chickballapur districts of Karnataka, Jhabua, Mandsaur, Morena, Neemuch, Umaria districts of West Madhya Pradesh, Lunglei district of Mizoram, Dungarpur, Dholpur districts of Rajasthan, Tirupur district of Tamilnadu, Dadara & Nagar Haveli district of Union Territory, North Sikkim district of Sikkim, Kondagaon district of Chhatisgarh.
- Extremely/Severely dry conditions exists in Krishna, Nellore, Srikakulam, West Godavari districts of Andhra Pradesh, Tirap district of Arunachal Pradesh, Darrang, Karbi Anglong, Morigaon districts of Assam, Begusarai, Jamui, Kishanganj, Madhubani, Rohtas districts of Bihar, Ambala, Mewat, Faridabad districts of Haryana.
- Moderately/ mildly dry conditions experienced in remaining districts in the country.

Advance of SouthWest Monsoon 2019



◆ Northern Limit of Monsoon (NLM) continues to pass through Lat. 25°N/Long. 60°E, Lat. 25°N/Long. 65°E, Barmer, Jodhpur, Churu, Ludhiana, Kapurthala and Lat. 33°N/Long. 74.5°E.

Weather Forecast for next 5 days valid upto 0830 hours of 17th July 2019

- ♦ Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table-1.
- ♦ No significant change in maximum temperatures likely over major parts of the country during next 3-4 days.

5 Day Rainfall Forecast (MID-DAY) 12th July 2019

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

% 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

12 July (Day 1): ♦ **Heavy to very heavy rainfall** at a few places with **extremely heavy falls** at isolated places very likely over Sub- Himalayan West Bengal & Sikkim; **Heavy to very heavy rainfall** with **extremely heavy falls** at isolated places very likely over Bihar; **Heavy to very heavy rainfall** at isolated places over East Uttar Pradesh, Assam & Meghalaya and Arunachal Pradesh; **heavy rainfall** at

isolated places over Uttarakhand, North Haryana & Chandigarh, Jharkhand, Konkan & Goa, Tamilnadu, Puducherry & Karaikal, Coastal Karnataka, Madhya Maharashtra, Gangetic West Bengal and Nagaland, Manipur, Mizoram & Tripura.

◆ **Thunderstorm accompanied with lightning** at isolated places very likely over Jharkhand.

◆ **Rough to very rough sea conditions** (with wind speed reaching 40-50 kmph) are likely to prevail over southwest & westcentral Arabian Sea. Fishermen are advised not to venture into these areas.

13 July (Day 2):◆ **Heavy to very heavy rainfall** at a few places with **extremely heavy falls** at isolated places very likely over Sub- Himalayan West Bengal & Sikkim; **Heavy to very heavy rainfall with extremely heavy falls** at isolated places very likely over Assam & Meghalaya; **Heavy to very heavy rainfall** at isolated places over Bihar; **heavy rainfall** at isolated places over Uttarakhand, East Uttar Pradesh, Jharkhand, Madhya Maharashtra, Konkan & Goa, Coastal Karnataka, Arunachal Pradesh and Nagaland, Manipur, Mizoram & Tripura.

◆ **Thunderstorm accompanied with lightning** at isolated places very likely over Jharkhand and Odisha.

◆ **Rough to very rough sea conditions** (with wind speed reaching 40-50 kmph) are likely to prevail over southwest & westcentral Arabian Sea. Fishermen are advised not to venture into these areas.

14 July (Day 3):◆ **Heavy to very heavy rainfall with extremely heavy falls** at isolated places very likely over Assam & Meghalaya; **Heavy to very heavy rainfall** at isolated places over Uttarakhand and Sub-Himalayan West Bengal & Sikkim; **Heavy rainfall** at isolated places over Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, North Uttar Pradesh, Konkan & Goa, Coastal Karnataka, Tamilnadu, Puducherry & Karaikal, Lakshadweep and Arunachal Pradesh.

◆ **Rough to very rough sea conditions** (with wind speed reaching 40-50 kmph) are likely to prevail over southwest & westcentral Arabian Sea. Fishermen are advised not to venture into these areas.

15 July (Day 4): ◆ **Heavy to very heavy rainfall** at isolated places likely over Uttarakhand; **Heavy rainfall** at isolated places over Jammu & Kashmir, Himachal Pradesh, Punjab, north Haryana & Chandigarh, North Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, Assam & Meghalaya, Arunachal Pradesh, Coastal Karnataka and Konkan & Goa.

◆ **Thunderstorm accompanied with lightning** at isolated places very likely over Odisha.

◆ **Rough to very rough sea conditions** (with wind speed reaching 40-50 kmph) are likely to prevail over southwest & westcentral Arabian Sea. Fishermen are advised not to venture into these areas.

16 July (Day 5): ◆ **Heavy rainfall** at isolated places over Uttarakhand, Punjab, north Haryana & Chandigarh, North Uttar Pradesh, Assam & Meghalaya, Coastal Karnataka and Kerala & Mahe.

◆ **Rough to very rough sea conditions** (with wind speed reaching 40-50 kmph) are likely to prevail over southwest & westcentral Arabian Sea. Fishermen are advised not to venture into these areas.

Weather Outlook for subsequent 2 days from 17th to 19th July 2019

◆ Fairly widespread to widespread rainfall likely over Western Himalayan Region, northern plains, northeastern states and Southern parts of Peninsular India.

◆ Scattered to Fairly widespread rainfall likely along the West coast and isolated to scattered rainfall over rest of the country.

Salient advisories

➤ Utilizing the reliased and expected rainfall, undertake sowing/transplanting of following *Kharif* crops:

- Complete transplanting of *Virippu* rice in **Kerala**.
- In **Coastal Karnataka**, complete transplanting of rice. In **South Interior Karnataka**, complete sowing of groundnut, maize, red gram, cowpea, green gram, black gram, horse gram, field bean etc, ragi, sesame, sunflower, cotton, castor, minor millets crops and undertake transplanting of rice crop where seedlings are ready. In **North Interior Karnataka**, undertake sowing of groundnut, green gram, black gran, jowar, soybean, pigeon pea, sunflower, bajra and sesamum.

- In Southern Zone of **Andhra Pradesh**, undertake transplanting of rice. In North Coastal Andhra Pradesh, undertake land preparation for sowing of maize and finger millets.
 - In **North Telangana**, continue nursery sowing of medium and short duration varieties of rice upto 15th July.
 - In **Assam**, continue transplanting of *Sali* rice.
 - In **Konkan**, continue transplanting of rice seedlings (20 to 22 days old) and nagli (30 days old). Drain out excess water from rice nursery. Drain out excess water from groundnut fields. In **Madhya Maharashtra**, continue nursery sowing of rice and nagli. Undertake sowing of *kharif* crops like pearl millet, maize, groundnut, soybean at vapsa condition in Ahmednagar, Dhule, Nandurbar districts and jowar at vapsa condition in Kolhapur district. In **Marathwada**, areas which received good rainfall (75 mm and above), undertake sowing of pearl millet soybean and sorghum. In **Vidarbha**, in areas with sufficient realized rainfall, undertake sowing of *kharif* crops like pigeon pea, cotton, green gram, black gram and soybean.
 - In **Odisha**, continue nursery raising for *Kharif* rice and sowing of cotton, maize, arhar, groundnut. Undertake transplanting of 25 to 30 days old seedlings of rice in Bihar. Continue sowing of soybean, maize and groundnut in **Chhattisgarh**. In **Madhya Pradesh**, continue nursery sowing of early and medium duration varieties of rice and continue sowing of soybean and maize. In **South Gujarat**, undertake land preparation for transplanting of rice seedlings.
 - In Intermediate Zone of **Jammu & Kashmir**, complete transplanting of rice.
- As rain/thundershowers likely at most/many places over **Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Bihar, Sub-Himalayan West Bengal** and **Sikkim** during the period along with **Heavy to very heavy rainfall with extremely heavy falls** at isolated places likely over Assam & Meghalaya on 13th & 14th; **Heavy to very heavy rainfall** at a few places with **extremely heavy falls** at isolated places very likely over Sub- Himalayan West Bengal & Sikkim and **Heavy to very heavy rainfall with extremely heavy falls** at isolated places very likely over Bihar on 12th & 13th July, 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, Sub-Himalayan West Bengal, Sikkim and Bihar.
- **Thunderstorm accompanied with lightning** at isolated places very likely over Jharkhand on 12th & 13th and over Odisha on 13th & 14th July, 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.
- In **Sub-Himalayan West Bengal**, provide adequate drainage in ginger and turmeric fields. In Uttarakhand, provide adequate drainage in potato and ginger fields and avoid water logging in tomato, chilli, capsicum, brinjal and cucurbitaceous crops.

Detailed Agromet Advisories

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

Realised Rainfall: Rainfall occurred in all the districts of Kerala, in East Godavari, Sirkakulam and Vizianagram districts of Andhra Pradesh; Adilabad, B. Kothagudem, J. Bhupalpally, Jagtial, Jangaon, Kamareddy, Karimnagar, Kumaram Bheem, Mancherial, Medak, Peddapalle, Ranjanna Sircilla, Siddipet, and Warangal_Rural Warangal_Urban districts of Telangana, in all districts of Coastal Karnataka; in Belagavi, Dharwad and Haveri districts of North Interior Karnataka and in Chikkamagaluru, Hasan, Kodagu and Shivamogga districts of South Interior Karnataka, Nilgiris and Puducherry districts of Tamilnadu during the week.

Advisories:

- As rain/thundershowers likely at most places over Coastal Karnataka during the period, at many places over Kerala from 14th to 16th and over South Interior Karnataka on 15th & 16th July along with heavy rainfall at isolated places over Coastal Karnataka during the period, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields Coastal Karnataka.

Kerala:

- Complete transplanting of *Virippu* rice and sowing of direct sown paddy crop. Continue planting of new seedlings of coconut and banana. In Northern Zone, continue planting of coconut seedlings.
- In Problem Area Zone, as a prophylactic measure against pseudo-stem weevil in banana, make the pseudo-stem clean and apply Chlorpyrifos 1.5 ml /litre of water after current spells of rain.
- In Central Zone, there is a chance of downy mildew attack in vegetables due to monsoon, apply 0.2% Curzate M-8 or 0.1% Equation pro or Trichoderma 20g/litre under the leaves in 15 days interval.
- In Southern Zone, for control of attack of leaf hopper in vegetables, spray Dimethoate 1.5 ml/litre of water after current spells of rain.

Andhra Pradesh:

- In North Coastal Andhra Pradesh, undertake nursery sowing of rice, land preparation for sowing of maize and finger millets.
- In Scarce rainfall Zone of Rayalaseema, undertake land preparation for sowing of groundnut and redgram, bajra & cotton and take up sowing only after receiving 50mm rainfall for red soils and 75 mm rainfall for black soils.
- In Krishna Godavari Zone of Andhra Pradesh, continue nursery preparation for sowing of rice and land preparation for sowing of Pre-Kharif Pulses and rainfed sugarcane.
- In Southern Zone of Andhra Pradesh, the present weather conditions are favourable for leaf folder and stem borer attack in paddy. To control spray Chlorpyrifos @ 2.5 ml. or cartaphydrochloride @ 2g or rhynoxypyr @ 0.3 ml./lt. of water.

Telangana:

- In Southern Telangana zone, undertake sowing of maize, soybean in ridge and furrow method, Redgram as intercrop in Cotton or Maize. Avoid sowing of Cotton and Soybean in light soils under rainfed conditions. Avoid sowing of maize in light soils under rainfed conditions.
- In Northern Telangana zone, undertake nursery sowing of rice from 15th July onwards. Farmers are advised to go for field preparation and application of recommended Pre-emergence herbicide application to control weeds upto 25-30 days for kharif crops.

Tamil Nadu:

- In Cauvery Delta Zone, undertake transplanting of *kuruvai* rice. Also occurrence of stemborer & rice hispa is being noticed in the kuruvai paddy, spray Chlorpyrifos @ 500 ml/200 litre of water for one acre.
- In Western Zone, prevailing weather situation is favourable for thrips attack in onion, spray Monocrotophose @ 1 ml per litre of water.
- In Coastal Zone, as an alternate crop for kuruvai rice, transplanting of ragi (TRY 1) can be done utilizing a seed rate of 5 kg/ha in clay textured soil and direct sowing may be done in coarse textured soil.
- In Southern Zone, to prevent boll shedding in cotton, nip the terminal portion of the main stem followed by Spray 40 ppm NAA at 60 and 90 days after sowing on the crop.

Karnataka:

- In South Interior Karnataka, complete sowing of groundnut, maize, red gram, cowpea, green gram, black gram, horse gram, field bean, ragi, Hybrid jowar, sesame, sunflower, cotton, castor, minor millets crops, horticulture crops (tomato, chilli, brinjal, radish, ladies finger, beans, watermelon, carrot, onion, mango, banana, sapota) where sufficient rain occurred and complete transplanting of rice seedlings. Intercropping of groundnut + red gram in 8:2 proportions and groundnut+ castor in 8:2 proportions is suggested for good income.
- In Coastal Karnataka, complete transplanting of rice. Continue sowing of maize, cotton, planting ginger and turmeric after current spells of heavy rain.
- In North Interior Karnataka, continue sowing of groundnut, green gram, black gram, jowar, soybean, pigeon pea, sunflower, Bt. cotton, bajra, maize, soybean, sesamum and onion crops.

Animal Husbandry

- In Coastal Karnataka, keep cattle in shed during heavy rainfall period.
- In Tamilnadu, in the prevailing weather, there may be diarrhoea in poultry. Keep the diseased birds separately. Medicate the drinking water with 2gms of Microsol or Bactrisol + 5ml Vimrol Syrup / 1lt of water. Medicated water should be given separately to both the affected and non affected birds for 5 days in morning and evening hours.

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

Realised Rainfall : Rainfall occurred in all districts of Arunachal Pradesh, Assam and Meghalaya, Mizoram and Tripura; Bishnupur, Churachandpur, Imphal West, Senapati, Tamenglong and Ukhrul districts of Manipur and in all districts of Nagaland except Wokha.

Advisories:

- As rain/thundershowers likely at most/many places over **Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura** during the period along with **Heavy to very heavy rainfall with extremely heavy falls** at isolated places likely over Assam & Meghalaya on 13th & 14th July; 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.

Assam & Meghalaya:

- In Assam, continue transplanting of *Sali* paddy.
- In Hill Zone of Assam, continue sowing of pigeon pea and cotton after current spells of heavy rain.
- In Lower Brahmaputra Valley Zone of Assam, continue sowing of pigeon pea and sowing of sesame after current spells of heavy rain.
- In Barak Valley Zone of Assam, due to hot weather and high relative humidity there is chance of Brown spot and Blast diseases attack in nursery bed. To control these fungal disease spray Carbendazim + Mancozeb @ 2.5 g per litre of water and maintain the sanitation of nursery bed and remove excess water.
- In Central Brahmaputra Valley of Assam, continue sowing of arhar and undertake sowing of sesame. Harvesting and retting of jute should be done preferably at pre-flowering stage (120 days after sowing) to get better quality fibre. At present the water temperature in the retting tanks is ideal for retting of jute. Early and timely sown capsularis jute may be harvested during this week and kept in the field in standing position for 3-4 days before retting for proper defoliation.
- In North Bank Plain Zone of Assam, to control red rot disease in sugarcane, avoid water stagnation in the field and removing of the affected plants should be practiced.
- In Meghalaya, continue transplanting of low land *Sali* rice. Maintain proper drainage in the field of ginger, turmeric and maize fields.

Manipur, Mizoram, Tripura and Nagaland:

- In Nagaland, continue nursery raising of RC/WRC rice. Continue main field preparation for transplanting of rice and sowing of groundnut. Undertake land preparation for sowing of soybean.
- In Manipur, continue main field preparation and transplanting of *kharif* rice. Arrange rain water harvesting in rice fields Undertake sowing of black gram. Spray *Bacillus Thuringensis* var *Kurstaki* @ 1.5 kg/ha or Coragen 18.5 SC @75 ml/ha in 150 litre of water for controlling borer infestation in *kharif* maize at early vegetative stage. Apply 1% Bordeaux mixture (1 g/ litre of water) or Captan @ 2 g/ litre of water against leaf spot in turmeric
- In Mizoram, to manage Northern leaf blight disease in maize at cob formation stage, spray Approach (Methoxy-acrylates) @ 2 g/litre of water after current spells of rain.
- In Tripura, maintain 2 to 5cm of water in rice fields after 30 days of transplanting. Maintain good drainage in maize and groundnut in fields.
- In Tripura, there is chance of infestation of sheath blight due to humid weather in *Jhum* rice at panicle initiation stage. Spray Surf @ 1gm per litre of water to control the attack of sheath blight.
- In Tripura, due to humid weather there is chance of infestation of sheath blight in *Jhum* rice at panicle initiation stage. Spray Surf @ 1gm per litre of water to control the disease.

Animal Husbandry:

- In 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, undertake regular immunization of cattle & buffaloes against Foot & Mouth disease, Haemorrhagic septicaemia & Black Quarter. To prevent FMD spread spray 4% Sodium Carbonate solution (400 gm Na₂CO₃ in 10 litres of water) or lime/bleaching powder should be spread every day at least once around the farm premise & at the entry/exit at least for 10 days. Deworm cattle & buffaloes by giving Albendazole @ 5-10 mg/kg body weight once and repeat after 21 days.

Fishery:

- In Barak Valley Zone of Assam, provide locally available fish feed like rice bran and mustard cake in ratio of 1: 1 can be given @ 2% of the body weight with mineral mixture which prevent the fishes from various diseases.

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

Realised Rainfall: Rainfall occurred in all districts of Andaman & Nicobar Islands; in all districts of Bihar; in all districts of Jharkhand except Khunti; in all districts of Odisha except Balasore, Boudh, Ganjam, Jajpur, Mayurbhanj and Nayagarh; in all districts of Gangetic West Bengal except East Midnapore, Howrah and Kolkata and in all districts of Sub-Himalayan West Bengal and Sikkim except North Dinajpur.

Advisories:

- **Thunderstorm accompanied with lightning** at isolated places very likely over Jharkhand on 12th & 13th and over Odisha on 13th & 14th July, 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.
- As rain/thundershowers likely at most/many places over Bihar and Sub-Himalayan West Bengal and Sikkim during the period, at many places over Gangetic West Bengal from 12th to 14th & 16th and over Jharkhand on 12th & 16th along with **Heavy to very heavy rainfall** at a few places with **extremely heavy falls** at isolated places very likely over Sub-Himalayan West Bengal & Sikkim; **Heavy to very heavy rainfall** with **extremely heavy falls** at isolated places very likely over Bihar on 12th & 13th July; 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, Sikkim and Bihar.

Odisha:

- Direct seeded rice is at germination to one week seedling stage. Drain out excess water from the fields to avoid submergence of seeds and seedlings. Complete the land preparation for nursery raising of Kharif paddy after the rain stops. Complete the sowing of cotton, sugarcane, groundnut, arhar and maize and provide channels for draining out the excess water. July is the optimum time for mango and cashew planting. Go for sowing of non-paddy crops like ginger, yam, ragi, sesame, mung, etc. Drain out excess water from vegetable fields.
- For fruit and shoot borer in brinjal and okra, spray Neem based pesticide 1500ppm@600ml/acre at initial stages. Later on go for alternate spray of Spinosad 45% SC @ 70ml/acre and Thiodicarb @ 300g/acre at 15 days interval. Apply plant protection measures on a non rainy day.

Bihar:

- Undertake transplanting of 25 to 30 days old paddy seedlings. Complete the nursery sowing of kharif onion in raised bed after current spells of heavy rain. Drain out excess water from maize and vegetable fields. Support/lift cucurbitaceous creepers on bamboo stands. Undertake planting of mango and litchi plants.
- Regular monitoring of pests is advised in vegetables crops. To control leaf feeder/fruit borer in summer vegetables, spray Di-methoate 30 EC @1-1.5 ml/litre of water. Apply plant protection measures after current spells of rain.

Jharkhand:

- Take up sowing of groundnut and planting of new fruit orchards. Direct seeded upland rice is at tillering stage. Carry out weeding. Remove excess water from pigeon pea, urd and moong bean fields. Drain out water from ginger, turmeric and yam fields.

West Bengal:

- In Sub-Himalayan West Bengal, provide drainage in Mandarin orange, ginger and turmeric fields. Take up sowing of early cauliflower seeds in nursery bed after seed treatment with Bavistin or Mancozeb after current spells of heavy rain. Incorporate dhaincha at the age of 30-45days into the main field where Aman rice is cultivated.
- For management of sucking pest infestation in jute, spray Dinoteferun 20% SG @ 1g/litre of water + 0.5ml/litre sticker. For the management of fruit fly on cucurbitaceous vegetables, install pheromone traps @ 6-8/ha and apply bait, spray in spots @ 30 nos./ha. Undertake plant protection measures after current spells of rain.
- In Gangetic West Bengal, prepare main field for paddy by ploughing and incorporate dhaincha with the soil for increasing fertility status of soil. Start sowing brinjal and chilli seeds through ridge furrow system for making saplings in upland.
- To control stem rot or development of minute black spot on leaves in jute crop, apply Carbendazim 50 wp @1g per litre of water. Undertake plant protection measures after current spells of rain.

Andaman & Nicobar Islands:

- In Andaman & Nicobar Islands, prepare main field of rice by levelling and cleaning of bunds and maintain bund height at 25 to 30 cm. Do weeding, manure application and earthing up in vegetables.

Animal Husbandry:

- In Bihar, vaccinate cattle against Anthrax, BQ and HS diseases.
- In Jharkhand, vaccinate cattle against FMD, HS, BQ and Anthrax diseases. Protect poultry birds against Ranikhet and Gamboro diseases.
- In West Bengal, vaccinate cattle against FMD, BQ and HS diseases. If domestic animals do not have access to green fodder, give them Vitamin A injections as per the requirement. Keep poultry sheds clean and dry.
- In Andaman & Nicobar Islands, farmers are advised to observe serious salivation in cattle and if found, take it to nearby veterinary hospital. Provide clean and hygienic water treated with potassium permanganate (1 ppm) to the poultry birds to avoid gastrointestinal infection.

Fishery:

- In Jharkhand, stop fishing and complete the resurrection of pond. Manage for breeding of major carp fish. Go for the preparation of nursery pond for fingerling.
- In West Bengal, go for putting the fingerling of carp in the pond. If oxygen deficiency is observed, stir the pond water by wheel. Apply lime for cleaning the water.
- In Andaman & Nicobar Islands, take up breeding of carps by using hormones during rainy days and prepare nursery ponds for stocking spawns.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Rainfall occurred in all districts of Konkan and Goa, Madhya Maharashtra except Ahmednagar and Solapur, in Aurangabad and Hingoli districts of Marathawada and all the districts of Vidarbha except Nagpur, in Surendranagar district of Saurashtra & Kutch and in all districts of Gujarat Region except Ahmedabad, Banaskantha, Gandhinagar, Mehsana and Patan. Weather remained mainly dry over rest of the the region

Advisories:

- As rain/thundershowers likely at most places over Konkan & Goa during the period along with **heavy rainfall** at isolated places, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields.

Maharashtra:

- In Konkan region, continue transplanting of rice seedlings (20 to 22 days old) and nagli (30 days old). Drain out excess water from rice nursery. Undertake sowing of groundnut after current spell of heavy rain. Drain out excess water from already sown groundnut fields. Undertake plant protection measures like fertilizer application after current spell of rain. Drain out excess water from vegetable fields. Provide mechanical support to cucurbitaceous crops.
- In Madhya Maharashtra, continue nursery sowing of rice and nagli. Undertake sowing of kharif crops like pearl millet, maize, groundnut, soybean at vapsa condition in Ahmednagar, Dhule, Nandurbar districts, jowar at vapsa condition in Kolhapur district and drain out excess water from standing crops like groundnut and soybean. Complete sowing of green gram and black gram. In the areas where good

rainfall has already occurred undertake sowing of Bt cotton.

- In Marathwada, areas which received good rainfall (75 mm and above), undertake sowing of pearl millet soybean and sorghum. Undertake intercultural operations like weeding in orchards and sugarcane fields.
- In West and Central Vidarbha, in areas with sufficient realized rainfall, undertake sowing of kharif crops like pigeon pea, cotton, green gram, black gram and soybean. Under delayed sowing avoid taking green gram and blackgram as sole crop instead include them as intercrops with slightly higher seed rate in cotton + greengram/blackgram (1:1) OR pigeon pea + greengram / blackgram (2:4) OR sorghum + greengram/pigeonpea (3:3). In East Vidharbha, in areas with sufficient realized rainfall (75 mm and above) undertake nursery sowing of rice. In early sown rice apply Urea @ 1 Kg per Are in nurseries. Continue sowing of vegetable crops like bhindi, cucumber, bitter gourd, pumpkin and tinda etc.

Gujarat

- In Middle Gujarat, undertake land preparation for transplanting of rice, tobacco and vegetable crops (tomato, chili, etc) and undertake transplanting where seedlings are ready. Continue sowing of pearl millet, groundnut crops where sufficient rainfall occurred.
- In North Gujarat, continue sowing of groundnut, pearl millet, sesame, green gram and sorghum crops with sufficient rainfall. Carryout hand weeding and intercultural operations in earlier sown cotton and vegetable crops.
- In Saurashtra & Kutch, carryout intercultural operations in earlier sown cotton and groundnut crops. Continue sowing of sesame, pulses and pearl millet crops in Saurashtra where sufficient rain occurred and in Kutch after receipt of sufficient rainfall. Continue transplanting of vegetable (tomato, chilli, brinjal and early cauliflower) crops where seedlings are ready. Continue sowing of lady's finger, cluster bean, kidney bean, cowpea, tur, amranthus etc. and cucurbits. Undertake gap filling /thinning operations to maintain plant population. Make provision to drain excess water from fields, harvest and store it in reservoirs for future use.
- In South Gujarat, arrange for proper drainage in the nurseries of brinjal, tomato, chilli and early cauliflower. Undertake land preparation for transplanting of rice seedlings. Continue sowing of pigeon pea, green gram, black gram and castor crops where sufficient rainfall occurred. Undertake new plantation of banana. Provide drainage facility in heavy rainfall area.
- In South Gujarat, due to water stagnation, proper care should be taken for papaya plants to avoid the attack of foot rot disease. Mix Trichoderma along with the FYM near to stem of plant.

Animal Husbandry

- In Gujarat, provide 30-35 gm mineral mixture in daily diet of animals. Care should be taken in rainy days for cattle and stored dry fodder.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Rainfall occurred in all districts of Chhattisgarh, in all districts of Madhya Pradesh except in Panna, Rewa, Singurli and Tikamgarh districts East Madhya Pradesh and Asoknagar, Datia, Morena and Sheopur Kalani districts in West Madhya Pradesh.

Advisories:

Madhya Pradesh

- In Jabhua Hill and Satpura Plateau Zone, continue sowing of soybean and maize. The Soybean may be sown by Ridge-Bed-furrow method and BBF method for better germination and safe drainage. Continue sowing of Bottle gourd, Pumpkin, cucumber, Bitter gourd and Ridge gourd.
- In Satpura Plateau Zone, farmers are advised to follow the line sowing through seed drill for the crops like soybean, maize, arhar, urad and moong crops after proper seed treatment.
- In Central Narmada Valley Zone, continue nursery sowing of rice early and medium duration varieties of rice. Continue sowing of soybean and maize. Undertake planting for new orchards.
- In Malwa Plateau Zone, continue sowing of pigeon pea and cotton and undertake planting of ginger and turmeric.

Chhattisgarh:

- In North Hill Zone, complete the transplanting of rice with at 25-30 days seedling stage as early as possible. Farmers are advised to go for line sowing in rice crop with seed rate should be kept somewhat less @ 60-80 Kg./ha. and weeds should be managed by post-emergence herbicide. Continue sowing of soybean, arhar, sesamum, and maize crops. Undertake planting of fruit crops i.e. Papaya, Guava, Mango, Litchi, and Pomegranate etc.
- In Chhattisgarh Plain Zone, continue nursery sowing of rice. Mat type nursery should be prepared for automatic paddy transplanter. Soybean and other pulses crops like arhar should be sown with proper drainage.
- In Bastar Plateau zone, for Early and medium duration rice varieties go for line sowing method, as this method will

minimize the labour cost as well as prevent from Biyasi. Farmers are advised to start plantation of banana

➤ **Animal Husbandry:**

- In Madhya Pradesh, there is a possibility of spread of foot and mouth disease in animals for control, vaccinate the animals. Vaccinate the Goat to control PPR disease.
- In Chhattisgarh, dairy animal should not be allowed to drench in rain. Cattle shed should be kept dry as far as possible to prevent from foot rot disease. The rainwater should not be allowed to accumulate. In case the floor is cemented then the floor washing should be done with Phenyl and repair of roof top should be done to stop leakage.

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

Realised Rainfall: Rainfall occurred in Jammu, Kathua, Rajouri, Reasi and Udhampur districts of Jammu & Kashmir, at most places except Kinnaur, Kullu and Lahaul & Spiti districts of Himachal Pradesh, in Chandigarh district, in Gurdaspur, Nawashahar, Patiala, Ropar, SAS Nagar districts in Punjab, Ambala, Gurgaon, Karnal and Yamunanagar districts of Haryana, in all districts of Uttar Pradesh except in Aligarh, Baghpat, Gautam Budh Nagar, Gaziabad, Hapur, Muzaffarnagar, Rampur and Shamli districts and most of the places except Almora and Chamoli districts of Uttarakhand, in Churu, Nagaur, Pali districts of West Rajasthan and in all the districts of East Rajasthan except Alwar during the week.

Advisories:

- As rain/thundershowers likely at most places over Uttarakhand, at most/many places over Himachal Pradesh during the period, over Punjab, Haryana, Chd& Delhi from 14th to 16th, at many places over Jammu & Kashmir from 13th to 16th July along with **Heavy to very heavy rainfall** at isolated places over East Uttar Pradesh on 12th and over Uttarakhand on **14th& 15th**, **heavy rainfall** at isolated places over Uttarakhand on 13th & 16th, over Jammu & Kashmir, Himachal Pradesh, Punjab, north Haryana & Chandigarh, North Uttar Pradesh on 15th & 16th July; avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in Uttarakhand and East Uttar Pradesh.

Jammu & Kashmir:

- In Valley Temperate Zone, apply first top dose of urea @ 2.7 kg per kanal 20 to 25 days after transplanting of rice. Apply top dose of urea in maize crop in clear weather. Drain out excess water to avoid root rot in kharif pulses. Hand pollination may be done in bottle gourd. Carry out weeding in all the vegetable crops. Harvest radish, kale and cabbage seed crops when 75% of seed pods mature.
- In Sub Tropical Zone, continue transplanting of rice. Drain out excess water from maize fields. Postpone irrigation and application of fertilizers in vegetable fields.
- In Intermediate Zone, complete transplanting of rice. Drain out excess water from maize fields. Drain out excess water from vegetable fields like tomato, brinjal and chilli.

Himachal Pradesh:

- In Mild Hills Sub Humid Zone, spray Myclobutanil (80 gm) or Mancozeb (600gm) or Propineb (600 gm) or Dodine (150 gm) per 200 litres of water on apple trees for the control of scab. Spray Metiram 55%+Pyraclostro bin 5% @ 300 gm per 200 litres of water on apple trees for the control of alternaria leaf spot/blight/premature leaf fall.
- In High Hill Temperate Dry Zone, carry out weeding operation in pea, barley and potato crops. Spray Malathion 50EC 1ml/1litre of water to control cabbage butterflies. Spray mancozeb 600gm or difenoconazole 30ml/200litre of water to control scab in apple.

Punjab, Haryana and New Delhi

- In Punjab, continue transplanting of vegetables (tomato, chilli, brinjal, cauliflower). Complete sowing of cotton including Bt cotton or desi Cotton and planting of turmeric. Complete the transplanting of rice. Complete the sowing of mash and moong. Undertake necessary intercultural operations in the cotton fields to keep the field free from weeds.
- 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. Continue transplanting of rice and land preparation for sowing for pulses i.e. green gram, lobia, moth. Possibility of light rain, withhold intercultural/hoeing operation as per requirement of the crop for removal of weed and conserved the soil moisture.
- In Delhi, undertake transplanting of nursery for early cauliflower, tomato, chilli, brinjal whose seedlings are ready and land preparation of rice. Undertake sowing of soybean, maize, bajara and short duration varieties of pigeon pea. Undertake sowing of cucurbits. Constant monitoring of cucurbitaceous crops

against attack of fruit fly, use of 'Methyl Eugenol trap is recommended. After detecting the symptoms, spray Rogor @ 2 ml + 10 g sugar or jaggary/litre water at 50 litres/ha when sky is clear.

- In Punjab, monitor the cotton crop for incidence of thrips and whitefly as it is noticed in some areas of SouthWestern region of Punjab.
- In Undulating Plain Zone of Punjab, 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, complete the transplanting of long and medium duration varieties of rice and undertake transplanting of short duration varieties till end of this month. Sowing of may be started after 15 July. Undertake sowing of groundnut, soybean, sunflower, lobia, jowar, Bajra and maize. Apply Nitrogen 40 Kg (87 Kg Urea) after 30-35 days of sowing of maize crop. Complete kharif onion nursery raising and apply 12-15 Kg seed/ha. This the best time for planting of new fruit orchards.
- In West Uttar Pradesh, continue transplanting of paddy. Farmers are advised to transplant 20-25 days old paddy seedling in those prepared fields with spacing of 20 x 10 (R x P) cm. Nitrogen 100 kg./ha, Phosphorus 60 kg./ha, Potash 40 kg./ha and zinc sulphate 25 kg/ ha should be used before transplanting. Continue sowing of maize and sorghum. Thinning, weeding and hoeing should be done in pigeon pea. Pick up mature fruits of standing crops like brinjal, chilli, etc. Drain out excess water from vegetable fields.
- In the paddy nursery, if upper leaves of the paddy seedlings become yellow and lower leaves remain green, it indicates the iron deficiency. Spraying of Ferrous Sulphate @ 0.5 % with 0.25% lime solution is recommended to overcome this problem, when sky is clear.

Uttarakhand:

- In Hill Zone, provide adequate drainage in potato and ginger fields. Avoid water logging in tomato, chilli, capsicum, brinjal and cucurbitaceous crops in valley zone. Carry out gap filling, weeding and hoeing operations in red gram, finger millets, soybean, black gram and maize after current spells of heavy rain. Continue planting of lemon saplings.
- In Bhabar and Tarai Zone, undertake land preparation for transplanting of rice. Undertake transplanting of cole crops. Drain out excess water from vegetable fields.
- In Sub-Humid Sub-Tropic Zone, continue transplanting of rice. Continue planting of guava and amla plants. Drainout excess water from fodder crops.

Rajasthan:

- In Arid Western Plain Zone, undertake sowing of cucurbit vegetables and field preparation and sowing of moong, jowar, maize, groundnut, cotton and vegetables. Also to control thrips in cotton, spray Acetamiprid or Thiomethoxam 3 g/lit water.
- In Flood Prone Eastern Plain Zone, undertake planting of ber, aonla, falsa and pomegranate and agroforestry tree saplings. Also undertake sowing of Til, Bajara and sorghum.
- In Sub Humid Southern Plain and Aravali Hill Zone, continue sowing of maize, groundnut and soybean.
- In Semi-Arid Eastern Plain Zone, undertake planting of fruit crops like mango, plum, pomegranate, Aonla. Also those farmers who have not yet done sowing of kharif crops like pearl millet, sorghum, maize, green gram, cowpea & cluster bean may complete sowing of the same at the earliest possible.

Animal Husbandry:

- In Uttar Pradesh, vaccinate cattle and buffalos against the rainy season diseases. Protect cattle from rain and arrange dry bedding for cattle. Protect poultry from moisture and seepage.

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