



National Agromet Advisory Service Bulletin

Friday 11th September 2020

(For the period 11th September to 15th September 2020)



Issued by

India Meteorological Department

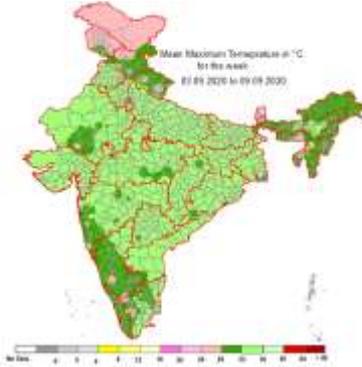
Weblink For

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

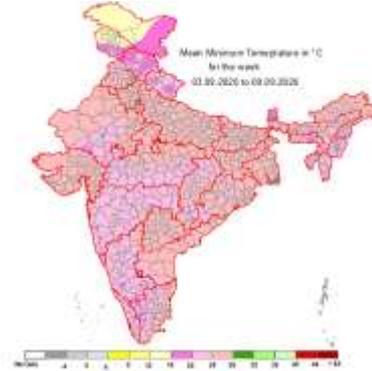
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

spatial distribution of weather parameters for the week 03.09.2020 to 09.09.2020

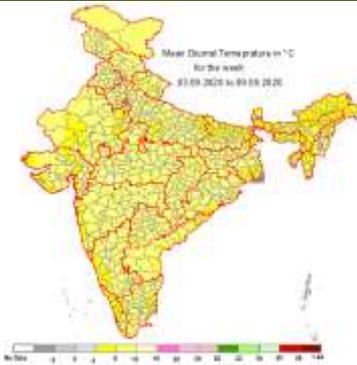
Mean Maximum Temperature (°C) for the week 03.09.2020 to 09.09.2020



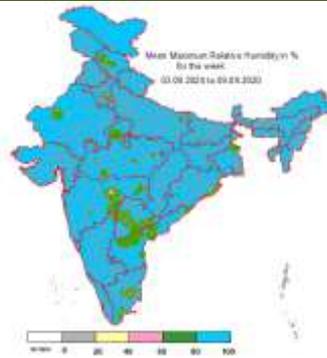
Mean Minimum Temperature (°C) for the week 03.09.2020 to 09.09.2020



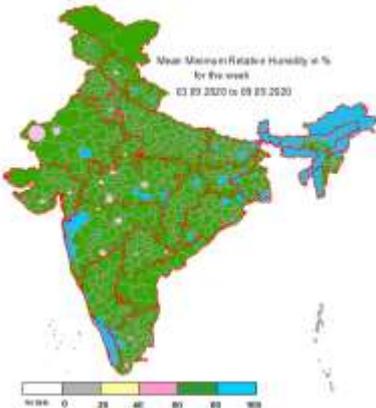
Mean Diurnal Temperature Variation (°C) for the week 03.09.2020 to 09.09.2020



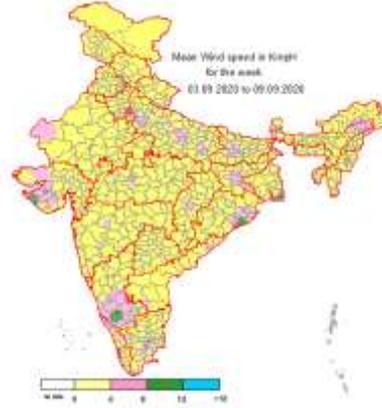
Mean Maximum Relative Humidity (%) for the week 03.09.2020 to 09.09.2020



Mean Minimum Relative Humidity (%) for the week 03.09.2020 to 09.09.2020



Mean Wind Speed (km/hr) for the week 03.09.2020 to 09.09.2020

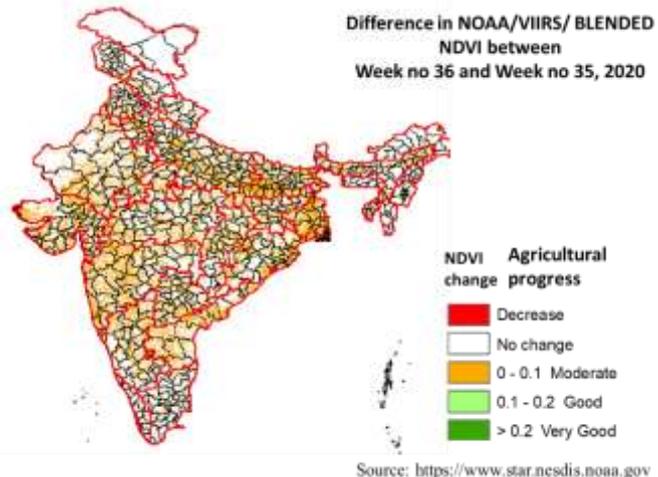
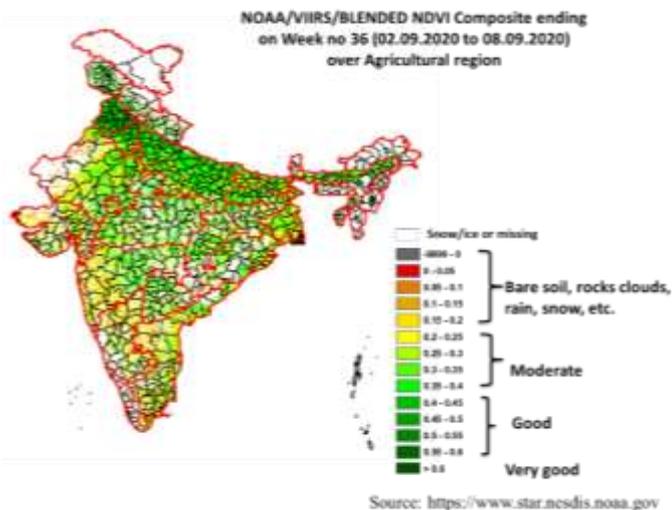


Mean Cloud Cover (okta) for the week 03.09.2020 to 09.09.2020



NOAA/VIIRS/BLENDED NDVI composite for the week number 36 (02.09.2020 to 08.09.2020) over Agricultural regions of India

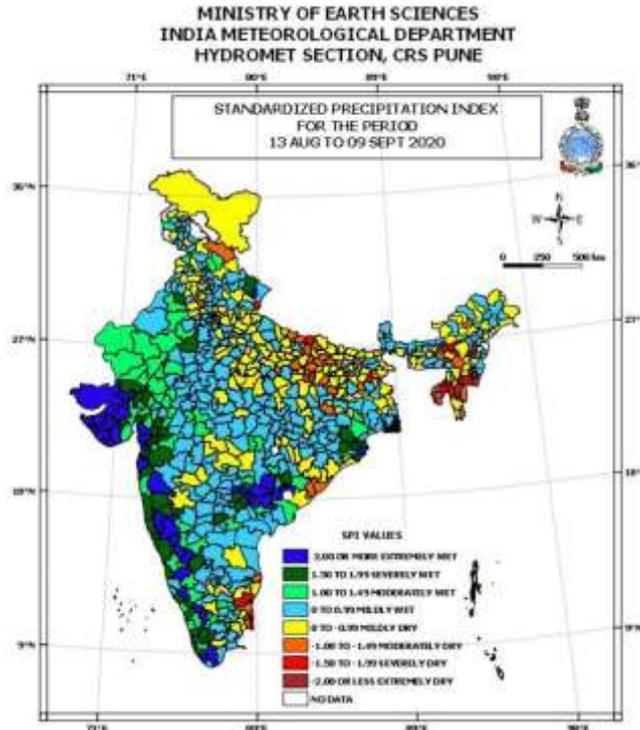
Difference in NOAA/VIIRS/BLENDED NDVI between week number 36 and week number 35, 2020



Agricultural vigour was good in most of Punjab; many places of Northern Part of Haryana, Jammu & Kashmir (UT); at a few pockets of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Vidarbha, Madhya Pradesh & North Eastern states and at isolated pockets of rest of the country.

Moderate difference in agricultural vigour was observed at many pockets over the country except in Vidarbha, Coastal Karnataka, Tamilnadu, Kerala, Uttarakhand, Himachal Pradesh and Jammu & Kashmir (UT) where it was isolated.

Standardised Precipitation Index for the period 13th August to 9th September 2020



- Extremely/ Severely wet conditions exist in Banaskantha, Broach, Valsad, Mehsana, Sabarkantha, Surat, Anand, Narmada, Navsari, Patan, Tapi, Chhota Udepur, Amreli, Jamnagar, Junagarh, Kutch, Rajkot, Surendranagar, Porbandar, Botad, Devbhumi Dwarka, Gir Somnath, Morbi districts of Gujarat; Sirsa district of Haryana; Bilaspur district of Himachal Pradesh; Uttara Kannada, Udupi, Belgam, Dharwad, Haveri, Chikmagalur, Chitradurga, Davangere, Kodagu districts of Karnataka; Alapuzha, Cannur, Ernakulam, Kottayam, Malappuram, Kollam, Trivandrum, Idukki, Wynad districts of Kerala; Raigad, Ratnagiri, Thane, Sindhudurg, Palghar, Kolhapur, Nashik, Pune, Sangli, Satara, Nandurbar districts of Maharashtra; Bhadrak, Dhenkanal, Jagatsinghpur, Jajpur, Kendrapara, Keonjhar, Malkangiri districts of Odisha; Jaipur district of Rajasthan; Coimbatore, Nilgiri, Theni, Tirunelveli districts of Tamilnadu; Daman, Diu districts of Union Territory; South Sikkim district of Sikkim; Chamoli, Bageshwar districts of Uttarakhand; Bastar, Bijapur, Sukma districts of Chhatisgarh; North Goa, South Goa districts of Goa; South Delhi district of Delhi; Karimnagar, Mahabubnagar, Warangal, B.Kothagudem, Jangaon, J. Bhupalpally, Mahabubabad, Peddapalle, Rajanna Sircilla, Siddipet, Warangal_Urban, Y.Bhuvanagiri, Mulugu districts of Telangana.
- Extremely/Severely dry conditions exist in Darrang, Nagaon, Morigaon districts of Assam; Bhabua district of Bihar; Chandel, Churachandpur districts of Manipur; Jaintia Hills districts of Meghalaya; Aizwal, Mamit, Serchhip districts of Mizoram; Kohima, Dimapur, Wokha districts of Nagaland; Nagapattinam, Viluppuram districts of Tamilnadu; North Tripura, Dhalai districts of Tripura; Puducherry district of Union Territory; Maharajganj district of Uttar Pradesh; South Andaman district of Andaman & Nicobar Islands; Godda district of Jharkhand; Champawat district of Uttarakhand.
- Moderately wet to moderately dry conditions were experienced in remaining districts of the country.

Weather Forecast for next 5 days upto 0830 hours IST of 16th September 2020

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

5 Day Rainfall Forecast (MID-DAY)

11-September-2020

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

11 September (Day 1):

- ♦ **Heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places very likely over Coastal Karnataka; **heavy to very heavy rainfall** at isolated places over Bihar, Sub-Himalayan West Bengal & Sikkim, Coastal Andhra Pradesh & Yanam, South Interior Karnataka and Kerala & Mahe; **heavy rainfall** at isolated places over northeast Uttar Pradesh, south Madhya Pradesh, Vidarbha, Chhattisgarh, western parts of Gangetic West Bengal, Odisha, Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gujarat State, Madhya Maharashtra, Konkan & Goa, Telangana, Rayalaseema, North Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.
- ♦ **Thunderstorm accompanied with lightning** very likely at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, West Bengal & Sikkim, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Konkan & Goa, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Karnataka and Tamilnadu, Puducherry & Karaikal.
- ♦ **Strong Wind** (speed reaching 45-55 kmph) very likely over Southwest Arabian Sea, south Maharashtra-Goa coasts, Gulf of Mannar area. Squally Weather (wind speed reaching 45-55 kmph) along & off Kerala-Karnataka coasts and Lakshadweep area. Fishermen are advised not to venture into these areas.

12 September (Day 2):

- ♦ **Heavy to very heavy rainfall** very likely at isolated places over Konkan & Goa, Coastal Andhra Pradesh & Yanam and Coastal Karnataka; **heavy rainfall** at isolated places over south Madhya Pradesh, Vidarbha, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gujarat state, Madhya Maharashtra, Telangana, Rayalaseema, Interior Karnataka and Kerala & Mahe.
- ♦ **Thunderstorm accompanied with lightning** very likely at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Gangetic West Bengal, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and Karnataka.
- ♦ **Strong Wind** (speed reaching 45-55 kmph) very likely over Southwest Arabian Sea. **Squally Weather** (wind speed reaching 45-55 kmph) along & off Kerala-Karnataka coasts and Lakshadweep area. Fishermen are advised not to venture into these areas.

13 September (Day 3):

- ♦ **Heavy to very heavy rainfall** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Odisha, Assam & Meghalaya, Coastal Andhra Pradesh & Yanam and Telangana; **heavy rainfall** at isolated places over south Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Gujarat state, Madhya Maharashtra, Marathwada, Konkan & Goa, Rayalaseema, Karnataka and Kerala & Mahe.
- ♦ **Thunderstorm accompanied with lightning** very likely at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Coastal Andhra Pradesh & Yanam, Telangana and Rayalaseema.
- ♦ **Strong Wind** (speed reaching 45-55 kmph) very likely over Southwest Arabian Sea. Fishermen are advised not to venture into these areas.

14 September (Day 4):

- ♦ **Heavy to very heavy rainfall** likely at isolated places over Telangana; **heavy rainfall** at isolated places over East Uttar Pradesh, southwest Madhya Pradesh, Vidarbha, Sub-Himalayan West Bengal & Sikkim, Odisha, Andaman & Nicobar Islands, Assam & Meghalaya, Gujarat state, Madhya Maharashtra, Marathwada, Konkan & Goa, Coastal Andhra Pradesh & Yanam, Coastal & North Interior Karnataka and Kerala & Mahe.
- ♦ **Thunderstorm accompanied with lightning** likely at isolated places over East Uttar Pradesh, Madhya Pradesh, Bihar, Coastal Andhra Pradesh & Yanam, and Telangana.
- ♦ **Strong Wind** (speed reaching 45-55 kmph) likely over Southwest Arabian Sea. Fishermen are advised not to venture into these areas.

15 September (Day 5):

- ♦ **Heavy rainfall** likely at isolated places over East Uttar Pradesh, southwest Madhya Pradesh, Vidarbha, Andaman & Nicobar Islands, Assam & Meghalaya, Madhya Maharashtra, Marathwada, Konkan & Goa, Telangana, Coastal Karnataka and Kerala & Mahe.
- ♦ **Thunderstorm accompanied with lightning** likely at isolated places over East Uttar Pradesh, south Rajasthan, Bihar and Telangana.
- ♦ **Strong Wind** (speed reaching 45-55 kmph) likely over Southwest Arabian Sea. Fishermen are advised not to venture into these areas.

Weather Outlook for subsequent 2 days from 16th September, 2020 to 18th September, 2020

- ♦ Widespread rainfall with isolated heavy to very heavy falls likely over West coast. Fairly widespread rainfall with isolated heavy falls likely over Northeast India. Isolated to scattered rainfall likely over Central and East India. Dry weather likely over Northwest India except over Uttarakhand and Uttar Pradesh.

Salient advisories

- **Strong Wind** (speed reaching 45-55 kmph) very likely over Southwest Arabian Sea, south Maharashtra-Goa coasts, Gulf of Mannar area on 11th and over Southwest Arabian Sea from 12th to 15th along with **Squally Weather** (wind speed reaching 45-55 kmph) along & off Kerala-Karnataka coasts and Lakshadweep area on 11th & 12th, fishermen are advised not to venture into these areas.
- **Thunderstorm accompanied with lightning** very likely at isolated places over Bihar and Telangana from 11th to 15th, over Madhya Pradesh and Coastal Andhra Pradesh & Yanam from 11th to 14th, over Vidarbha, Chhattisgarh, Jharkhand, Rayalaseema and Assam & Meghalaya from 11th to 13th, over West Bengal & Sikkim, Madhya Maharashtra, Marathwada, Konkan & Goa and Tamilnadu, Puducherry & Karaikal on 11th, over Gangetic West Bengal on 12th, over Sub-Himalayan West Bengal & Sikkim on 13th, over East Uttar Pradesh on 14th & 15th and over South Rajasthan on 15th,
 - Provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds.
 - Keep harvested produce at safer places.
 - Keep cattle/goats indoor during thunderstorm/dust storm.
- As **rain/thundershowers** likely at **most places** over Andaman & Nicobar Islands on 11th, 12th, 14th & 15th, over Arunachal Pradesh and Nagaland Manipur Mizoram & Tripura and Chhattisgarh on 11th, over Assam & Meghalaya on 11th & 13th, over Sub-Himalayan West Bengal & Sikkim, Vidarbha, Coastal Karnataka, Kerala & Mahe and Lakshadweep from 11th to 15th, over Coastal Andhra Pradesh & Yanam

from 11th to 13th, over Konkan & Goa from 12th to 15th, over South Interior Karnataka on 13th, over Telangana and North Interior Karnataka on 13th & 14th and over Madhya Maharashtra and Marathwada on 14th & 15th; **at many places** over Andaman & Nicobar Islands on 13th over Arunachal Pradesh from 12th to 15th, over Assam & Meghalaya on 12th, 14th & 15th, over Nagaland Manipur Mizoram & Tripura from 12th to 14th, over Bihar on 11th & 12th, over East Madhya Pradesh and Konkan & Goa on 11th, over Madhya Maharashtra and Marathwada from 11th to 13th, over Chhattisgarh from 12th to 14th, over Coastal Andhra Pradesh & Yanam on 14th, over Rayalaseema on 11th & 12th, over Telangana and North Interior Karnataka on 11th, 12th & 15th, over South Interior Karnataka on 11th, 12th, 14th & 15th along with **Heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places very likely over Coastal Karnataka on 11th; **heavy to very heavy rainfall** at isolated places over Bihar, South Interior Karnataka and Kerala & Mahe on 11th, over Sub-Himalayan West Bengal & Sikkim on 11th & 13th, over Coastal Andhra Pradesh & Yanam from 11th to 13th, over Konkan & Goa on 12th over Odisha and Assam & Meghalaya on 13th and over Telangana on 13th & 14th; along with **heavy rainfall** at isolated places over northeast Uttar Pradesh on 11th, south Madhya Pradesh from 11th to 13th, Vidarbha from 11th to 15th, Chhattisgarh from 11th to 13th, western parts of Gangetic West Bengal on 11th, Odisha on 11th, 12th & 14th, Andaman & Nicobar Islands on 11th, 14th & 15th, Arunachal Pradesh on 11th & 12th, Assam & Meghalaya on 11th, 12th, 14th & 15th, Nagaland, Manipur, Mizoram & Tripura on 11th & 12th, Gujarat State on 11th, 13th & 14th, Madhya Maharashtra from 11th to 15th, Konkan & Goa on 11th & from 13th to 15th, Telangana on 11th, 12th & 15th, Rayalaseema from 11th & 13th, North Interior Karnataka on 11th & 14th, Tamil Nadu, Puducherry & Karaikal and Lakshadweep on 11th, Sub-Himalayan West Bengal & Sikkim on 12th & 14th, Interior Karnataka on 12th, Kerala & Mahe from 12th to 15th, Bihar on 13th, Marathwada from 13th to 15th, Karnataka on 13th, East Uttar Pradesh and southwest Madhya Pradesh on 14th & 15th and over Coastal Andhra Pradesh & Yanam on 14th,

- Arrange for adequate drainage to avoid water stagnation in the crop fields.
- Arrange for adequate drainage facilities to remove excess water from the fields of pulses, maize and vegetables.
- Postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

➤ **Undertake the following operations:**

- land preparation/sowing of sesame in Hill Zone of Assam.
- sowing of pigeon pea in Bihar.
- sowing of black gram in uplands in Sib-Himalayan West Bengal.
- sowing of lettuce, kale broccoli, cabbage and Chinese cabbage as well as root crops like carrot and radish in Jammu & Kashmir (UT) and Ladakh (UT).
- sowing of radish, carrot, broccoli, Arkel pea, spinach, methi and lettuce in Himachal Pradesh.
- sowing of early mustard in Haryana.
- sowing of tomato (hybrid variety) gobhi and Knol khol in East Uttar Pradesh and field preparation for paddy nursery in West Uttar Pradesh.
- transplanting of cabbage and cauliflower and land preparation for sowing of sugarcane in Uttarakhand.
- transplanting of seedlings of brinjal, tomato, chilli, early cauliflower and rainy season onion in Rajasthan.
- sowing of *rabi (rangada)* onion in Madhya Maharashtra.

Detailed Agromet Advisories

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

Realised Rainfall: Rainfall occurred in all districts of Kerala; in all districts of Tamil Nadu except Ariyalur, Chennai, Kanchipuram, Karaikal, Nagapattinam, Puducherry, Thanjavur, Tirunelveli, Tiruvarur, Toothukudi, Virudhunagar; all the districts of Karnataka except Raichur and Yadgir districts of North Interior Karnataka; Anantapur & Chittoor districts of Andhra Pradesh and Mahabubnagar & Wanaparthy districts of Telangana. .

Advisories:

- **Thunderstorm accompanied with lightning** very likely at isolated places over Telangana from 11th to 15th, over Coastal Andhra Pradesh & Yanam from 11th to 14th, over Rayalaseema from 11th to 13th, over Tamilnadu, Puducherry & Karaikal on 11th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm/dust storm.
- As **rain/thundershowers** likely at **most places** over Coastal Karnataka, Kerala & Mahe and Lakshadweep from 11th to 15th, over Coastal Andhra Pradesh & Yanam from 11th to 13th, over South Interior Karnataka on 13th and over Telangana and North Interior Karnataka on 13th & 14th; **at many places** over Coastal Andhra Pradesh & Yanam on 14th, over Rayalaseema on 11th & 12th, over Telangana and North Interior Karnataka on 11th, 12th & 15th, over South Interior Karnataka on 11th, 12th, 14th & 15th along with **Heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places very likely over Coastal Karnataka on 11th; **heavy to very heavy rainfall** at isolated places over South Interior Karnataka and Kerala & Mahe on 11th, over Coastal Andhra Pradesh & Yanam from 11th to 13th, over Telangana on 13th & 14th; along with **heavy rainfall** at isolated places over Telangana on 11th, 12th & 15th, Rayalaseema from 11th & 13th, North Interior Karnataka on 11th & 14th, Tamil Nadu, Puducherry & Karaikal and Lakshadweep on 11th, Interior Karnataka on 12th, Kerala & Mahe from 12th to 15th, Karnataka on 13th and over Coastal Andhra Pradesh & Yanam on 14th, arrange for adequate drainage to avoid water stagnation in the crop fields. Arrange for adequate drainage facilities to remove excess water from the fields of pulses, maize and vegetables. Postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

Karnataka

- In Coastal Kannada district, drain out excess water from standing crop fields. to reduce the square/flower bud/flower drop in cotton, spray Planofix @ 0.25 ml/litre of water in clear weather. For control of infestation of blast in rice, spray Carbandezim or Kitagin @ 1 g/litre of water or Beam @ 0.6 g/litre in clear weather. For the control of heart rot in pineapple, treat the tubers with 3 gm Copper Oxychloride per litre of water before taking up planting.
- In North Interior Karnataka, undertake land preparation for *rabi* sowing where harvesting of pulse crops is completed. Carry out harvesting of early sown sunflower crop. Provide protective irrigation to early sown sorghum (grain filling stage), maize, pearl millet and pigeon pea crops based on soil moisture condition. For effective management of bhendi fruit borer, spray Emamectin Benzoate @ 3g in 10 litres of water. Twister disease in onion is observed at many places; for control, spray Hexaconazole @ 1.0 ml / litre of water.
- In South Interior Karnataka, undertake gap filling in ragi. Provide adequate drainage facility to remove excess of water from the ginger, turmeric fields and coffee plantation. Spray Dimethoate 30 E. C. @ 1.7 ml /litre of water to manage aphids in ragi crop.

Kerala

- In High Altitude Zone, provide propping to standing banana crop. Take necessary phyto-sanitary measures to manage capsule rot (Azhukal disease) in cardamom and spray 1% Bordeaux mixture (500-1000 ml/plant). Keep vigilance against Red palm weevil, rhinoceros beetle in coconut and areca nut. Sigatoka leaf spot disease may become severe in banana due to increase in relative humidity; if found to be severe, spray 1% Bordeaux mixture or Bavistin (1g/litre of water) after cutting the severely affected leaves and burning them.
- In Central Zone, there is a chance of appearance of rice bug in paddy, spray 2 ml Malathion per one litre of water either before 9 am or after 3 pm, otherwise the pesticide application will adversely affect the pollination. There is a chance for the attack of mites in chilly, apply Spiromesifen 8 ml per 10 litres of water and there is also chance of Pythium soft rot in ginger, dig out the affected plants and drench the soil with copper oxychloride 2g per litre of water.
- In Southern Zone, for brown plant hopper in rice, apply urea-neem cake mixture 5:1 ratio and in case of severe attack, spray Imidacloprid 3 ml/10 litres of water.

Andhra Pradesh

- In Srikakulam district, due to prevailing dry spell direct seeded rice and maize are experiencing moisture stress; spray with 13-0-45(multi-k)@10 gm/litre or 2% urea.
- In Ananthpur district, install pheromone traps @ 2 no./acre for monitoring of pink bollworm activities in cotton.
- In Guntur & Prakasam districts, due to high humid condition in the field of cotton crop, add 2% urea or DAP OR 1% KN03 for two times in 5 days' interval.
- In YSR Cadapah district, present weather conditions are favourable for the incidence of rice hispa and stem borer in paddy. For control of hispa, spray Mmonocrotophos @1.6 ml or Chlorpyrifos @ 2.5ml or Profenophos @ 2.0 ml /litre of water and for the control of stem borer, spray Chlorpyrifos @ 2.5ml or Cartaphydrochloride 2.0 g or Chlorantraniliprole 20 S.C 0.3 ml/ litre of water.
- In Kurnool district, present weather conditions are favourable for helicoverpa and maruca pod borer incidence in red gram; to control, erect 5 pheromone traps per acre; spray neem oil @ 1 l/acre; carry out nipping of terminal buds up to 1 foot at 100 DAS; keep bird perches 20 / acre. If pest infestation is more, spray Acephate @ 300 g (or) Quinolphos @ 400 ml (or) Chlorpyrifos @ 500 ml (or) emamectin benzoate @ 80 g (or) dichlorovos @ 200 ml per acre.
- In Chittoor district, undertake harvesting of early sown groundnut when 70-80% of groundnut plant leaves, stems turn yellow in colour and inside of the pod shell might have turned black colour. (Pods which are to be used for sowing purpose should be dried under sun until the moisture content is 9%. Harvested produce should be stored in gunny bags which are treated with malathion @ 5-10 ml/litre of water and dried under sun).
- In Visakhapatnam district, weather is congenial for brown plant hopper in rice. Immediately drain out excess water from the field and go for spraying with Monocrotophos @ 2.2 ml or Acephate @ 1.5 g/litre of water at ETL @ 10 hoppers/hill.

Telangana

- Spray Multi K @ 10 g per litre of water in cotton, soybean and redgram to recover from excess moisture.
- The prevailing conditions are favourable for leaf spot disease in cotton; to control, spray Carbendazim +Mancozeb @ 2.5 g or Propiconazole @ 1ml /litre of water.
- Prevailing weather conditions are favourable for Bacterial Leaf Blight in rice; to control, apply Nitrogenous fertilizers to crop temporarily; to control the spreading of the disease in early stages, spray Copper Oxy Chloride @ 3 g + Plantomycine @ 0.2 g per liter of water.

Tamil Nadu

- In Cauvery Delta Zone, prevailing weather condition is conducive for stem borer infection in rice, apply Chlorpyrifos 20 EC 500 ml/ acre or Profenophos 50 EC 400 ml/ acre.
- In Western Zone, considering the receipt of rainfall, nursery preparation may be done for Samba rice. By utilizing expected rainfall, sowing of fodder rainfed sorghum may be taken up. Prevailing weather is conducive for leaf blight in maize. Spray Mancozeb @ 2gm or Kresoxim methyl @ 1ml/litre of water. In young maize plants, if Fall Army Worm is observed, spray Emamectin benzoate @ 0.4g/litre of water. Weather is conducive for leaf minor in tomato; to control, spray Neem Seed Kernel Extract @ 50 g/litre of water. Due to continuous rain in some areas, damping off disease is observed in young tomato plants; to control, drenching with Copper oxy chloride @ 2.5 g/litre is recommended. Weather is conducive for bacterial leaf spot disease in rice; spray Copper Hydroxide @ 3g/litre of water. Due to present weather, thrips attack is observed in *Samba* paddy nursery; spray Imidachlorprid @ 0.4 ml or Thiomethaxem @ 0.5 g / litre of water. Prevailing weather is conducive for leaf blight in maize; spray Mancozeb @ 2g or Kresoxim methyl @ 1ml/litre of water.

Animal Husbandry:

- In Karnataka, in some blocks of Bidar district, a typical skin disease, lumpy skin disease in animals is noticed, which is spreading at an alarming rate through ticks & mosquitoes; contact the nearest veterinary officer and get the animals vaccinated. Maintain the ambient room temperature of the poultry house. Drumstick leaves can be fed to animals; it is having high protein and mineral content so it will enhance the immunity of livestock.

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

Realised Rainfall : Rainfall occurred in all the districts except Anjaw, Dibang Valley, Kurung Kumey Lower Subansari and Tirap districts of Arunachal Pradesh; all the districts except Darrang, Morigaon, N.C.Hills and Nowgaon districts of Assam; all districts except Jaintia Hills district of Meghalaya; Saiha district of Mizoram; Tamenglong district of Manipur; Mokokchung and Paren districts of Nagaland and North Tripura district of Tripura.

Advisories:

- **Thunderstorm accompanied with lightning** very likely at isolated places over Assam & Meghalaya from 11th to 13th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm/dust storm.
- As **rain/thundershowers** likely **at most places** over Arunachal Pradesh and Nagaland Manipur Mizoram & Tripura on 11th, over Assam & Meghalaya on 11th & 13th; **at many places** over Arunachal Pradesh from 12th to 15th, over Assam & Meghalaya on 12th, 14th & 15th, over Nagaland Manipur Mizoram & Tripura from 12th to 14th, along with **heavy to very heavy rainfall** at isolated places over Assam & Meghalaya on 13th; along with **heavy rainfall** at isolated places over Arunachal Pradesh on 11th & 12th, Assam & Meghalaya on 11th, 12th, 14th & 15th, Nagaland, Manipur, Mizoram & Tripura on 11th & 12th, arrange for adequate drainage to avoid water stagnation in the crop fields. Arrange for adequate drainage facilities to remove excess water from the fields of pulses, maize and vegetables. Postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

Arunachal Pradesh

- In Arunachal Pradesh, continue harvesting of *Jhum* rice when 80–85% of the grains are straw colored (i.e.,

yellow-colored) during clear/dry days. Undertake land preparation/ sowing of mustard after current spell of rain. Spray Copper Hydroxide 77 WP @ 1.25 kg/ha mixing with 150 litres of water at 15 days' intervals against bacterial leaf blight infestation during active tillering/panicle initiation stage in WRC rice field.

Assam & Meghalaya

- In Hill Zone of Assam, continue nursery sowing/ transplanting of cauliflower after current spells of rain. Provide proper support to cucurbitaceous crops. Make provision of mechanical support to the canes of sugarcane, by tying 3 to 4 canes together by their leaves to prevent lodging. Undertake land preparation/sowing of sesame. It is advised to go for regular monitoring of coconut orchard for red palm weevil infestation. On occurrence of symptoms, immediately pour Endosulfan 35 EC @ 2 ml/litre of water in the trunk cavity and plug with mud. Drainage system should be improved to prevent rhizome rot in ginger and turmeric. The affected areas may be drenched with 0.3% Mencozeb 75 WP @ 2g/litre of water.
- In Lower Brahmaputra Valley Zone, spray Fipronil 5 SC @ 50 ml per bigha of land or Thiamethoxam 25 WG @ 13 gm per bigha of land against stem borer and case worm attack in Sali rice at the time of tillering stage during the rain free weather. Continue nursery sowing of early cauliflower. Complete sowing of black gram/ green gram within the first fortnight of September. Undertake sowing rabi maize.
- In Upper Brahmaputra Valley Zone, maintain a depth of 5±2 cm standing water in the fields of rice. Due to congenial weather, there is chance of attack of stem borer and hispa in the rice fields. Spray Flubendiamide 39.35SC (@ 1.25 ml per 10 litre of water against stem borer and hispa infestation. Alternatively, farmers can go for dusting of Chlorantraniliprole 0.4G (@ 1.5 kg per bigha against the pests. Continue sowing of green gram, radish and early cauliflower.
- In Barak Valley Zone, maintain 5 cm of the water level and also suggested to prepare the bunds of the surrounding rice field. Spray Flubendiamide 39.35% @ 0.1% or Thiamethoxam 25 WG @ 100 g/ha or Fipronil 5 SC @ 370 ml/ha against infestation of stem borer and case worm during the tillering stage of Sali rice. Continue sowing of *kharif* pulses (green gram & black gram) and cole crops. Undertake planting seedlings of coconut varieties viz., Assam tall, West coast Tall, Bengal Hazari and Kamrupa under low-land condition.
- In Central Brahmaputra Valley Zone, continue sowing of *kharif* pulses (green gram & black gram) and cole crops. In *Sali* rice at tillering stage, there is chance of stem borer and caseworm infestation which may be controlled by draining out of excess water or spraying Chlorantraniliprole 0.4G @ 10kg/ha or Flubendiamide 20% SG @125g/ha to control the attack. Maintain 5±2 cm water in the field of *Sali* rice.
- In North Bank Plain Zone, continue sowing of black gram/ green gram, brinjal and cole crops. Present Weather condition is favourable for heavy infestation of rice hispa, leaf folder, army worm case worm etc. in *Sali* rice field at tillering stage. Spray Chloropyrifos 20EC or Monocrotophos 40EC @ 1.5ml per litre of water. Also application of Malathion dust (2% dust applied at 25 kg/ ha) or Chlorpyrifosdust (1.5%) or Endosulfan dust (5%) along the bunds of the field kills army worm pest and also prevents the migration of larvae to other rice fields. The technique was widely adopted because it proved to be a cheap and effective method for managing the army worm.
- In Meghalaya, ensure proper drainage system in the ginger/turmeric and vegetable crop field. Continue sowing/ transplanting of cole crops, cow pea and French bean on clear weather. Continue harvesting of matured cobs of maize.

Manipur, Mizoram, Tripura and Nagaland

- In Manipur, spray Dithane M-45 @ 2ml/ litre water to control Tikka disease in groundnut. Spray Hexaconazole 5% EC @2ml/ litre of water against rust in soybean. In rice, during panicle initiation to flowering stage, spray Hexaconazole @2ml/ litre of water against sheath blight or sheath rot disease.

Spray Copper Hydroxide 53.8% DF @ 3g/ litre water during flowering stage or Tricyclazole 18.0%w/w + Tebuconazole 14.4 % w/w SC @2ml/litre water against Smut disease of rice. Spray Chlorantraniliprole @ 2ml/10 litre of water or Fipronil 80 WG @ 2g / 15 litre of water against case worm/ leaf folder/ gall midge/ stem borer. Spray Acephate 95%SC @1ml/litre of water 2 times at 7 days interval or Buprofezin 15% + Acephate35% WP @ 2.5g/ litre water twice with 15days interval against White back plant hopper/ aphid in rice. Spray Streptocycline @ 2g/15 litre of water (at least three pumps per sangam) or Copper Hydroxide 53.8 % DF @ 3g/ litre of water against Bacterial Leaf Blight after rains. Maintain water level in the *Kharif* rice field at panicle initiation to flowering stage. Spray Redomil MZ 72 WP @ 2g/litre water alternately with Carbendazim @ 2g/lit water at 14 days interval against Soft rot in ginger and Rhizome rot in turmeric. Continue nursery raising of cole crops (cauliflower/ cabbage/ broccoli).

- In Mizoram, undertake harvesting of Jhum rice on sunny days. Continue sowing of cowpea. Due to high humidity (90-95%) and moderate rainfall, possibility of rust disease on soybean is higher. So farmers are advised to spray Hexaconazole 5% @ 2.0 ml/litre of water to control the disease. Apply Cypermethrin 2.0 ml/litre of water against gundhi bugs infestation in normal rice at Panicle emergence stage if attack is above ETL.
- In Tripura, continue land preparation for sowing of black & green gram, sesame. Prevailing humid weather is conducive for the attack of Blast in *Aman* Rice during panicle initiation stage. The attack may be managed manually by flooding the field followed by apply Tricyclazole 75 WP @ 0.6 gm/litre of water or Carbendazim 50 WP (Bavistin) @ 1 gm per litre of water. Maintain good drainage in vegetable field. Undertake harvesting of matured cobs of *Kharif* maize. Continue transplanting of *Aman* rice. Maintain 5 cm water in the field. Comparatively older aged (20-25 days old) seedlings may be selected for flood prone land and plant 2/3 seedlings per hill.
- In Nagaland, install pheromone traps at a distance of 50m@ 5 traps/ha for each insect pest of gram pod borer and also erect perches @50/ha. Set light trap (1 light trap/5 acre) to kill moth population during flowering stage of soybean. Spray neem oil 0.5% to control shoot borer in ginger. Continue sowing of green gram. Drenched all beds of ginger with Bordeaux mixture 1% or copper oxychloride 0.2% against bacterial wilt attack.

Animal Husbandry

- In Northeastern states, carry out immunizations against BQ, HS, Foot and mouth disease as well as anthrax diseases in livestock like cows, buffaloes, goats and pigs. Also carry out vaccination (RDF1) against Ranikhet disease in one week old chicks and against Gamboro disease in two weeks old chicks. During the monsoon season, animals should not be fed with water submerged rotten grasses.
- In Lower Brahmaputra Valley Zone of Assam, during the rainy season fowl pox is a major problem in poultry. Healthy bird should be vaccinated within age of 6th to 10th week in wing web of birds to provide them lifetime immunity. Isolate the cull infected birds from the flock. Also, get rid of the stagnant water around the farm to control the vectors like mosquitoes.

Fishery

- In Upper Brahmaputra Valley Zone of Assam, composite culture of fish with long duration rice varieties in low land situation may be undertaken to increase the income. About 1,350 numbers of fingerlings (Rohu, Common carp, Mrigal, Catla etc.) may be released in one bigha of land after transplanting of paddy.
- In Barak Valley Zone e of Assam, to avoid insect infestation in nursery fish ponds, apply soap oil emulsion (a mixture of cheap soap @ 2.5 kg and kerosene oil @ 13 litre per bigha of pond) and apply gently in nursery ponds.

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

Realised Rainfall: Significant rainfall occurred in South Andaman and Nicobar districts of Andaman & Nicobar Islands, in Araria, Begusarai, Darbhanga, Kathihar, Kishanganj, Madhepura, Madhubani, Muzaffarpur, Patna, Purnea, Samstipur, Sheohar, Sitamarhi and West Champaran districts of Bihar; in Deoghar, Dhanbad, Dumka, Giridih, Pakur, Ramgarh, Ranchi and Sahebganj districts of Jharkhand; in Angul, Jharsuguda, Kalahandi, Kandhamal, Koraput, Malkangiri and Nawarangpur districts of Odisha; in Birbhum, Burdwan, Kolkata, Murshidabad and West Midnapore districts of Gangetic West Bengal and in all districts of Sub-Himalayan West Bengal & Sikkim. Weather remained dry/mostly dry over the rest of the region.

Advisories

- **Thunderstorm accompanied with lightning** very likely at isolated places over Bihar from 11th to 15th, over Jharkhand from 11th to 13th, over West Bengal & Sikkim on 11th, over Gangetic West Bengal on 12th, over Sub-Himalayan West Bengal & Sikkim on 13th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm/dust storm.
- As **rain/thundershowers** likely **at most places** over Andaman & Nicobar Islands on 11th, 12th, 14th & 15th, over Sub-Himalayan West Bengal & Sikkim from 11th to 15th; **at many places** over Andaman & Nicobar Islands on 13th, over Bihar on 11th & 12th, along with **heavy to very heavy rainfall** at isolated places over Bihar on 11th, over Sub-Himalayan West Bengal & Sikkim on 11th & 13th along with **heavy rainfall** at isolated places over western parts of Gangetic West Bengal on 11th, Odisha on 11th, 12th & 14th, Andaman & Nicobar Islands on 11th, 14th & 15th, Sub-Himalayan West Bengal & Sikkim on 12th & 14th, Bihar on 13th, arrange for adequate drainage to avoid water stagnation in the crop fields. Arrange for adequate drainage facilities to remove excess water from the fields of pulses, maize and vegetables. Postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

Odisha

- In North Central Plateau Zone, rice crop is at tillering stage; maintain about 2-3 cm standing water during this stage; if there is stem borer infestation, spray Chloropyriphos @ 400 ml/acre or Monocrotophos @ 400 ml/acre or apply Cartap hydrochloride @ 7.5 kg/acre and in case of leaf folder infestation, spray Chloropyriphos @ 400ml/acre in 200 litres of water.
- In West Central Table Land Zone, in case of stem borer infestation in rice, apply Rynaxypyr 20 SC @ 0.3ml/l or Cartap hydrochloride 50 SP @ 1.25g or Acephate 75 SP@ 2g/litre of water; in case of sheath blight infestation in rice, apply Tebuconazole 50%+ Trifloxystrobin 25% 75WG @0.4g/litre of water or Azoxystrobin 18.2% + Difenconazole 11.4% SC @ 1ml/litre of water; in case of blast disease, apply Tricyclazole 75WP @ 0.6g or Isoprothiolane 40EC @ 1.5ml/litre of water. In case of fruit borer in tomato, apply 80 ml Spinosad 45SC 200 litres of water/acre. In case of fruit and shoot borer in brinjal, go for application of 60 ml Coragen 20 SC in 200 litres water/acre.
- In Eastern Ghat High Land Zone, sowing of pre-rabi black gram and green gram; use 10 kg seeds/acre; before sowing, seeds are to be treated with the Rhizobium culture; apply 4 kg urea, 35 kg DAP and 13 kg MOP per acre during final land preparation. Grow Hybrid variety of maize; apply 35 kg DAP, 4 kg urea and 27 kg MoP per acre at the time of final land preparation. Condition is favorable for blast incidence in ragi, if observed, spray Tricyclazole 75% WP @ 1 g/litre or Carbendazim 50% WP @ 1.5 g/litre of water; apply first spray immediately after noticing the symptoms, second and third sprays at flowering stage at 15

days' interval to control neck and finger infection.

Bihar

- In North East Alluvial, complete the sowing of pigeon pea by the middle of this month after treatment with Rhizobium culture prior to sowing. There is a chance of infection of bacterial leaf blight in paddy crop; if paddy leaves are yellowing, water-soaked streaks are spreading from leaf tips and margins, becoming larger and sometimes leaves are completely yellow, spray solution of Streptocyclin 50g + Copper oxychloride @ 2.5 kg/ha mixing with 1000 litres of water twice at 12 days intervals.
- In South Bihar Alluvial Zone, undertake sowing of September-sown *arhar* with seed rate 25-30 kg/ha; before sowing, treat seeds with Rhizobium culture. Carry out transplanting of ready seedlings of brinjal, tomato, chilli, cauliflower and cabbage; apply 10-15 tonnes of cow dung and also apply 60 kg Nitrogen, 50 kg Phosphorus and 40 kg potassium per hectare before final preparation of field. Carry out hand weeding in rice field. To control leaf folder or stem borer in paddy, broadcast Cartap hydrochloride 4% granules @ 25 kg/ha when sky is clear.

Jharkhand

- In Western Plateau Zone, timely sown crops like green gram and black gram are at maturity stage; harvest them during clear weather and after harvesting, sow the seeds of rapeseed (toria) as rainfed crop after preparation of the field. Farmers having assured irrigation facility and wishing to cultivate early potato and table pea may select suitable field and sow the seeds on ridge. Start transplanting of the seedlings of tomato, cauliflower, cabbage etc. on ridge. Paddy crop at flowering stage is susceptible to the attack of Gundhi bug insects which suck the sap of flower; to control, carry out dusting of Chlorpyrifos/Quinolphos/Methyl Parathion dust @ 10 kg per acre during clear weather; dusting should be performed in different fields at same time as after dusting of the insecticide, these insects migrate to nearby field.
- In Central & North Eastern Plateau Zone, go for cultivation of horsegram (kulthi), niger, lobia (fodder), rice bean and safflower on sloping ground; carry out first weeding at 15 DAS. Carry out land preparation for the cultivation of short duration early potato hence, mix well rotten FYM @ 4 ton per acre thoroughly and at the time of final land preparation and add Malathion or Chlorpyrifos dust @ 10-12 kg or Neem or Karanj cake @ 100-120 kg per acre as prophylactic measure for the control of termites; for the management of early and late blight diseases go for treatment with fungicides like Metalaxil or Ridomil MZ @ 1.5 ml per litre of water, before sowing seed tubers. Pigeon pea crop is susceptible to leaf eating and sucking pests; to control, spray Monochrotophos @ 1 ml and Teepol @ 0.5 ml per litre of water during day time.

West Bengal

Sub-Himalayan West Bengal:

- In Hill Zone, carry out weeding in rice either manually or by using cono-weeder followed by top dressing of Nitrogen (44 kg urea/ha). Carry out hand weeding at 20 & 40 days after sowing in soybean crop; if incidence of hairy caterpillar is observed in soyabean, carry out weeding and spray Dichlorovos 76 % EC @ 1ml/ litre of water along the field bunds during clear weather.
- In Old Alluvial Zone, select uplands for black gram sowing; complete the seed sowing after seed treatment with Rhizobium. Drain out excess water from turmeric and ginger field to avoid rotting of rhizomes. There is a possibility of incidence of powdery mildew disease in cucurbitaceous crops; if noticed, spray Carbendazim @ 5 g or Zineb @ 20 g per 10 litres of water.

Gangetic West Bengal:

- In New Alluvial Zone, undertake sowing carrot in raised bed at seed rate- 4.0 kg/ acre; apply FYM, potash and phosphorus fertilizer; before sowing, carry out seed treatment with Captan @ 2 gm per kilogram

seeds; sowing by machine reduces seed rate up to 75 percentage and also improves the quality of produce and increases the yield.

- In the Coastal Saline Zone, to control sheath blight attack in wet seeded local variety of *Aman* paddy, spray Validimethrin@1ml or Carbendazin@2g/litre of water. For wilting, spray Streptocyclene and apply additional potash fertilizer to the plants after draining out of water. For leaf roller in high yielding variety of wet seeded Aman paddy, spray Chlorpyriphos@2ml/litre of water or Endosulfun@1.5ml/litre of water; apply one hand weeding in the field and also in the bund area, to ensure proper solarisation inside the row.

Andaman & Nicobar Islands

- In Andaman Islands, prepare the upland area after applying FYM 10 ton/ha for sowing second crop of leafy vegetables. Observe for powdery mildew in vegetables (bhendi or cowpea) and use fungicide on rain-free day for its control.
- In Nicobar Islands, harvest rain water to use in agriculture activity as good amount of rainfall is expected. Avoid use of any organic fungicide on vegetable as heavy rainfall is expected. Avoid field preparation for sowing of leafy vegetables.

Animal Husbandry

- Keep cattle shed clean; use bleaching powder if necessary. Monitor for Foot and Mouth disease in livestock and consult the local veterinary doctor.
- In Andaman & Nicobar Islands, deworm all the pigs as per the advice of local veterinary doctors.

Fishery

- In Andaman & Nicobar, harvest fingerlings of Indian Major Carps and stock in well managed stocking ponds.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Significant rainfall occurred in all districts of Konkan & Goa except Mumbai Suburban; all districts except Nandurbar districts of Madhya Maharashtra; Beed, Latur and Osmanabad districts of Marathwada. Weather remained mainly dry in Gujarat.

Advisories:

- **Thunderstorm accompanied with lightning** very likely at isolated places over Vidarbha from 11th to 13th, over Madhya Maharashtra, Marathwada and Konkan & Goa on 11th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm/dust storm.
- As **rain/thundershowers** likely at **most places** over Vidarbha from 11th to 15th, over Konkan & Goa from 12th to 15th and over Madhya Maharashtra and Marathwada on 14th & 15th; **at many places** over Konkan & Goa on 11th, over Madhya Maharashtra and Marathwada from 11th to 13th, with **heavy to very heavy rainfall** at isolated places over Konkan & Goa on 12th along with **heavy rainfall** at isolated places over Vidarbha from 11th to 15th, Gujarat State on 11th, 13th & 14th, Madhya Maharashtra from 11th to 15th, Konkan & Goa on 11th & from 13th to 15th, Marathwada from 13th to 15th, arrange for adequate drainage to avoid water stagnation in the crop fields. Arrange for adequate drainage facilities to remove excess water from the fields of pulses, maize and vegetables. Postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

Maharashtra

- **In Konkan**, undertake intercultural operation like weeding in rice fields during clear weather in

Sindhudurg, Ratnagiri, Raigad, Thane and Palghar districts. Undertake earthing up in 40 to 45 days old groundnut during clear weather in Sindhudurg district. For control of blast in finger millet, spray Tricyclazole 75 WP @ 10 g or Isoprothialane 40 EC @ 10 ml per 10 litres of water during clear weather in Sindhudurg district. Due to prevailing dry spell and increase in temperature in Dapoli, Khed, Mandangad and Guhagar blocks of Ratnagiri district, to avoid splitting and dropping of arecanuts due to water stress apply protective irrigation to the orchard.

- **In Madhya Maharashtra**, continue harvesting of matured green gram and black gram during clear weather. Keep the harvested produce in safer place. Undertake sowing of *rabi* (*rangada*) onion. If deficiency of zinc is observed in rice, spray 0.2% zinc sulphate per liter during clear weather. To control leaf eating caterpillar in pigeon pea, spray Azadiractin 1500 ppm @ 50 ml per 10 liters of water during clear weather. Due to increase in maximum temperature and morning RH more than 90%, there is possibility of rust disease in sugarcane in Karveer, Panhala, Gadhinglaj, Radhanagari, Hatkanangale and Kagal tahsils of Kolhapur district, spray 0.3% of Mancozeb (30 g/10 litres water) or 0.1% Tebuconazole (10 ml/10 litres of water) during clear weather. Due to humid and cloudy condition, there is possibility of infestation of pod blight/ anthracnose in 55 to 75 days old soybean, spray Thiophanate Methyl 70 % WP @ 1 kg/ha in 500 litres of water during clear weather.
- **In Marathwada**, continue harvesting of matured green gram and black gram during clear weather. Keep the harvested produce in safer place. Undertake intercultural operation like weeding in sapota orchards during clear weather. To control fruit borer in okra, spray Chlorantraniliprole 18.5% @ 2.5 ml or Quinalphos 25% @ 20 ml per 10 liter of water during clear weather.
- **In Vidarbha**, continue harvesting of matured black gram during clear weather. Keep the harvested produce in safer place. In unsown areas early *rabi* sesame and early *rabi* pigeonpea (varieties : PKV Tara,C-11) can be sown up to 15th September. To control sucking pest in brinjal, spray Fenpropathrin 30 % @ 3 ml per 10 liters of water during clear weather in Buldana district. Undertake foliar spray of 2% Urea (200 g Urea in 10 litres of water) at flowering stage & 2% DAP (200 g DAP in 10 litres of water) at boll formation stage for better productivity of cotton. To control bacterial blight in rice, spray Copper Hydroxide 53.8% DF @ 30 g in 10 liters of water during clear weather.

Gujarat

- In North Gujarat, carry out picking of matured green gram pods. Mix Carbendazim 50 WP @ 10 g or Copper Oxychloride @ 20 g in 10 liters of water and apply in the root zone around the wilting cotton plants. Avoid interculturing operation in groundnut crop during pegging stage. Hand pick and destroy the Lemon Butterfly larvae from the lemon orchard; spray neem seed kernel extract @500 g (5%) in 10 liters of water at initial stage of pest.
- In Middle Gujarat, continue transplanting of ready tobacco seedlings in the field. Carry out intercultural operations in banana orchards and transplanted tobacco crop. In case of heavy incidence of stem borer in rice, apply Carbosulfan 5 G @ 4 kg or Cartap Hydrochloride 4 G @ 5 kg or Carbofuran 3 G @ 6 kg / bigha after removal of water from field 30-35 days after transplanting.
- In South Gujarat, undertake sowing of cluster bean, green gram, black gram, pigeon pea, castor crops, if crops like pearl millet, maize and pulses were destroyed by excessive rains. For control of Bacterial Leaf Blight in rice, spray Streptocycline Sulphate @1 g + Copper Oxychloride @ 20 g / 10 liters of water in clear weather.
- In Saurashtra and Kutch, continue sowing of ajwain, suwa, castor and sesame as well as chick pea for green pods, where kharif crops were wilted or damaged severely. Undertake picking of pods of green gram and cow pea in time and store them in an aerated place. The present weather condition is congenial for

infestation of tikka & rust diseases in groundnut; spray Propiconazole @20 ml or Tebuconazole @15 ml/10 litres of water under clear weather. Under present weather condition, to push up growth in transplanted hybrid chilli, application of Ammonium Sulphate and murate of Potash fertilizers each @ 25 kg/ha is recommended.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Rainfall occurred in Damoh, Dindori, Rewa, Seoni, Sodhi, Singrauli, Ashoknagar, Khargone, Shajapur and Vidisha districts of Madhya Pradesh and Balampur, Bastar, Bijapur, Dantewara, Kabirdham, Kondagaon, Koriya, Narayanpur and Sukma districts of Chhattisgarh during the week.

Advisories:

- **Thunderstorm accompanied with lightning** very likely at isolated places over Madhya Pradesh from 11th to 14th, over Chhattisgarh from 11th to 13th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm/dust storm.
- As **rain/thundershowers** likely **at many places** over over East Madhya Pradesh on 11th, over Chhattisgarh from 12th to 14th, with **heavy rainfall** at isolated places over northeast south Madhya Pradesh from 11th to 13th, Chhattisgarh from 11th to 13th and southwest Madhya Pradesh on 14th & 15th, arrange for adequate drainage to avoid water stagnation in the crop fields. Arrange for adequate drainage facilities to remove excess water from the fields of pulses, maize and vegetables. Postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

Madhya Pradesh

- In Malwa Plateau Zone, early maturing soybean varieties are ready to harvest in some of the areas; harvest the soybean crop (immediately after change in pod colour) in order to minimize the yield losses due to shattering as well as to prevent quality deterioration due to rains; store harvested crop in safe place covering it with Tarpolin. Lift the creepers above the ground on a trellis made of bamboo. Carry out transplanting rainy season onion in the prepared fields; ensure proper drainage in the fields. In medium and long duration varieties of soybean, spray pre-mixed formulations like Betacyfluthrin + Imidacloprid (350 ml/ha) or Thiamethoxam + Lambda Cyhalothrin (125 ml/ha) in the initial stage for control of stem fly and girdle beetle and in case of only semilooper infestation, spray the crop with Lambda Cyhalothrin 4.9 SC (300 ml/ha) or Indoxacarb 15.8 EC (333 ml/ha) or Flubendiamide 39.35 SC (150 ml/ha) or Flubendiamide 20 WG (275 ml/ha).
- In Nimar Valley Zone, in case of Groundnut infested with Cercospora leaf spot (Tikka) disease, spray the crop with Carbendazim 1 gm or Mancozeb 2 gm/litre of water. For management of stem fly in Soybean crop, spray Tiomethaxam + Lambda cyhelothrin 125 ml/ha.
- In Bundelkhand Zone, undertake transplanting of brinjal, tomato, chilli cauliflower and cabbage on raised bed if seedlings are ready. Prepare the field to sow early sown radish, fenugreek, spinach, corianders and turnip. Attack of leaf feeder in the soybean, urd and moong crop is reported; spray Quinolphos 25 E.C. @ 2.0 ml per litre of water. Monitor rice crop for stem borer; spray insecticide Quinolphos 25 E.C. @ 2.0 ml/litre of water for the effective control.

Chhattisgarh

- In Chhattisgarh Plain Zone, drain out excess water from pigeon pea, maize and other pulse crops and maintain proper drainage. For protection of oilseed and pulses crops from white fly, Metasystox should be sprayed @ 3 ml per litre of water or Nuvan can be sprayed @ 1 ml per litre of water. If leaf folder

population is more than 1 or 2 per leaf in rice crop, spray Fipronil 5 SC @ 800 ml per acre.

- In Northern Hill Zone, carry out intercultural operations in tomato, brinjal, chilli, okra and other vegetable crops. To control Alternaria blight disease in pigeon pea crop, the crop with Mancozeb 75 WP @ 2 g or Carbendazim 50 WP @ 1g/litre of water. To control aphids in black gram, spray 5% crude neem extract or 2% neem oil 3000 pp or Dimethoate 30 EC 1.7 ml or Imidacloprid 17.8 SL @ 0.2 ml/litre of water.
- In Bastar Plateau Zone, spray Pseudomonas @ 10 g /litre of water or Tebuconazole (50%) + Trifloxystrobin 25 WG @ 0.40 g /litre of water to control blast disease in paddy. Apply Rynaxypyr 150 gm/ha to control stem borer in rice. If swarming caterpillar are seen in rice field after receding of rainfall, spray Quinalphos 25 EC @ 2 ml / litre of water.

Animal Husbandry

- Store cattle feed in the dry place. Keep the cattle shed floor dry as far as possible. Cattle sheds should be well protected from flies and mosquitoes for prevention of diseases. Take out external parasites from animal's body and spray affected parts with Ivermectin medicine. Vaccinate cattle and goat against various diseases.

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

Realised Rainfall : Significant rainfall occurred in Bilaspur, Hamirpur and Mandi districts of Himachal Pradesh; in Ganderbal, Poonch, Reasi, Samba and Srinagar districts of Jammu & Kashmir (UT); in Dehradun, Pithoragarh and Uttarkashi districts of Uttarakhand; in all districts of Rajasthan except Banswara, Dausa, Dholpur, Dungarpur, Karauli and Jalore; Faridkot, Ferozepur, Jalandhar, Kapurthala, Moga, Mukteshwar districts of Punjab; in Fatehabad, Gurgaon, Hisar, Jhajjar, Mahendragarh, Mewat, Rewari, Sirsa districts of Haryana; in Central Delhi, East Delhi, North Delhi, North West Delhi, South Delhi and South West Delhi districts of Delhi.

Advisories:

- **Thunderstorm accompanied with lightning** very likely at isolated places over East Uttar Pradesh on 14th & 15th and over South Rajasthan on 15th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm/dust storm.
- As **heavy rainfall** at isolated places over northeast Uttar Pradesh on 11th and East Uttar Pradesh on 14th & 15th, arrange for adequate drainage to avoid water stagnation in the crop fields. Arrange for adequate drainage facilities to remove excess water from the fields of pulses, maize and vegetables. Postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

UTs of Jammu & Kashmir and Ladakh

- In Sub Tropical Zone, if attack of hairy caterpillar is observed in moong & mash crop, then destroy young larvae in gregarious phase. If population is high, spray Quinalphos @ 0.03% or Dichlorvos @ 0.05%. Weather is congenial for the attack of stem borer in maize, undertake whorl application of Carbofuran/ Cartap granules @ 5gm /whorl to control the insect. To control stalk rot, avoid water stagnation and apply Mancozeb @ 2.5 gm/litre of water.
- In Cold Arid Zone, undertake nursery sowing of lettuce, kale broccoli, cabbage and Chinese cabbage in greenhouses. Collect and destroy codling moth infested apple fruits fallen or noticed on trees.
- In Intermediate Zone, undertake sowing of root crops like carrot and radish. In case of open pollinated okra varieties, leave 2 - 3 fruits in okra plants for seed production purpose. If symptoms of blast are observed in

rice, apply Trycyclazole @ 0.06 % or @ 1 ml in 1.5 litres of water. If attack of Bacterial Leaf Blight (tip burning) is observed in rice, apply Streptocyclin Sulphate @ 1.0 gm/10 litres of water. If attack of fall army worm is observed in late sown maize crop, apply Chlorantraniliprole (Coragen) @ 0.3 ml/litre of water.

- In Valley Temperate Zone, continue harvesting of matured cobs of maize. Complete sowing of carrot, radish and turnip. Undertake nursery sowing of onion seeds.

Himachal Pradesh

- In Sub Montane and Low Hills Sub Tropical Zone, continue nursery bed preparation for rice. In mid hill region undertake nursery sowing of Chinese cabbage and direct sowing of radish, carrot, broccoli and lettuce. In case of severe problem of cutworms in vegetable crops, apply Chlorpyrifos 20 EC @ 2 litres mixed with 25 kg sand per hectare.
- In Mild Hills Sub Humid Zone, in case of whitefly infestation on cucurbits, spray Imidacloprid @ 100ml/200 litres of water. Spray apple trees at walnut stage with Propineb or Zineb @ 600 g / 200 litres of water against black rot disease; spray with 0.5 % Imidachloprid against aphids on underside of leaves and spray Fenazaquin @ 50 ml or Propargite @ 200 ml or HMO @ 2litre / 200 litres water against infestation of mites.
- In High Hill Temperate Dry Zone, after harvesting pea, spray herbicides to control the growing weeds. Carry out weeding in rajmash and apply irrigation. Spray Streptocycline (1 g/10 litres) and Blitox (Copper Oxychloride) 3g/litre at 15 days interval after flowering to control Black rot disease in cauliflower/ cabbage.
- In Mid Hills Sub Humid Zone, carry out hoeing and weeding operations in vegetables like capsicum, French bean, bitter gourd, okra, brinjal and pumpkin. Continue sowing of Arkel pea, spinach, methi and raise the nursery for sowing of cauliflower and cabbage. In high hills area undertake sowing the winter vegetables like radish, carrot, turnip etc.

Punjab, Haryana, Delhi

- In Western Zone of Punjab, irrigate the crops as per need. To save the crop from sheath blight, keep the bunds of the fields clean by removing grass and spray the crop with Nativo 75 WG @ 80 g or Lustre 37.5 SE @ 320 ml in 200 litres of water per acre. As high humidity and cloudy weather are persisting in these days, the crop may be sprayed at boot stage with Kocide 46 DF (Chopper hydroxide) @ 500 g in 200 litres of water per acre to control false smut. Due to favourable weather for root crops, undertake sowing of “desi” varieties of radish (Punjab Safed Mooli2), turnip (L-1) and carrot (Punjab Black Beauty and PC 161).
- In Western Plain Zone of Punjab, in paddy fields showing more than 5% dead hearts, during vegetative stage spray 20 ml Fame 480 SC or 170g Mortar 75 SG or one litre of Coroban/Dursban/Lethal/Chlorguard /Durmat/Classic / Force 20 EC in 100 litres of water/acre.
- In Undulating Plain Zone of Punjab, apply need based irrigation during the period. Weather would be congenial for attack of leaf folder and plant hoppers in rice and basmati. Spray the crop with 20 ml Fame 480 SC (flubendiamide) or 170g of Mortar 75 SG (cartap hydrochloride) or one litre of Coroban/Durmet/Force 20 EC (chlorpyrifos) in 100 litres of water per acre. Plant hoppers can be controlled by spraying 94 ml Pexalon 10 SC (triflumezopyrim) or 120 g Chess 50 WG (pymetrozine) or 40 ml Confidor 200 SL/Crocodile 17.8 SL (imidacloprid) or 800 ml Ekalux/Quinguard/Quinalmass 25 EC (quinalphos) in 100 litres of water per acre. Attack of white fly may be noticed in black and green gram. To save crop from Pyrrilla damage, spray sugarcane crop with 600 ml Dursban 20 EC (chlorpyrifos) in 400 litres of water per acre with manually operated sprayer.
- In Central Plain Zone of Punjab, undertake transplanting of mid-season cauliflower and also the best time for sowing of carrot, broccoli, Chinese cabbage, spinach. Suitable time for planting of evergreen fruit plants like citrus, mango, guava, litchi, loquat, sapota, etc. Save the rice crop from sheath blight by keeping

the bunds of the field clean; if the symptoms are observed, spray Nativo @80 g or Amitsar Top/Tilt/Folicur/Pikapika@200ml in 200 litres of water per acre towards the base of crop Monitor the crop regularly for whitefly attack and spray when population reaches 6 adults/leaf in the upper canopy of the plant before 10 AM. Control cotton jassid by spraying 80g Ulala 50WG or Osheen 20 SG or 40ml Confidor 200 SL or Imidacel /Markdor/Isogashi 17.8SL or Confidence 555 or 40 g Actara/Dotara/Thomson/Extra Super 25WG in 100 litres of water per acre.

- In Western Zone of Haryana, undertake sowing of early mustard variety - Pusa agreni. Due to possibility of dry weather conditions, apply irrigation and chemical spray in existing crops. Undertake harvesting of matured early bajra crop. Monitor the fields for infestation of insect/pest and diseases. Monitor crop regularly for leaf folder or stem borer in paddy crop. Install pest specific pheromone traps @ 3-4 per acre in the paddy fields for monitoring of stem borer. To save the rice crop from sheath blight, keep the bunds of the field clean by removing grass. Rogue out and destroy foot rot infected plants from the field. To prevent the incidence of mealy bug on the crop, remove all the weeds growing around the cotton crop fields.
- In Eastern Zone of Haryana, undertake sowing of early mustard variety - Pusa agreni. Season is suitable for sowing of autumn sugarcane, cabbage and cauliflower.
- In Delhi, undertake sowing of radish (Pusa Chetki), spinach (Pusa Bharti), amaranths (Pusa Lal Chaulai, Pusa Kiran), sweet corn (Madhuri, Vin orange) and baby corn (H.M-4) on ridges. Undertake field preparation for early mustard- Pusa Sarson-28, Pusa Tarak etc. Undertake transplanting of brinjal, tomato, chilli and early cauliflower on ridge whose seedlings are ready. Proper drainage should be done in the fields. Under the present weather condition, monitor paddy crop for the infection of bacterial leaf blight. In present weather conditions, false smut may appear in basmati (paddy) crop. spray Blitox 50 @ 500 grams per acre at 10 days' interval (2-3 times). Install pest specific pheromone traps @ 3-4/acre in vegetables (brinjal, tomato, cauliflower, cabbage etc) for monitoring of stem borer, diamond back moth (DBM).

Uttar Pradesh:

- **In East Uttar Pradesh,** for control of Khaira disease in paddy crops, apply zinc sulphate@ 25kg/ha as basal. For control of stem borer, brown plant hopper, gall midge, leaf folder and jassids, apply Quinalphos 25 EC @ 1litre/ha. For low and high yielding varieties of sorghum, after thinning process, perform second and last top dressing with 50-60kg of Nitrogen per hectare (109-130kg. Urea) preferably 30-35 days after sowing. In soybean, spray Dimethiats 30 EC @ 1 ltr/ha for protection from yellow vein mosaic disease. Start nursery sowing of tomato (hybrid variety) gobhi and Knol khol. Undertake sowing of radish, use 6-8 Kg/ha seeds for sowing. Undertake sowing of fodder sorghum. For treatment of yellow powdery mildew disease of Mung and Black gram (Urd) 3 to 4 sprays of Dimethoate 30 EC or Methyl-O-Demeton 25 EC 1 liter dissolved in 1000 litre water at an interval of 10-15 days according to requirement. Remove weeds from the orchard and apply recommended dose of manures and fertilizers to the fruits trees depending on the plant age. In vegetables (like brinjal, tomato, cauliflower, cabbage etc), for monitoring of borer, Diamond Back moth (DBM) insects, farmers are advised to use pheromone trap @ 3- 4/acre.
- **In West Uttar Pradesh,** farmers are advised to control the bacterial disease / leaf spot diseases in vegetables and citrus fruits by spray of copper oxychloride 2.5 g with streptomycin 200 ml per liter of water. In sesame crop, do the second weeding 30-30 days after sowing. In case of outbreak of stem borer in paddy crop, Imidacloprid 17.8% SL at the rate of 25 g / ha should be sprayed in 500-600 litre of water. In maize crop, there is a possibility of outbreak of stem borer pest, so for its prevention, Immactin Benzoate 5% Sg 4 g / ha should be sprayed in 500-600 litre of water solution Sprinkle on clean weather. Undertake second weeding in groundnut crops after 35 - 40 days of sowing. Farmers are advised to control of caterpillar in the fields of groundnut crop at this time. For the control of this pest, spray imamectin benzoate

@ 2.0 ml. per liter of water.

Uttarakhand

- In Sub Humid Sub Tropic Zone, undertake land preparation for sowing of sugarcane. Undertake transplanting of cabbage and cauliflower. If khaira disease appears in rice, spray 25 kg/ hectare Zinc sulphate with 2% urea solution.
- In Bhabar and Tarai Zone, apply light irrigation to red gram. Undertake transplanting of cabbage and cauliflower. To control the gummy stem blight in bottle gourd, spray Tebuconazole+ Trifloxystrobin (nevit) @ 15 g/pump or Azoxystrobin + Difenconazole (amistar top) @ 20 ml/pump on affected plants.
- In Hill Zone, maintain proper water level in rice fields during grain formation/grain filling stage. Give proper support to the cucurbit plants. For management of hopper attack in rice, spray Buprofezin 25SC @ 800ml/ha or Imidacloprid 17.8SL @125ml/ha.

Rajasthan

- In Irrigated North Western Plain Zone, apply irrigation in sugarcane crop at 10-15 days of interval under stress of rainfall. On appearance of spotted boll worm in cotton field, spray 5% ark of neem ki nimboli/quinalphos (25 EC) @ 2.0 ml or Fenvelrate (20 EC) @ 1.0 ml per litre water. Keep the cotton field free from weeds. Undertake weeding and maintain optimum plant population. Regularly check cotton fields for appearance of white fly; if white fly population reach above economic threshold level (8-12 white fly/leaf), spray neem based (Nimbosidin 5 ml + liquid soap 1 ml per litre water) or Diphenheuron (50 WP) 1gm/litre water.
- In Flood Prone Eastern Plain Zone, to control white fly in moong bean, spray with Imidacloprid 17.8 SL @ 5 ml /15 litres of water and spray Propiconazole 25 EC @ 0.1 % to control blast disease in *bajra* crop. To prevent paddy crop from *Khera* disease (when white stripes on leaves formed and leaves becomes white), broadcast Zinc sulphate @ 25 kg per hectare.
- In Semi Arid Eastern Plain Zone, to protect the kharif crops from the attack of white grub, use Imidachlorpid 17.8 SL @ 300 ml per hectare mixed with 80-100 kg soil before irrigation. Spray Carbendazim 50 WP @ 0.5 gm per litre water to protect groundnut crops against leaf spot disease.
- In Arid Western Plain Zone, prevailing weather conditions may increase the chances of tikka disease in groundnut, spray Mencozeb or Chlorotheloniil @ 2 gram per litre of water. For controlling sucking insects like aphid, jassid and white fly apply spray of Monocrotophos 36 SL 250 ml or Dimethoate 30 EC 300 ml for Methyl dimeton 25 EC 300 ml per bigha or Imidacloprid (17.8 SL) 0.005 % (3 ml/10 litres water) spray may be repeated at an interval of 15 days if needed. In view of weather conditions, there may be increase in chances of bacterial leaf blight disease in cluster bean crop, spray Streptocycline @ 0.02% (2g in 10 litres water).
- In Transitional Plain Zone of Inland Drainage, undertake weeding and hoeing in the standing crops and vegetables. Undertake transplanting of ready seedlings of brinjal, tomato, chilli and early cauliflower on ridge. Transplant rainy season onion in the prepared fields. Proper drainage should be done in all pulses, vegetables and other crops.

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