



# *National Agromet Advisory Service Bulletin*

*Friday 20<sup>th</sup> September 2019*

*(For the period 20<sup>th</sup> to 24<sup>th</sup> September 2019)*



*Issued by*

*India Meteorological Department*

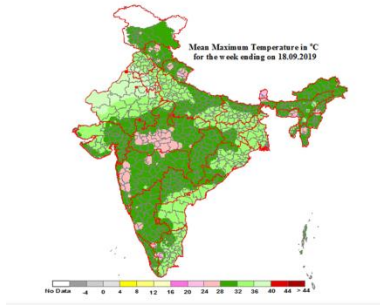
**Weblink For**

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

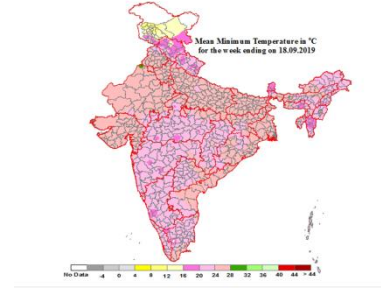
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

**Spatial distribution of weather parameters for the week ending on 18.09.2019**

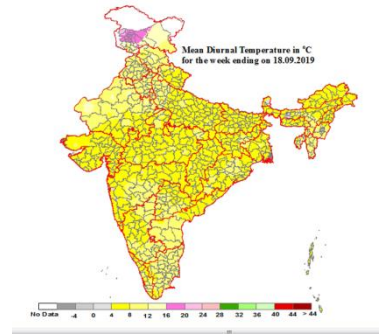
**Mean Maximum Temperature (°C) for the week ending on 18.09.2019**



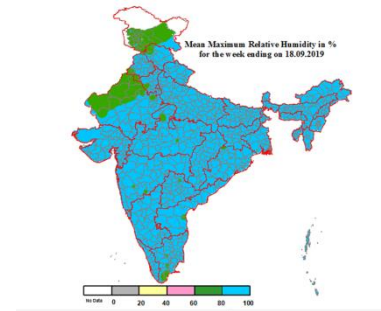
**Mean Minimum Temperature (°C) for the week ending on 18.09.2019**



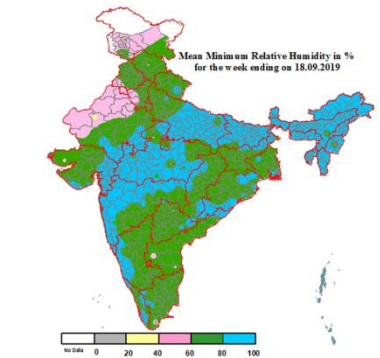
**Mean Diurnal Temperature Variation (°C) for the week ending on 18.09.2019**



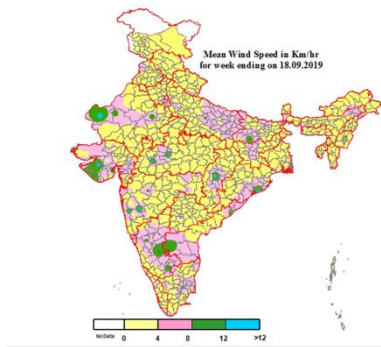
**Mean Maximum Relative Humidity (%) for the week ending on 18.09.2019**



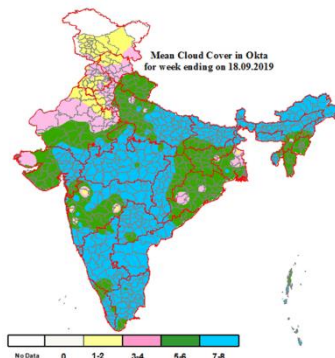
**Mean Minimum Relative Humidity (%) for the week ending on 18.09.2019**



**Mean Wind Speed (km/hr) for the week ending on 18.09.2019**



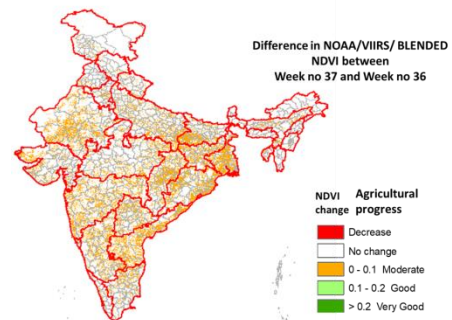
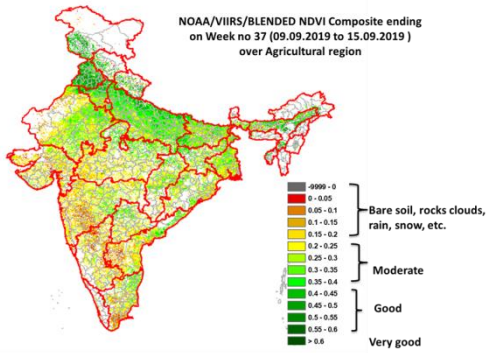
**Mean Cloud Cover (okta) for the week ending on 18.09.2019**





**NOAA/VIIRS/BLENDED NDVI composite for the week number 37 (09.09.2019 to 15.09.2019) over Agricultural regions of India**

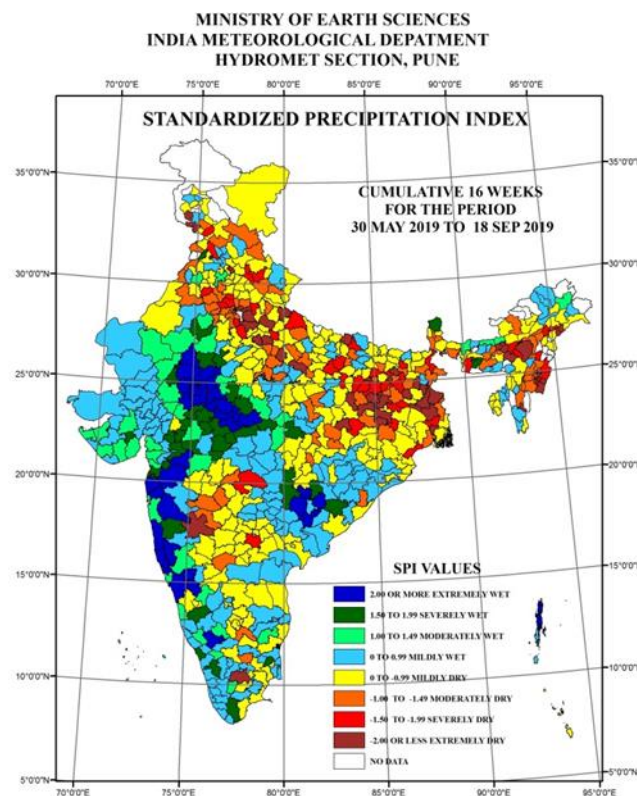
**Difference in NOAA/VIIRS/BLENDED NDVI between week number 37 and week number 36**



Agriculture vigour was good at many parts of North Eastern states, Jammu & Kashmir and Punjab; at a few places over Haryana, Uttar Pradesh, Himachal Pradesh & Uttarakhand and over isolated places of Bihar, West Bengal, Sikkim, Jharkhand, Northern part of Chhattisgarh, East Madhya Pradesh, Odisha, North Coastal Andhra Pradesh, Northern Telangana, East Rajasthan, Marathwada & Vidarbha.

Good Agricultural vigour has been observed at a few places over Odisha & Northern Chhattisgarh and at isolated parts of Kerala, North Western part of Tamilnadu, North Coastal Andhra Pradesh, Rayalaseema ( Kurnool dist.), Jharkhand, Gangetic West Bengal, North Eastern States, East Madhya Pradesh, Jammu & Kashmir, Uttarakhand, Himachal Pradesh, South Sourashtra, Bihar and adjoining Uttar Pradesh

**Standardised Precipitation Index  
Cumulative 16 weeks for the period 30<sup>th</sup> May to 18<sup>th</sup> Sep 2019**



- Extremely/Severely wet conditions exist in Valsad, Dangs, Chhota Udeput, Botad districts of Gujarat; Uttara Kannada, Dharwad, Haveri, Chikmangalur, Mysore districts of Karnataka; Kozhikode, Palakkad districts of Kerala; Barwani, Bhopal, Dewas, Guna, Harda, Hoshangabad, Indore, Jhabua, Khandwa, Mandsaur, Neemuch, Raisen, Rajgarh, Ratlam, Sehore, Shajapur, Ujjain, Vidisha, Burhanpur, Alirajpur,

Agar, Mandla, Narsinghpur districts of West Madhya Pradesh; Raigad, Ratnagiri, Thane, Sindhudurg, Mumbai Suburban, Palghar, Dhule, Kolhapur, Nashik, Pune, Satara, Nandurbar, Gadchiroli districts of Maharashtra; East Garo Hills district of Meghalaya; Koraput district of Orissa; Kapurthala district of Punjab; Ajmer, Bhilwara, Bundi, Chittorgarh, Jhalawar, Kota, Sawai Madhopur, Sikar, Tonk, Rajsamand, Pratapgarh districts of Rajasthan; Tirunelveli, Ariyalur districts of Tamilnadu; Dadara & Nagar Haveli; North & Middle Andaman districts of Andaman and Nicobar Islands; North Sikkim district of Sikkim; Bastar, Bijapur, Narayanpur, Sukma, Kondagaon districts of Chhattisgarh; North Goa district of Goa.

- Moderately wet conditions exist in Lower Dibbang Valley district of Arunachal Pradesh; Kokrajhar, Udalguri, Baksa districts of Assam; Broach, Surat, Navsari, Amreli, Bhavnagar, Jamnagar, Junagarh, Surendranagar, Devbhumi Dwarka districts of Gujarat; Udupi, Belgam, Davangere, Kodagu, Mandya districts of Karnataka; Dhar, Ashoknagar, Jabalpur, Sagar, Seoni districts of West Madhya Pradesh; Mumbai City, Jalgaon districts of Maharashtra; Bhatinda, Patiala districts of Punjab; Jodhpur, Nagaur, Pali, Banswara, Dungarpur, Jaipur, Jhunjhunu, Udaipur, Baran districts of Rajasthan; Nilgiri, Theni, Tiruvannamalai districts of Tamilnadu; Puducherry district of Union Territory; South Goa district of Goa.
- Moderately/ mildly dry conditions experienced in remaining districts in the country.

### Weather Forecast for next 5 days valid upto 0830 hours of 25<sup>th</sup> September 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 2- 3 days.

#### 5 Day Rainfall Forecast (MID-DAY) 20<sup>th</sup> September 2019

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

**20 September (Day 1):** ♦ **Heavy to very heavy rainfall** very likely at isolated places over Gujarat region, Konkan & Goa and Madhya Maharashtra and **heavy rainfall** at isolated places over East Uttar Pradesh, East Rajasthan, southwest Madhya Pradesh, Andaman & Nicobar Islands, Saurashtra & Kutch, Marathawada, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Tamilnadu, Puducherry & Karaikal and Coastal & North Interior Karnataka.

♦ **Thunderstorm accompanied** with **lightning** very likely to occur at isolated places over Jharkhand, Gangetic West Bengal and Odisha.

♦ **Strong winds**, speed reaching 40-50 kmph, likely to prevail over eastcentral & adjoining northeast Arabian Sea, western parts of westcentral & southwest Arabian Sea and south Gujarat & north Maharashtra coasts. Fishermen are advised not to venture into these areas.

**21 September (Day 2):** ♦ **Heavy to very heavy rainfall** very likely at isolated places over Saurashtra & Kutch and **heavy rainfall** at isolated places over Andaman & Nicobar Islands, Nagaland, Manipur, Mizoram & Tripura, Gujarat region, Madhya Maharashtra, Konkan & Goa and Tamilnadu, Puducherry & Karaikal.

♦ **Thunderstorm accompanied** with **lightning** very likely to occur at isolated places over Jharkhand and Odisha.

♦ **Strong winds**, speed reaching 45-55 kmph gusting to 65 kmph, likely to prevail over northeast & adjoining eastcentral Arabian Sea, western parts of westcentral & southwest Arabian Sea and south Gujarat & north Maharashtra coasts. Fishermen are advised not to venture into these areas.

**22 September (Day 3):** ♦ **Heavy to very heavy rainfall** very likely at isolated places over Andaman & Nicobar Islands and **heavy rainfall** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gujarat, Konkan & Goa and Tamilnadu, Puducherry & Karaikal.

♦ **Thunderstorm accompanied** with **lightning** very likely to occur at isolated places over Bihar, Gangetic West Bengal and Odisha.

♦ **Strong winds**, speed reaching 45-55 kmph gusting to 65 kmph, likely to prevail over northeast & adjoining eastcentral Arabian Sea and south Gujarat & north Maharashtra coasts. Fishermen are advised not to venture into these areas.

**23 September (Day 4):** ♦ **Heavy to very heavy rainfall** likely at isolated places over Tamilnadu, Puducherry & Karaikal and **heavy rainfall** at isolated places over East Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, Coastal & South Interior Karnataka and Kerala & Mahe.

♦ **Strong winds**, speed reaching 45-55 kmph gusting to 65 kmph, likely to prevail over north & adjoining central Arabian Sea. Fishermen are advised not to venture into these areas.

**24 September (Day 5):** ♦ **Heavy to very heavy rainfall** likely at isolated places over Coastal Andhra Pradesh & Yanam and Tamilnadu, Puducherry & Karaikal and **heavy rainfall** at isolated places over East Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Madhya Maharashtra, Konkan & Goa, Marathawada, Telangana, Rayalaseema, Karnataka, Kerala & Mahe and Lakshadweep.

♦ **Strong winds**, speed reaching 45-55 kmph gusting to 65 kmph, likely to prevail over north & adjoining central Arabian Sea. Fishermen are advised not to venture into these areas.

## Weather Outlook for subsequent 2 days from 25<sup>th</sup> September to 27<sup>th</sup> September 2019

♦ A fresh low pressure area is likely to form over Eastcentral Bay of Bengal & neighbourhood.

♦ Increase in rainfall likely over West Bengal, Assam & Meghalaya, Tripura, Uttarakhand and Himachal Pradesh.

- ◆ Fairly widespread to widespread rainfall with isolated heavy falls likely over Gangetic West Bengal, Odisha and south India.
- ◆ Scattered to fairly widespread rainfall likely to occur over rest of the country except over West Rajasthan, Punjab, Jammu & Kashmir and Himachal Pradesh, where isolated rainfall is likely.

### Salient advisories

- **Thunderstorm accompanied with lightning** very likely to occur at isolated places over Jharkhand on 20<sup>th</sup> & 21<sup>st</sup>, over Gangetic West Bengal on 20<sup>th</sup> & 22<sup>nd</sup>, over Bihar on 22<sup>nd</sup> and over Odisha from 20<sup>th</sup> to 22<sup>nd</sup> September, provide mechanical support to young fruit plants, banana and staking of vegetables to prevent the crops from lodging due to strong winds. Undertake propping up in sugarcane in Odisha.
- As rain/thundershowers likely at most places over **Konkan**, at most/ many places over **Madhya Maharashtra** on 20<sup>th</sup>, 21<sup>st</sup> and 24<sup>th</sup>, over **Gujarat region** from 20<sup>th</sup> to 22<sup>nd</sup>, over **Saurashtra & Kutch** on 21<sup>st</sup> & 22<sup>nd</sup>, over **Vidarbha** on 20<sup>th</sup>, 23<sup>rd</sup> & 24<sup>th</sup> and over **Marathwada** on 20<sup>th</sup> & 24<sup>th</sup> September along with **Heavy to very heavy rainfall** at isolated places very likely over Gujarat region & Konkan on 20<sup>th</sup> and over Saurashtra & Kutch on 21<sup>st</sup>, **heavy rainfall** very likely at isolated places over Madhya Maharashtra and Konkan on 21<sup>st</sup> September; rain/thundershowers likely at most places over **Coastal Karnataka**, most/many places **Kerala** and **Coastal Andhra Pradesh** during the period, over **Telangana** on 20<sup>th</sup>, 21<sup>st</sup>, 23<sup>rd</sup> & 24<sup>th</sup>, over **North Interior Karnataka** on 20, 21<sup>st</sup> and 24<sup>th</sup>, at many places over **South Interior Karnataka** during the period, over **Tamilnadu, Puducherry & Karaikal** from 22<sup>nd</sup> to 24<sup>th</sup> along with **Heavy to very heavy rainfall** at isolated places over Tamilnadu, Puducherry & Karaikal on 23<sup>rd</sup>, **heavy rainfall at isolated places** over Tamilnadu, Puducherry & Karaikal on 21<sup>st</sup> & 22<sup>nd</sup>, over Coastal Andhra Pradesh, Rayalaseema, Telangana, Coastal & South Interior Karnataka and Kerala on 22<sup>nd</sup> & 23<sup>rd</sup> September, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide mechanical support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to heavy rain. Provide adequate drainage in standing crop fields in Coastal Karnataka, Kerala, Tamilnadu, Puducherry & Karaikal, Gujarat & Konkan.
- Utilizing the realised rainfall, continue sowing of September pigeon pea in **Bihar**. Undertake sowing of sesame and horse gram in fallow lands in **Odisha**. Continue nursery sowing of *Samba* rice in Tamil Nadu.
- In **South Interior Karnataka**, infestation of blast disease is noticed in rice crop and likely to spread in the prevailing weather. For control, remove the weed hosts around the fields and spray the crop with Carbendazim @ 1gm/ litre of water or Tricyclozole @0.6 gm/litre of water after current spells of rain.



# Detailed Agromet Advisories

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

**Realised Rainfall:** Significant rainfall occurred in all the districts of Andhra Pradesh except Nellore and Yanam, all the districts of Telangana except Wanaparthy & Warangal Urban; in all the districts of Kerala except Malappuram, all the districts of Tamilnadu except Chennai, Coimbatore, Dindigul, Kanyakumari, Ramanathapuram, Theni, Tirunelveli, Tirupur. Rainfall occurred in all districts of Coastal Karnataka, in Kalaburgi, Raichur, Yadgir district of North Interior Karnataka, in Ballari, Bangalore Urban, Chikaballapur, Chikkamagaluru, Kodagu, Ramanagara, Shivamogga districts of South Interior Karnataka during the week.

### Advisories:

- As rain/thundershowers likely at most places over **Coastal Karnataka**, most/many places **Kerala** and **Coastal Andhra Pradesh** during the period, over Telangana on 20<sup>th</sup>, 21<sup>st</sup>, 23<sup>rd</sup> & 24<sup>th</sup>, over North Interior Karnataka on 20, 21<sup>st</sup> and 24<sup>th</sup>, at many places over South Interior Karnataka during the period and over Tamilnadu, Puducherry & Karaikal from 22<sup>nd</sup> to 24<sup>th</sup> along with **Heavy to very heavy rainfall** at isolated places over Tamilnadu, Puducherry & Karaikal on 23<sup>rd</sup>, heavy rainfall at isolated places over Tamilnadu, Puducherry & Karaikal on 21<sup>st</sup> & 22<sup>nd</sup>, over Coastal Andhra Pradesh, Rayalaseema, Telangana, Coastal & South Interior Karnataka and Kerala on 22<sup>nd</sup> & 23<sup>rd</sup> September, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide mechanical support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to heavy rain. Provide adequate drainage in standing crop fields.

### Kerala

- In Problem Area Zone, bud rot incidence can be severe in coconut, so remove the affected portion and apply 10% Bordeaux paste followed by 1% Bordeaux mixture spray. There is a chance of Mahali disease in Arecanut. The conidia of the fungus carried by wind and rainwater is favourable for disease spread. Prophylactic spraying of Bordeaux mixture (1%) or copper oxychloride 50WP (2g/l) with sticker is recommended.
- In Central Zone, weather is congenial for Sigatoka disease in banana, spray Pseudomonas 20g/litre. In case of severe attack, spray 2 ml Hexaconazole or 1 ml Propiconazole per one litre of water by mixing it with a sticker and spray on both the surface of the leaf.
- In Southern Zone, weather is congenial for incidence of Brown plant hopper in rice, apply urea-neem cake mixture 5:1 ratio. In case of severe attack, spray Imidacloprid 3 ml/10 lt of water after current spells of rain.

### Andhra Pradesh

- In North Coastal Andhra Pradesh, there is a chance to caseworm infestation in water stagnated areas in the rice. To control, drain out excess water from the field and spray Chlorpyrifos @ 2.5 ml or monocrotophos @ 1.6 ml per liter of water after current spells of rain.
- In Scarce rainfall Zone of Rayalaseema, drain out the excess water from Banana, tomato, chillies, pulses and cotton. Undertake sowing maghi jowar. White seeded Varieties like N.T.J 1,2,3,4 and yellow seeded varieties like N-13, N-14. For sole crop 3-4 kg seed is sufficient per acre
- In Krishna Godavari Zone of Andhra Pradesh, weather is congenial for incidence sucking pest in early stages of cotton, spray Monocrotophos and water in the ratio of 1:4 after current spells of rain.
- In Southern Zone of Andhra Pradesh, undertake harvesting of millets sown in the month of June and protect the harvested produce with plastic sheets.

### Telangana

- In Southern Telangana zone, drain out the excess water from the fields of rainfed crops wherever heavy rainfall has been received. Undertake top dressing of fertilizers in rainfed crops only after cessation of rainfall.
- In Northern Telangana, prevailing weather conditions are congenial for the incidence of sucking pests in vegetables. To control, spray Dimethoate @ 2ml or acephate @ 1.5 gr per liter of water after current spells of rain.

### Tamil Nadu

- In Puducherry, undertake nursery sowing of Samba rice with long duration varieties like CR 1009, ADT 50 and KKLR 1.
- In Cauvery Delta Zone, continue land preparation for sowing of rainfed cotton, maize and nursery raising of Samba rice.
- In South Zone, undertake sowing of cotton @ 15 kg of delinted cotton of KC 3 & K12 and Pulses @ 20 kg/ ha greengram (Co-8) & blackgram (MDU-1, vamban-8).
- In Western Zone, weather is congenial for sigatoka leaf spot in turmeric, spray Cholorothalanil @ 2g per liter of water or Propiconazole @ 2ml per liter of water after current spells of rain.
- In High Altitude Hilly Zone, undertake sowing of green manure crops namely Lupin, Buckwheat as crop rotation for control of nematodes and damping off disease in the soil.

### Karnataka

- In North Interior Karnataka, undertake harvesting of black gram crop during clear weather. After harvesting of

green gram crop, prepare the land for *rabi* crop sowing. In medium black soils, undertake sowing of sunflower, sorghum, chickpea, safflower, sorghum + chickpea (2:1), safflower + chickpea (2:4) crops. Drain out excess water from ginger fields.

- In South Interior Karnataka, complete harvesting of onion and sowing of sunflower, ragi, sugarcane and soybean crops. Undertake sowing of fodder sorghum, maize, bajra, cowpea crops.
- In Coastal Karnataka, for control of case worm in rice, spray Quinalphos /Chloropyriphos @ 2ml / litre of water after current spells of rain.
- In South Interior Karnataka, infestation of blast disease is noticed in rice crop and likely to spread in the prevailing weather. For control, remove the weed hosts around the field and spray the crop with Carbendazim @ 1gm/ litre of water or Tricyclozool @0.6 gm/litre of water after current spells of rain.
- In North Interior Karnataka, incidence of fruit borer is noticed in tomato and brinjal crops; spray the crop with Malathion 50EC dissolved in one litre of water. Spray 25 SC Buprofenzin @ 1.0 ml in one liter of water for controlling mealy bugs in late sown cotton after current spells of rain.

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

**Realised Rainfall :** Rainfall occurred in all districts of Arunachal Pradesh, Meghalaya and Nagaland; all districts except Karbi Anglong and Nowgaon districts of Assam; all districts except Lunglei district of Mizoram; all districts except Senapati district of Manipur and South Tripura district of Tripura.

### Advisories:

- As rain/thundershowers likely at many places over Arunachal Pradesh and Assam & Meghalaya on 22<sup>nd</sup> & 23<sup>rd</sup>, over Nagaland, Manipur, Mizoram & Tripura from 21<sup>st</sup> to 23<sup>rd</sup> along with **heavy rainfall** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya on 22<sup>nd</sup> & 23<sup>rd</sup> and over Nagaland, Manipur, Mizoram & Tripura from 21<sup>st</sup> to 23<sup>rd</sup> September; 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 and Arunachal Pradesh.

### Arunachal Pradesh

- In Arunachal Pradesh, due to heavy rain if submergence of rice under water is less than 3 days then it normally recover, when rain stops, top dressing of urea 10-15 kg/ha and MOP 20kg/ha advocated in the WRC rice field. Continue nursery bed raising for early cauliflower and tomato.

### Assam & Meghalaya

- In Upper Brahmaputra Valley Zone of Assam, due to congenial weather, there is chance of attack of stem borer, hispa and swarming caterpillar in the rice fields. Spray Chlorpyriphos 20 EC or Quinalphos 25 EC @ 66-80 ml per 66-80 litre of water per bigha against the infestation. To prevent the spread of army worms from one field to another, it is advised to apply Malathion 5% dust in the bunds. Continue sowing of cauliflower and radish. To prevent lodging of the sugarcane crops provide mechanical support by using bamboo sticks or tying 4 to 5 canes together with their leaves.
- In Lower Bramhaputra Valley Zone, continue transplanting of Finger millets, sowing of maize and nursery raising/transplanting of cole crops.
- In Central Bramhaputra Valley, continue sowing of black gram and green gram. Prevailing weather is very conducive for infestation of stem borer and caseworm in Sali rice which may be controlled by draining out of excess water or spraying Chloropyriphos(20%) @2ml/litre of water after current spells of rain.
- In Barak Valley Zone of Assam, undertake gap filling in the main field of rice with same age of seedling. Prevailing weather conditions favours more egg laying capacity of Yellow stem borer (YSB). So, the farmers are advised to spray Chloropyriphos 20EC @ 1 ml per litre of water after current spells of rain.
- In North Bank Plain Zone of Assam, there is chance of attack of leaf folder /rice hispa in seedling and tillering stage of early transplanted rice. If there is one damage leaf per hill due to attack of leaf folder or appearance of one adult hispa per hill is observed, the farmers are advised to spray Chloropyriphos 20EC or Monocrotophos 40EC @ 1.5ml per litre of water after current spells of rain. Farmers of flood affected areas are advised to transplant 20-25 days seedling of short duration cultivars like Luit, Kapilee, Kolong and Dishang in the main field with a spacing of 15x15 cm upto mid of September. Continue sowing of kharif Sesame and pulses (green gram and black gram).
- In Meghalaya, maintain proper drainage in the field of ginger and turmeric. Continue transplanting for cole crops (cabbage, cauliflower, broccoli) and land preparation and sowing of French bean and cowpea. When weather is clear, drench the soil with Bio-Control agents, Trichoderma based formulation 4 gram/1 litre of water to avoid Soft rot/Wilt in ginger and turmeric at the interval of 30 days. Spray broad spectrum other biofungicide-Eugenol based (Ecobit) 50 WP 2g/litre against blast in rice after current spells of rain.



## Manipur, Mizoram, Tripura and Nagaland

- In Nagaland, keeping in view of heavy rainfall, water logging should be avoided in maize, pulses, vegetables by maintaining proper drainage in the fields.
- In Manipur, continue planting of potato and onion. Maintain water level of 5-8 cm in the *kharif* rice field. Spray Carbendazim @ 0.5g / lit of water to control tikka disease in groundnut and also spray Mancozeb 75% WP @ 1.25 to 2 kg/ ha at 7 to 10 days interval against rust disease in Soybean after current spells of rain.
- In Mizoram, to control rice blast, spray Tricyclazole @ 1 gram per litre of water after current spells of rain. Continue harvesting of matured cobs of maize and pods of green gram after current spells of rain. Continue sowing of cowpea and nursery raising of brinjal, chilli and early crucifer crops. Undertake sowing of blackgram. Apply Ridomil @ 2 g/litre of water to reduce stem root infection in ginger.
- In Tripura, continue sowing of black & green gram and sesame. Undertake land preparation for nursery sowing of cole crops. 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. There is a chance of attack of stem borer in aman rice. Identify the insect and destroy them and spray Neem extract as primary control. If the attack is more manage the attack by applying chemical insecticide.

### Animal Husbandry

- In Upper Brahmaputra valley zone of Assam, to protect the livestock from worm infestations, it is advised to give Piperzine or Mebendazole at recommended dose after proper consultation with veterinary doctor.
- In Tripura, monsoon weather could lead to gastrointestinal parasites infection in pig. It is advised to maintain good sanitary conditions of pig sheds.
- In Nagaland, high humidity is favourable for occurrence of coccidial disease in poultry. Provide anti-coccidial drugs. Provide ample supply of clean drinking water, keep the house clean and dry.

### 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.
- In Tripura, start new stocking of quality fingerlings/ yearlings. Feeding may be done properly with quality and floating feed containing 20 percent crude protein. To maintain the dissolved oxygen, regular aeration may be done using hand or bamboo splashing or using mechanical aerator.

## 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 except Jamui, Lakhisarai and Monghyr; in all districts of Jharkhand except Deogarh, Dhanbad, Garhwa, Hazaribagh, Jamtara, Koderma, Latehar, Lohardagga, and Ranchi; in Balasore, Bargarh, Bhadrak, Cuttack, Deogarh, Dhenkanal, Jajpur, Jharsuguda, Kandhamal, Keonjhar, Khurda, Koraput, Mayurbhanj, Nawapara, Nayagarh, Sambalpur and Sundargarh districts of Odisha; in East Midnapore, West Midnapore, Kolkata, Nadia, Purulia, 24 Paraganas (N), and 24 Paraganas (S) districts of Gangetic West Bengal and in all districts of Sub-Himalayan West Bengal & Sikkim except Malda. Weather remained dry/mainly dry over the rest of the region.

**Advisories: Thunderstorm accompanied with lightning** very likely to occur at isolated places over Jharkhand on 20<sup>th</sup> & 21<sup>st</sup>, over Gangetic West Bengal on 20<sup>th</sup> & 22<sup>nd</sup>, over Bihar on 22<sup>nd</sup> and over Odisha from 20<sup>th</sup> to 22<sup>nd</sup>, provide mechanical support to young fruit plants, banana and staking of vegetables, to prevent the crops from lodging due to strong winds. Undertake propping up in sugarcane in Odisha

### Odisha

- Take up sowing of sesame and horse gram in fallow uplands. Go for nursery raising of tomato and planting of brinjal. Maintain optimum moisture in pulse crops at flowering stage. Harvest early sown maize crop for selling as green cob. Take up nursery raising of tomato.
- In transplanted low land rice, on appearance of sheath blight diseases in 1-2 tiller, spray Tebuconazole 50% + Trifloxystrobin 25% WG @ 0.4 g or Propiconazole 75% @ 1ml per litre of water or Hexaconazole 50% @ 2ml per litre of water. Repeat the spray at 7-10 days interval. In case of Blast incidence spraying of Carbendazim 50 WP @ 2 g/liter or Tricyclazole 75 WP @ 0.6 g/lit of water may be done for controlling the disease. Medium duration paddy is at panicle initiation stage. Apply 6- 8 kg Nitrogen per acre. Keep bunding water in the main field of paddy. Undertake plant protection measures after current spells of rain.

### Bihar

- Continue sowing of September pigeon pea. Plant different varieties of mango, litchi and guava plants in already dug pits.
- Apply zinc sulphate @ 25 kg /ha for control of khaira disease in paddy. Harvest mature kharif maize crop. Monitor sucking pests such as white fly, leaf hoppers and aphids in vegetable crops. For management, spray Imidacloprid @ 0.3 ml per litre of water @ clear sky conditions. Undertake plant protection measures on a non rainy day.

### Jharkhand

- Take up sowing of table pea after seed treatment with Rhizobium culture. Continue sowing of toria (rapeseed). Continue harvesting timely sown green gram and black gram crops during clear weather.
- Spray fungicide Beam @ 5 gram per 10 liter of water during clear weather for control of blast and other fungal diseases in paddy field. Spray neem based insecticide for fruit borer in maize crop at grain filling stage. Undertake plant protection measures on a non rainy day.

#### West Bengal

- In Sub-Himalayan West Bengal, carry out hand weeding in rice 35 days after transplanting and maintain 2-3 cm of standing water in rice fields. Remove excess water after rainfall. Carry out careful rouging and destruction of infected ginger and large cardamom plants.
- For control of Aphid/Sucking Pest, remove and destroy the affected plant parts. Spray neem seed kernal extract solution @ 50 ml/litre of water at clear weather conditions. For control of blast disease in paddy, apply Tricyclazole @ 0.75 g per liter of water. Spray at an interval of 10-12 days depending on the severity. Undertake plant protection measures after current spells of rain.
- In Gangetic West Bengal, immediately remove excess water from fully submerged Aman paddy field. Pluck out the muddy leaves from the bottom portion of betel vines and arrange proper air movement inside the garden. Remove excess water from furrows in tomato and brinjal fields.

#### Andaman & Nicobar Islands

- In Andaman & Nicobar Islands, as rainfall is expected at most places during the period along with heavy to heavy rainfall at isolated places during next two days, make proper drainage for transplanted rice main fields and keep the bund open at 20 cm height. Protect the vegetable nursery bed by providing shelter and drain the excess water. Do earthing up in tapioca and apply vermin-compost @ 200-300 g/plant.

#### Animal Husbandry

- In Bihar, to control the external parasites in animals, give medicines like Butox in consultation with local veterinary doctor.
- In Odisha, give RD vaccine to 7 days old chicks. Carry out periodic vaccination viz. FMD, HS & BQ to protect the dairy animals.
- In West Bengal, goat kids lose body energy very rapidly when exposed to cold or wet environment and may become weak or die. Ensure proper care, good management practices and feeding during these seasons.
- In Andaman & Nicobar Islands, provide anthelmintic treatment to livestock (cow) with the consultation of veterinary doctors. Keep the goat under dry clean shelter to avoid pneumonia or breathing problem.

#### Fishery

- In Odisha, apply lime @ 250Kg/hactare to decrease the turbidity of water. Prevent the entry of predator fishes into the pond by putting net at water entry points. Go for false netting for better growth of fishes. In Andaman & Nicobar Islands, protect the fish pond by using net all around as moderate to heavy rainfall is expected.

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

**Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa; in all districts except Solapur, Satara, Sangli districts of Madhya Maharashtra, in all districts of Marathwada except Osmanabad; in all districts of Vidarbha except Akola and Buldhana; in Chota Udeput, Dahod, Dangs, Mahisagar, Narmada, Navsari, Panchmahal, Surat, Tapi, Valsad districts of Gujarat Region, in Devbhoomi Dwarka, Jamnagar, Porbandar districts of Saurashtra & Kutch.

#### Advisories:

- As rain/thundershowers likely at most places over Konkan, at most/ many places over Madhya Maharashtra on 20<sup>th</sup>, 21<sup>st</sup> and 24<sup>th</sup>, over Gujarat region from 20<sup>th</sup> to 22<sup>nd</sup>, over Saurashtra & Kutch on 21<sup>st</sup> & 22<sup>nd</sup>, over Vidarbha on 20<sup>th</sup>, 23<sup>rd</sup> & 24<sup>th</sup> and over Marathwada on 20<sup>th</sup>, 24<sup>th</sup> September along with **Heavy to very heavy rainfall** at isolated places very likely over Gujarat region & Konkan on 20<sup>th</sup>, and over Saurashtra & Kutch on 21<sup>st</sup>, **heavy rainfall** very likely at isolated places over Madhya Maharashtra and Konkan on 21<sup>st</sup> September; avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields Gujarat & Konkan.

#### Maharashtra

- In Konkan, maintain 5 cm water level in rice fields. To control aphids in vegetables, spray Malathion @ 2 ml or Dimethoate @ 1.5 ml /litre of water after current spells of rain. To control hoppers in mango, spray Deltamethrin 2.8%EC @ 9 ml per 10 liter of water after current spells of rain
- In Madhya Maharashtra, maintain 5 cm water level in rice fields. Continue land preparation for rabi jowar, safflower and rainfed gram in fallow lands. Continue harvesting of matured green gram and black gram after current spells of rain. Keep the harvested produce in safer place. To reduce dropping of flower and boll of cotton, spray NAA (Planofix) @ 40 ml per 100 liters of water. For control of blight in rice, spray Copper oxychloride @ 25 g or Carbendazim @ 10 g per 10 litres of water. To control tikka (leaf spot) and rust in groundnut, spray Mancozeb @ 25 g + Bavistin @ 25 g in 10 liters of water. Undertake plant protection methods after current spells of rain.
- In Marathwada, continue picking of matured green gram after current spells of rain. To control anthracnose in

soybean, spray Tebuconazole 10 % WP + sulphur 60% WG @ 10 g per 10 litres of water after current spells of rain.

- In Vidharbha, continue picking of matured black gram after current spells of rain. Keep the harvested produce in safer place. Undertake intercultural operation like weeding in pigeon pea after current spell of rain. Maintain 5-7 cm water level in rice fields. To control blast & bacterial leaf blight in rice, spray Copper oxy-chloride @ 25g + Streptocycline @ 0.5g in per 10 liters of water after current spell of rain. Undertake foliar spray of 2% Urea (200 g Urea in 10 litres water) in soybean (flowering stage) after current spell of rain for better productivity.

### **Gujarat**

- In Gujarat region, drain out excess water from standing crop fields.
- In North Gujarat, undertake harvesting of matured bajra crop and continue picking of mature pods of green gram and cowpea after current spells of rain.
- In South Gujarat, continue nursery preparation for chili seedlings. Spread plastic or fodder on the soil for moisture conservation in vegetable crop fields.
- In Middle Gujarat, continue picking of matured pods of green gram crop after current spells of rain. Carry out intercultural operations in pearl millet and banana crops after current spells of rain.
- In Saurashtra & Kutch, undertake harvesting of black gram after current spells of rain. Install pink bollworm pheromone traps in the cotton field. Carry out weeding in pearl millet crop after current spells of rain.
- In Saurashtra, due to cloudy weather condition incidence of mite is seen in sesame; for control, spray Dicophol @20 ml or Ethion @20 ml in 10 litres of water after current spells of rain.

### **Animal Husbandry:**

- In Gujarat, keep fodder in safe place to avoid spoilage due to rainfall and keep cattle in sheds during heavy rainfall period.

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

**Realised Rainfall:** Rainfall occurred in all districts of Madhya Pradesh, in all districts of Chhattisgarh except in Bilaspur, Balod, Baloda Bazar, Raipur, Mungeli, Mahasumund, Kabirdham, Dhamtari, and Durg districts.

### **Advisories:**

- As rain/thundershowers likely at many places over Madhya Pradesh and Chhattisgarh on 23<sup>rd</sup> & 24<sup>th</sup> along with **heavy rainfall very likely** at isolated places over southwest Madhya Pradesh on 20<sup>th</sup>, over East Madhya Pradesh on 23<sup>rd</sup> & 24<sup>th</sup> and over Chhattisgarh on 23<sup>rd</sup> & 24<sup>th</sup> September, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields.

### **Madhya Pradesh**

- In East Madhya Pradesh, keeping in view of heavy rainfall, farmers are advised to drain out excess water from vegetables, soybean, pulse, maize crop fields and maintain adequate drainage in the crop fields.
- In Nimar Valley Zone, in areas in Cotton crop where Jassid & White fly crosses ETL, apply Imidachloprid 17.8 SL @ 3 ml/10 litre or Thiamethoxam 25 WG @ 2g/ 10 litre or Acetamiprid 20 SP@ 3g/10 litres of water. Install pheromone traps @ 5/ha for monitoring Pink bollworm.
- In Malwa Plateau Zone, for management of defoliators and white fly in soybean, spray pre-mixed insecticides like Betacyfluthrin + Imidacloprid @ 350 ml/ha or Thimethoxam + Lambda cyhelothrin @ 125 ml/ha. In case of soybean infested with Myrothecium leaf spot, Anthracnose, Aerial Blight and Charcoal rot, it is advised to spray the crop with Tebuconazole @ 625 ml/ha or Tebuconazole + Sulphur 1 kg/ha or Hexaconazole @ 500 ml/ha or Pyroclostrobin @ 500 g/ha with the use of 500 litre of water. For control of Girdle beetle in soybean, spray the crop with Thicloprid 21.7 SC @ 650 ml/ha, Profenophos 50 EC @ 1.25 lit/ha or Triazophos 40 EC @ 800 ml/ha. Undertake plant protection methods after current spells of rain.
- In Jabhua Hill Zone, provide drainage channels at proper distance for drainage of excess rain water in tomato, chilli, brinjal, kharif onion and early cauliflower crop and give recommended dose of fertilizers.

### **Chhattisgarh**

- In Northern Hill Zone, continue nursery sowing of brinjal, early tomato, chilli and onion in in the upland areas. Undertake intercultural operations in Maize, Ragi, Arhar, Urd, Mung etc. After weeding, broadcast urea as per requirement.
- In Chhattisgarh Plain Zone, maintain 5cm water level in rice fields. In the rice crop, for monitoring of harmful insects install light traps. Light trap should be placed at some distance from the crop and bulb should be lighted from evening 06:30 pm to 10:30 pm. Collected insects should be destroyed in the morning hours.
- In Bastar Plateau Zone of Chhattisgarh, undertake sowing of horse gram, black gram, green gram and sesame.

### **Animal Husbandry**

- In Madhya Pradesh, cattle sheds should be kept dry and farmers are advised to provide dry feed along with green feed in (50:50) ratio and 20-30 g mineral mixture and salt for the dairy animal's every day. . Vaccinate the chicks at 7 days (F1) and at 6 weeks with R2B. Vaccinate the poultry birds to prevent Ranikhet disease. (first F-1 in age of 7



days & second R2B in age of 8 weeks )

- In Chhattisgarh, cattle sheds should be kept dry to prevent from foot rot disease. Hygiene should be maintained around cattle shed, Bushes, parthenium weeds should be uprooted and pits etc. should be filled to control mosquitoes.

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

**Realised Rainfall:** Rainfall occurred in all districts of East Uttar Pradesh except Farrukhabad, Fatehpur, Hardoi, Sant Kabir Nagar, Shrawasti, Sitapur, Sultanpur and Unnao; in Auraiya, Etawah, Firozabad, Hamirpur, Jalaun, Jhansi, Jotiba Phule nagar, Lalitpur, Mahoba, Mainpuri, Moradabad, Sambhal, and Shahjahanpur districts of West Uttar Pradesh; in Ropar districts of Punjab; in Kangra, district of Himachal Pradesh; and in most districts of Uttarakhand except Almora, Garhwal Pauri, Garhwal Tehri and Uttarkashi during the week.

### **Advisories:**

#### **Jammu & Kashmir**

- In Sub Tropical Zone, to control leaf folder in rice, spray the crop with monocrotophos 36 SL @ 750ml of water/ha during clear weather. To control plant hopper in rice, install pheromone traps @ 1/kanal or spray Imidacloprid 200SL @ 6.25 ml/Kanal during clear weather. Spray Carbendazim @ 0.1% on rice during clear weather to control the attack of sheath blight. Spray imidacloprid @0.3 ml/litre of water on maize, to control jassid and other sucking pests.  
To control stalk rot in maize, avoid water stagnation and apply mancozeb @ 2.5 gm/litre of water during clear weather. Manually rogue out yellow leaf plants (mosaic affected) in kharif pulses, at initial stage of attack.
- In Intermediate Zone, to control Hispa on rice, apply chlorpyrifos @ 2 ml/litre of water. Spray Tricyclazole @ 0.06 % or 1 ml in 1.5 litres of water to control Blast on rice. To control attack of blister beetle in maize crop, apply Carbofuron 3G @ 20 kg/ha (apply 3- 4 granules/leaf whorls to control the blister beetle). Also collect blister beetle by hand and kill them by burning or putting in water. Weather is favourable for the attack of aphids in maize crop. To control the attack, spray Dimethoate 30 EC/ Rogor @ 2 ml/litre of water on clear weather conditions. If aphid population is not managed, then repeat the spray after 15 days interval. Undertake sowing of root crops like carrot and radish.

#### **Himachal Pradesh**

- In Mid Hills Sub Humid Zone, undertake field preparation for sowing of carrot and raddish. Carry out hoeing and weeding operations in turmeric and ginger. Complete picking of apple fruits and keep the orchards neat and clean.
- In High Hill Temperate Dry Zone, undertake harvesting of peas and sowing of oats. Cut the stems of potato plants. To control black rot in cabbage and cauliflower, spray Streptocycline (1 g / 10 litres) and Blitox (Copper oxychloride) 3 g/ litre at 15 days interval after flowering stage.
- In Sub Montane and Low Hills Sub Tropical Zone, to control attack of blast and brown spot on rice, spray Carbendazim @ 2.0 g / litre of water. To control Stalk rot in maize, drench maize fields with bleaching powder @16 kg/ha a week before tasseling. In maize, for control of stem borer, spray Carbrayl @ 2gm/ litre of water or broadcasting of Carbofuran 3% G or phorate 10 % G @ 8 kg/acre. Undertake field preparations for sowing of early mustard.

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

- In Punjab, continue transplanting of vegetables (tomato, chilli, brinjal, cauliflower) and sowing of maize. Undertake planting of kharif onion crop both with bulbsets as well as seedlings. In early transplanted rice, drying of leaves due to bacterial leaf blight disease may be noticed, avoid ponding of water to check further spreading of infection. Undertake planting of ever green fruit plants like mango, sweet orange, mandarin, lime, lemon, litchi, guava, aonla, loquat and papaya.
- In Undulating Plain Zone, weather condition is favourable for planting of evergreen fruit plants like Mango, Litchi, Guava. Undertake intercultural operations in pulses accordingly. Due to high humid conditions, sheath blight may appear in rice and basmati. Attack of brown spot may be noticed in direct seeded rice. Apply recommended fungicides for control. Farmers are advised to remove foot rot infected plants from rice field and avoid ponding of water to check further spreading of infection. Use fruit fly trap to control fruit fly damage in guava orchards and cucurbits.
- In Haryana, continue 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 land preparation for sowing for pulses i.e. green gram, lobia, moth. Maintain optimum water level and undertake weeding operation in paddy crop. In present weather condition, monitor the paddy field constantly for brown plant hopper (BPH).
- In Delhi, continue transplanting of early cauliflower, tomato, chilli, brinjal cauliflower and cabbage whose seedlings are ready. In present weather condition, false smut may appear in paddy spray Blitox 50 @ 500 grams per acre at 10 days interval (2-3 times). In vegetables (brinjal, cauliflower, cabbage, tomato etc), monitor borer insect, use

pheromone trap @ 3-4/acre. If insect population is above ETL, spraying of Spinosad 1.0 ml/4 litre of when sky is clear against fruit borer, diamond back moth. White flies and other sucking pests may damage crops and vegetables in the present weather, spray Imidacloprid 17.8 % SC @ 1.0 ml / 3 lit. of water.

- In Undulating Plain Zone of Punjab, borers in sugarcane can be managed by using Tricho-cards having 20,000 eggs of *Corcyra cephalonica* parasitized (seven days old) by *Trichogramma chilonis* and *Tricogramma japonicum* per acre at 10 days interval. Sucking pest population may increase which can also transmit Mosaic disease in mung and mash, spray recommended insecticides for control of sucking pest. Due to high humid conditions, sheath blight may appear in Basmati rice and attack of brown spot appear in direct seeded rice, apply fungicides for control.
- In Western Zone of Punjab, due to mainly dry weather along-with cloudy sky, irrigate the cotton crop. Apply 4 sprays of 2 % potassium nitrate (13-045) solution at weekly intervals, starting at flower initiation. If the population of sucking insect pests reaches economic threshold levels, spray the crop with Ulala 50 WG @ 80g/acre or Osheen 20 SG @ 60g/ acre for the control of whitefly. For the control of jassid, use Osheen 20 SG @ 60g per acre or Ulala 50 WG @ 80g/acre in 125-150 litres of water with manually operated knapsack sprayer.
- In Western Zone of Haryana, due to favourable weather condition, there is chance of occurrence of myrothecium leaf spot, bacterial blight in cotton, for control spray 800 gram Copper-oxy-chloride mixed with 250 liter water per acre. Also, due to favourable weather, monitor the infestation of rice leaf roller and stem borer in early transplanted rice crop. If infestation is noticed then broadcast 7.5 kg Fipronil (Regent/Mortal) 0.3 G mixed with 10 kg dry sand in per acre.

### **Uttar Pradesh**

- In East Uttar Pradesh, undertake nursery sowing of cabbage, capsicum, tomato and cauliflower. Undertake top dressing of Nitrogen in paddy crop and irrigate the crop as per requirement. Apply Profenophos 50EC @2 ml/lit and broadcast of Cartap 4% granules @ 10 kg/acre on paddy crop for controlling of stem borer, brown plant hopper, gall midge, leaf folder and jassids. Monitor insect pest and disease infestation in pearl millet, bulrush millet, pigeon pea, sorghum etc.,if it goes above ETL then apply recommended control measures. Undertake earthing in banana plant and propping in sugarcane to protect them from lodging by heavy rainfall. Support Banana with the help of Bamboo to protect from lodging. Fruit Plantation of mango, guava, ber, aonla, papaya and citrus etc may be done very soon.
- In West Uttar Pradesh, monitor the rice crop and take suitable control measures in paddy to protect from Gundhi bug. Undertake top dressing of Nitrogen/Urea in paddy crop. Farmers are advised for monitoring for brown plant hopper (BPH) in paddy field. Maintain optimum water level in paddy crop at Flowering / milk stage. For management of stem borer in paddy, spray Chlorpyrifos 20EC @ 1.5 litres in 500-600 litres of water per hectare. Drain out excess rainwater from maize, jowar and bajra, moong, groundnut and sesame fields. There is a possibility of stem borer in the maize as well as jowar and bajra crop, for control, spray Dimethoate 30 EC @ 1 liter / ha or Qinalphos 25 EC @ 1.5 liters / ha in 400-800 liters of water on a non rainy day. Undertake splaning of horticultural crops viz, papaya, mango, guava etc. Prepare field for sowing of rabi crops viz.pigeon-pea, gram, lentil, green peas etc.

### **Uttarakhand**

- In Bhabar and Tarai Zone, to control the leaf blight disease in maize, solution of Mancozeb 75 WP @ 3g/litre of water should be sprayed. On the occurrence of brown plant hopper in rice, spray 1 litre Buprofezin 25 SC or 150 ml of Imidacloprid 17.8 SL in 500 litres of water per ha. To control the late blight in tomato, spray solution of mancozeb @ 2.5 g/litre of water. Undertake plant protection methods on a non rainy day.
- In Hill Zone, undertake sowing of radish, mustard and coriander. Maintain proper water level in paddy during milking / grain filling stage. Monitor pulse crops regularly; if white flies or sucking pests/ insect observed above ETL on crops, spray sarvangi insecticide with added adhesive in small quantity. Complete picking of apple fruits.
- In Sub-Humid Sub-Tropic Zone, there is possibility for attack of gundhi bug in paddy. Dust malathion 5% dust or lindane 1.3 % @ 20-25 kg/ha on a non rainy day. Burn the red rot infested plants outside the sugarcane field. Undertake sowing of autumnal crop of sugarcane. Undertake field preparation for sowing of potato.

### **Rajasthan**

- In Semi-Arid Eastern Plain Zone, undertake field preparation for sowing of rainfed Taramira and mustard, pea and radish. Also to control fruit fly in guava, spray Malathion 50 EC @ 1.0 ml/litre water on a non rainy day. In Flood Prone Eastern Plain Zone, undertake sowing of carrot (Pusa Keshar).
- In Irrigated North Western Plain Zone, continue planting of new seedlings of kinnow in prepared pits of orchards. Purchase kinnow plants from certified nursery & keep kinnow orchard free from weed by weeding time to time.
- In Sub Humid Southern Plain and Aravali Hill Zone where the crops are damaged due to heavy rain farmers are advised to plan for rabi crops (Mustard & Gram) under conserved moisture. Also this is the right time for sowing of mustard and gram, sowing should be done upto 15 October.
- In Transitional Plain Zone and Inland Drainage Zone, undertake planting of fruit plants like ber, aonla, pomegranate. Also advised to transplant onion seedling in the prepared fields.

### **Animal Husbandry**

- In Uttar Pradesh, Vaccinate the goat to control PPR disease. Vaccinate cow and buffalo against FMD and langra

diseases. Provide mixture of dry/green fodder with mineral salts and clean drinking water to the cattle. Vaccinate the poultry birds to prevent Ranikhet disease, provide fresh and clean water to birds.

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