



National Agromet Advisory Service Bulletin

Friday 18th September 2020

(For the period 18th September to 22nd September 2020)



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India Meteorological Department

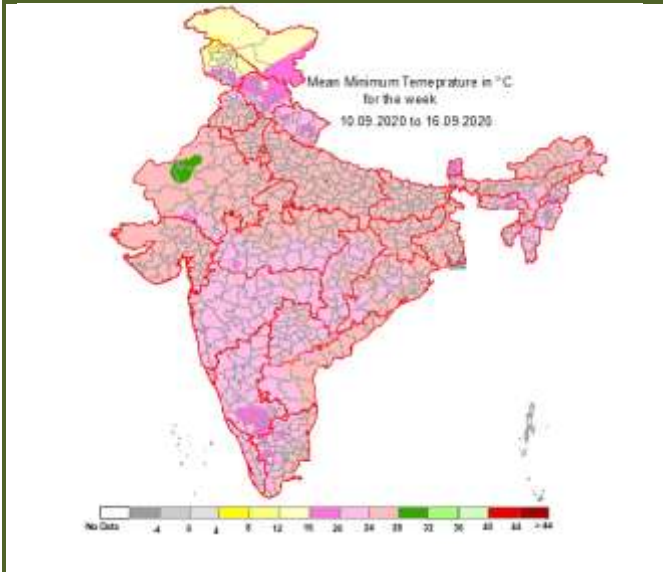
Weblink For

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

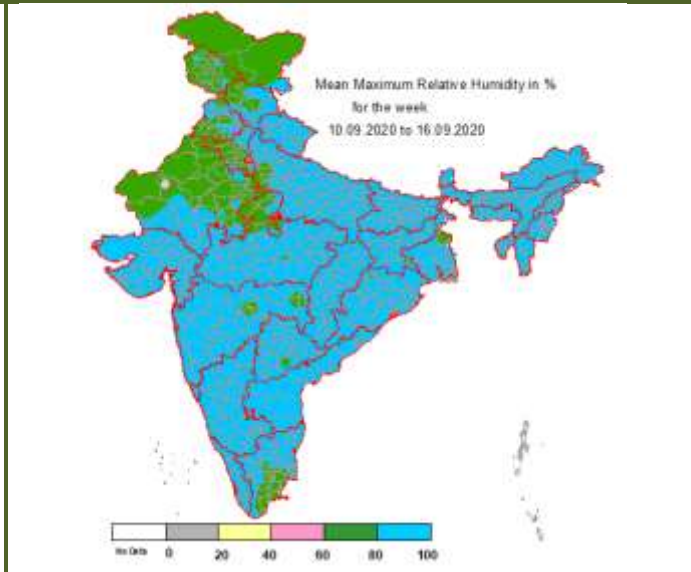
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week 10.09.2020 to 16.09.2020

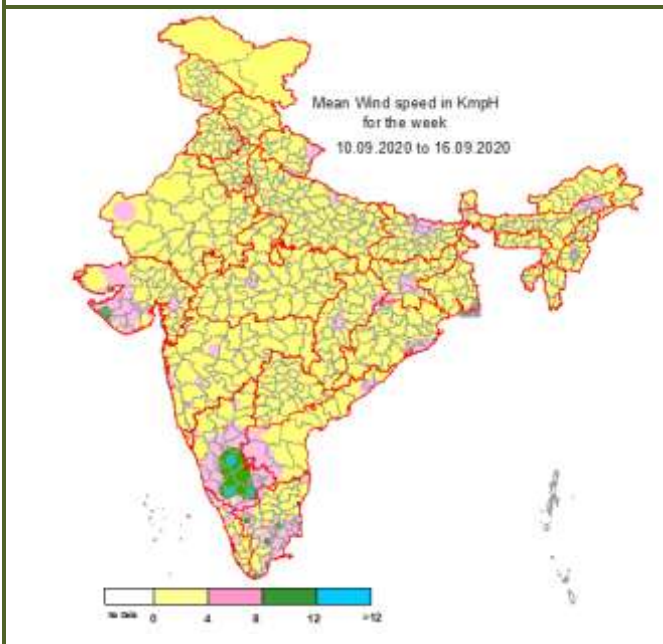
Mean Minimum Temperature (°C) for the week 10.09.2020 to 16.09.2020



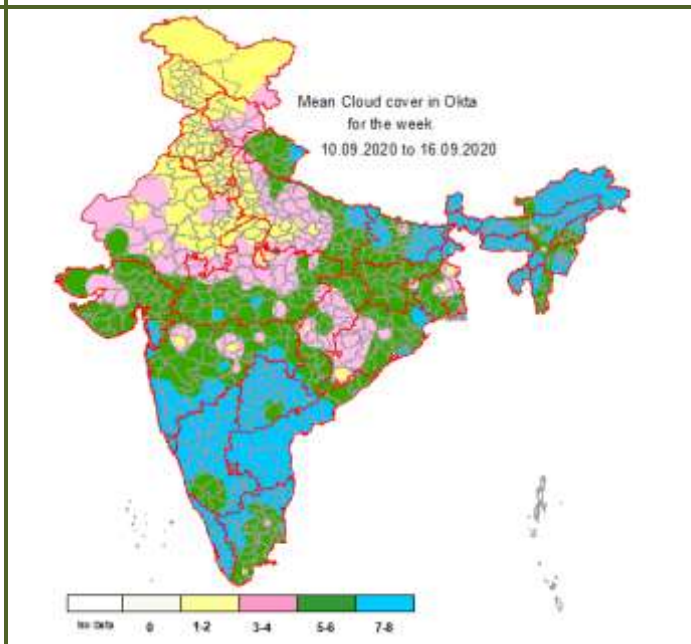
Mean Maximum Relative Humidity (%) for the week 10.09.2020 to 16.09.2020



Mean Wind Speed (km/hr) for the week 10.09.2020 to 16.09.2020

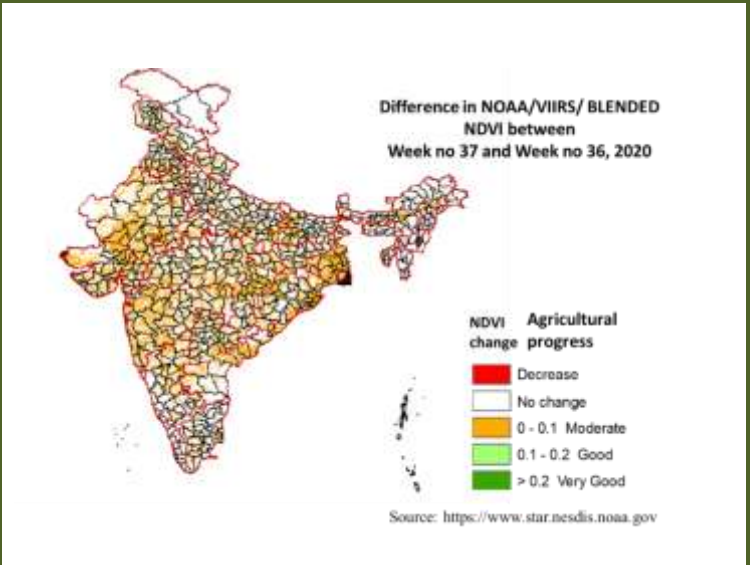
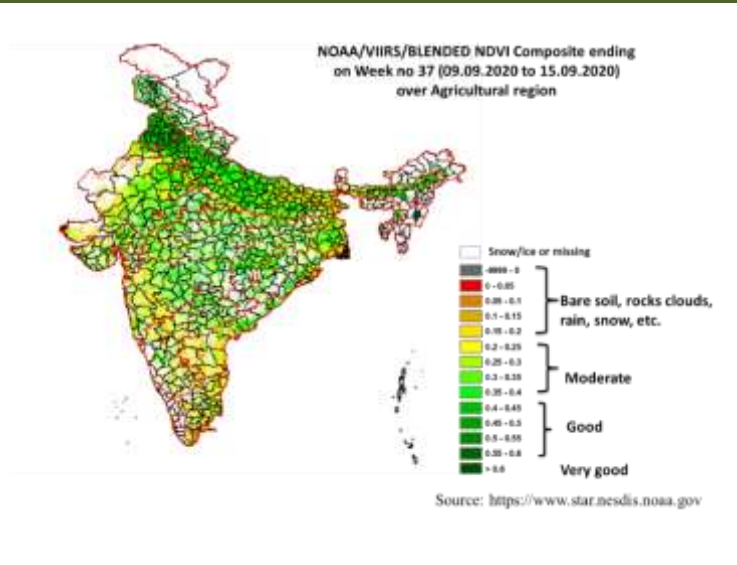


Mean Cloud Cover (okta) for the week 10.09.2020 to 16.09.2020



NOAA/VIIRS/BLENDED NDVI composite for the week number 37 (09.09.2020 to 15.09.2020) over Agricultural regions of India

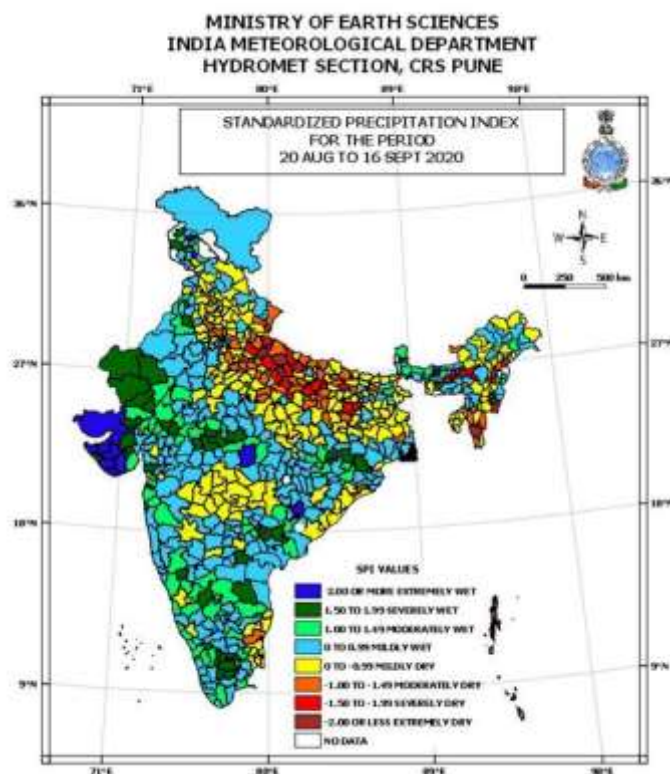
Difference in NOAA/VIIRS/BLENDED NDVI between week number 37 and week number 36, 2020



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

Difference Agricultural vigour was very good in isolated pockets of East Madhya Pradesh and Northern part of Chattisgarh. It was good in many places of East Vidarbha; few places of Himachal Pradesh, Uttarakhand, West Madhya Pradesh, Southern part of Chattisgarh, Gangetic West Bengal, East Rajasthan, Madya Maharashtra, Konka, Goa, North Coastal Andhra Pradesh and Jammu & Kashmir (UT). Agricultural vigour was good at isolated places in the remaining parts of the country.

Standardised Precipitation Index for the period 20th August to 16th September 2020



- Extremely/Severely wet conditions exist in Cuddapah, district of Andhra Pradesh; Bongaigaon, Chirang districts of Assam; Surat, Patan, Amreli, Jamnagar, Junagarh, Kutch, Rajkot, Surendranagar, Porbandar, Botad, Devbhumi Dwarka, Gir Somnath, Morbi districts of Gujarat; Sirsa district of Haryana; Poonch, Kupwara, Srinagar, Ramban, Ganderwal districts of Jammu; Dharwad, Chitradurga districts of Karnataka; Dewas, Indore, Raisen, Sehore, Shajapur, Chindwara districts of West Madhya Pradesh; East Garo Hills district of Meghalaya; Jharsuguda, Keonjhar, Sundargarh districts of Orissa; Faridkot district of Punjab; Barmer, Jaisalmer, Jalore, Jodhpur, Banswara, Dungarpur, Sirohi districts of Rajasthan; Dindigul, Karur, Madurai, Nilgiri, Theni, Tirupur districts of Tamilnadu; Diu district of Union Territory; East Sikkim, South Sikkim districts of Sikkim; Bastar district of Chhatisgarh; Warangal, B.Kothagudem, Mahabubabad, Nagarkurnool, Warangal_Urban, Mulugu districts of Telangana.
- Extremely/Severely dry conditions exist in Darrang, Kamrup, Nagaon, Morigaon, Kamrup Metro districts of Assam; Gaya, Nawada, Saran, Arwal district of Bihar; Chandel district of Manipur; Lunglei, Serchhip districts of Mizoram; Kohima, Mon, Wokha districts of Nagaland; Azamgarh, Bahraich, Barabanki, Gonda, Hardoi, Jaunpur, Kaushambi, Lucknow, Mau, Rae Bareilly, Sitapur, Unnao, Badaun, Pilibhit, Shahjahanpur districts of Uttar Pradesh; Champawat districts 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 23rd 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)

18-September-2020

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

% Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

Weather Warning during next 5 days

18 September (Day 1):

- ♦ **Heavy to very heavy rainfall** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Andaman & Nicobar Islands, Madhya Maharashtra, Marathwada and Konkan & Goa and **heavy rainfall** at isolated places over West Madhya Pradesh, Bihar, Gangetic West Bengal, Odisha, Assam & Meghalaya, Nagaland, south Gujarat region, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Karnataka and Kerala & Mahe.
- ♦ **Thundersquall (speed 50-60 kmph) accompanied with lightning** very likely at isolated places over Andaman & Nicobar Islands; **thunderstorm with lightning** at isolated places over East Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Gangetic West Bengal, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gujarat region, Madhya Maharashtra, Marathawada, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, North Interior Karnataka and Tamilnadu, Puducherry & Karaikal.
- ♦ **Strong Wind** (speed reaching 45-55 kmph) very likely over Southwest Arabian Sea, along & off Kerala-Karnataka coasts and Lakshadweep area, Gulf of Mannar and Andaman Sea. **Squally Weather** (speed reaching 45-55 kmph) along & off south Maharashtra-Goa coasts. Fishermen are advised not to venture into these areas.

19 September (Day 2):

- ♦ **Heavy to very heavy rainfall** very likely at isolated places over Andaman & Nicobar Islands, Madhya Maharashtra, Konkan & Goa, Kerala & Mahe and Coastal & South Interior Karnataka and **heavy rainfall** at isolated places over Chhattisgarh, Odisha, south Gujarat region, Marathawada, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and North Interior Karnataka.
- ♦ **Thundersquall (speed 50-60 kmph) accompanied with lightning** very likely at isolated places over Andaman & Nicobar Islands; **thunderstorm with lightning** at isolated places over East Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Odisha, Gujarat region, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka and Tamilnadu, Puducherry & Karaikal.
- ♦ **Strong Wind** (speed reaching 45-55 kmph) very likely over Central, Southeast & Southwest Arabian Sea, along & off Kerala-Karnataka coasts and Lakshadweep area, Gulf of Mannar, Southeast Bay of Bengal and Andaman Sea. **Squally Weather** (speed reaching 45-55 kmph) along & off Maharashtra-Goa coasts. Fishermen are advised not to venture into these areas.

20 September (Day 3):

- ♦ **Heavy to very heavy rainfall** at a few places with **extremely heavy falls** at isolated places very likely over Coastal Karnataka and Kerala & Mahe; **heavy to very heavy rainfall with extremely heavy falls** at isolated places over south Konkan & Goa; **heavy to very heavy rainfall** at isolated places over Odisha, Madhya Maharashtra, Coastal Andhra Pradesh & Yanam, Telangana and Interior Karnataka and **heavy rainfall** at isolated places over Chhattisgarh, Jharkhand, Gangetic West Bengal, Andaman & Nicobar Islands, south Gujarat Region, Marathwada, Rayalaseema and Tamilnadu, Puducherry & Karaikal.
- ♦ **Thundersquall (speed 50-60 kmph) accompanied with lightning** very likely at isolated places over Andaman & Nicobar Islands; **thunderstorm with lightning** at isolated places over East Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Gangetic West Bengal, Gujarat region, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka and Tamilnadu, Puducherry & Karaikal.
- ♦ **Strong Wind** (speed reaching 50-60 kmph) very likely over South, Eastcentral & adjoining Westcentral Bay of Bengal, Andaman Sea and along & off Kerala-Karnataka coasts and Lakshadweep area; (speed reaching 45-55 kmph) over Central, Southeast & Southwest Arabian Sea, Gulf of Mannar

and along & off West Bengal-Odisha coasts. **Squally Weather** (speed reaching 45-55 kmph) along & off Maharashtra-Goa coasts. Fishermen are advised not to venture into these areas.

21 September (Day 4):

- ◆ **Heavy to very heavy rainfall** at a few places with **extremely heavy falls** at isolated places likely over Coastal Karnataka and Kerala & Mahe; **heavy to very heavy rainfall** with **extremely heavy falls** at isolated places over South Interior Karnataka and south Konkan & Goa; **heavy to very heavy rainfall** at isolated places over Chhattisgarh, Gangetic West Bengal, Odisha, Arunachal Pradesh, Assam & Meghalaya, Madhya Maharashtra, Coastal Andhra Pradesh & Yanam and North Interior Karnataka and **heavy rainfall** at isolated places over Madhya Pradesh, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura, south Gujarat Region, Telangana and Tamilnadu, Puducherry & Karaikal.
- ◆ **Thunderstorm with lightning** likely at isolated places over Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Chhattisgarh, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gujarat region, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka.
- ◆ **Strong Wind** (speed reaching 50-60 kmph) likely along & off Kerala-Karnataka coasts and Lakshadweep area; (speed reaching 45-55 kmph) over Central, Southeast & Southwest Arabian Sea, Gulf of Mannar, South, Eastcentral & adjoining Westcentral and North Bay of Bengal and along & off West Bengal- Odisha coasts. **Squally Weather** (speed reaching 45-55 kmph) along & off Maharashtra-Goa coasts. Fishermen are advised not to venture into these areas.

22 September (Day 5):

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

Weather Outlook for subsequent 2 days from 23rd September to 25th September, 2020

- ◆ Fairly widespread to widespread rainfall over Islands, Northeast, Central & adjoining East India and along the West coast with isolated heavy to very heavy falls likely over Northeast India and isolated heavy falls over Central & adjoining East India and along the West coast. Isolated to scattered rainfall activity rest parts of the country except parts of northwest India where mainly dry weather is likely.

Advisory for Fishermen

- **Strong Wind** (speed reaching 45-55 kmph) very likely over Central, Southeast & Southwest Arabian Sea, along & off Kerala-Karnataka coasts and Lakshadweep area, Gulf of Mannar, Southeast Bay of Bengal and Andaman Sea. **Squally Weather** (speed reaching 45-55 kmph) along & off Maharashtra-Goa coasts on 19th,

Strong Wind (speed reaching 50-60 kmph) very likely over South, Eastcentral & adjoining Westcentral Bay of Bengal, Andaman Sea and along & off Kerala-Karnataka coasts and Lakshadweep area; (speed reaching 45-55 kmph) over Central, Southeast & Southwest Arabian Sea, Gulf of Mannar and along & off West Bengal-Odisha coasts, **Squally Weather** (speed reaching 45-55 kmph) along & off Maharashtra-Goa coasts on 20th, **Strong Wind** (speed reaching 50-60 kmph) likely along & off Kerala-Karnataka coasts and Lakshadweep area; (speed reaching 45-55 kmph) over Central, Southeast & Southwest Arabian Sea, Gulf of Mannar, South, Eastcentral & adjoining Westcentral and North Bay of Bengal and along & off West Bengal- Odisha coasts. **Squally Weather** (speed reaching 45-55 kmph) along & off Maharashtra-Goa coasts on 21st, **Strong Wind** (speed reaching 45-55 kmph) likely over Central, Southeast & Southwest Arabian Sea, along & off Kerala-Karnataka coasts, Lakshadweep area and along & off West Bengal-Odisha coasts, **Squally Weather** (speed reaching 45-55 kmph) along & off Maharashtra-Goa coasts on 22nd September, Fishermen are advised not to venture into these areas.

Salient advisories

- **Thundersquall (speed 50-60 kmph) accompanied with lightning** very likely at isolated places over Andaman & Nicobar Islands; **thunderstorm with lightning** at isolated places over East Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Odisha, Gujarat region, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka and Tamilnadu, Puducherry & Karaikal on 19th, **Thundersquall (speed 50-60 kmph) accompanied with lightning** very likely at isolated places over Andaman & Nicobar Islands; thunderstorm with lightning at isolated places over East Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Gangetic West Bengal, Gujarat region, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka and Tamilnadu, Puducherry & Karaikal on 20th, **Thunderstorm with lightning** likely at isolated places over Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Chhattisgarh, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gujarat region, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka on 21st, **Thunderstorm with lightning likely** at isolated places over Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema and North Interior Karnataka on 22nd September:
 - 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.
- As **rain/thundershowers** likely at **most/ many places** over Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim, Maharashtra, Coastal Andhra Pradesh & Yanam, Telangana, Karnataka and Kerala & Mahe during the period, over Chhattisgarh from 19th to 22nd, over Rayalaseema from 18th to 21st, over Arunachal Pradesh, Assam & Meghalaya on 21st & 22nd, over Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal and Odisha from 20th to 22nd along with **Heavy to very heavy rainfall** very likely at isolated places over Andaman & Nicobar Islands, Madhya Maharashtra, Konkan & Goa, Kerala & Mahe and Coastal & South Interior Karnataka and **heavy rainfall** at isolated places over Chhattisgarh, Odisha, south Gujarat region, Marathawada, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and North Interior Karnataka on 19th, **Heavy to very heavy rainfall** at a few places with **extremely heavy falls** at isolated places very likely over Coastal Karnataka and Kerala

& Mahe; **heavy to very heavy rainfall** with **extremely heavy falls** at isolated places over south Konkan & Goa; **heavy to very heavy rainfall** at isolated places over Odisha, Madhya Maharashtra, Coastal Andhra Pradesh & Yanam, Telangana and Interior Karnataka and **heavy rainfall** at isolated places over Chhattisgarh, Jharkhand, Gangetic West Bengal, Andaman & Nicobar Islands, south Gujarat Region, Marathwada, Rayalaseema and Tamilnadu, Puducherry & Karaikal on 20th, **Heavy to very heavy rainfall** at a few places with **extremely heavy falls** at isolated places likely over Coastal Karnataka and Kerala & Mahe; **heavy to very heavy rainfall** with **extremely heavy falls** at isolated places over South Interior Karnataka and south Konkan & Goa; **heavy to very heavy rainfall** at isolated places over Chhattisgarh, Gangetic West Bengal, Odisha, Arunachal Pradesh, Assam & Meghalaya, Madhya Maharashtra, Coastal Andhra Pradesh & Yanam and North Interior Karnataka and **heavy rainfall** at isolated places over Madhya Pradesh, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura, south Gujarat Region, Telangana and Tamilnadu, Puducherry & Karaikal on 21st, **Heavy to very heavy rainfall** with **extremely heavy falls** at isolated places likely over Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya; **heavy to very heavy rainfall** at isolated places over Arunachal Pradesh, Coastal Karnataka and Konkan & Goa and **heavy rainfall** at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Gangetic West Bengal, Odisha, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathawada, Telangana, Interior Karnataka and Kerala & Mahe on 22nd September:

- Arrange for adequate drainage to avoid water stagnation in the crop fields.
- Avoid water stagnation in 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 :**

- undertake sowing of hybrid sorghum in North Interior Karnataka.
- land preparation and sowing of sesame in Hill Zone of Assam after current spells of rain.
- sowing of pigeon pea in Bihar.
- sowing of black gram in uplands in Sib-Himalayan West Bengal.
- undertake sowing of toria crop 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.
- transplanting of cabbage and cauliflower and land preparation for planting of sugarcane in Uttarakhand.
- transplanting of seedlings of brinjal, tomato, chilli, early cauliflower and rainy season onion in Rajasthan.
- continue sowing of rabi jowar in Madhya Maharashtra.

Detailed Agromet Advisories

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

Realised Rainfall: Rainfall occurred in in all districts of Kerala, in Coimbatore, Dharmapuri , Kanyakumari, Karaikal, Namakkal, Nilgiris , Puducherry, Salem Tiruvallur and Vellore districts of Tamil Nadu; in all the districts of Coastal Karnataka, in all districts of North Interior Karnataka except Haveri district, in all the districts of South Interior Karnataka except Chamarajanagar, Chikaballapur and Hassan districts; in all the districts of Andhra Pradesh and Telangana. .

Advisories:

- **Thunderstorm with lightning** at isolated places over Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka on 19th, 20th and 21st, over Tamilnadu, Puducherry & Karaikal on 19th, 20th, over Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema and North Interior Karnataka on 22nd September, 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/ many places** over Coastal Andhra Pradesh & Yanam, Telangana, Karnataka and Kerala & Mahe during the period, over Rayalaseema from 18th to 21st, along with **Heavy to very heavy rainfall** very likely at isolated places over Kerala & Mahe and Coastal & South Interior Karnataka and **heavy rainfall** at isolated places over Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and North Interior Karnataka on 19th, **Heavy to very heavy rainfall** at a few places with **extremely heavy falls** at isolated places very likely over Coastal Karnataka and Kerala & Mahe; **heavy to very heavy rainfall** at isolated places over Coastal Andhra Pradesh & Yanam, Telangana and Interior Karnataka and **heavy rainfall** at isolated places over Tamilnadu, Puducherry & Karaikal on 20th , **Heavy to very heavy rainfall** at a few places with **extremely heavy falls** at isolated places likely over Coastal Karnataka and Kerala & Mahe; **heavy to very heavy rainfall** with **extremely heavy falls** at isolated places over South Interior Karnataka; **heavy to very heavy rainfall** at isolated places over Coastal Andhra Pradesh & Yanam and North Interior Karnataka and **heavy rainfall** at isolated places over Telangana and Tamilnadu, Puducherry & Karaikal on 21st, **heavy to very heavy rainfall** at isolated places over Coastal Karnataka and **heavy rainfall** at isolated places over Telangana, Interior Karnataka and Kerala & Mahe on 22nd September, 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 North Interior Karnataka, undertake land preparation for sowing of chickpea. Undertake sowing of hybrid sorghum. Based on the severity of the powdery mildew disease in black gram, spray the crop with Hexaconazole @ 0.5ml or wetttable sulphur @ 3 gm or Carbendazim @ 1g in one litre of water. Undertake new planting of sugarcane. In maize, infestation of leaf and sheath blight disease is noticed; spray Carbendazim @ 1 g /liter of water in clear weather.
- In Coastal Karnataka, drain out excess water from standing crop fields. For management of leaf beetle and weevil infestation in cashew, spray Monocrotophos @ 1.5ml litre of water. Set up Rhinolure pheromone trap in coconut plantation to trap and kill the beetles.

- In South Interior Karnataka, provide adequate drainage facility to remove excess of water from the coffee plantation. Undertake drenching of Carbendizim 0.2% or Propiconazole @ 0.5 ml/ litre of water once in a month in against Panama wilt in banana plantation.

Kerala

- In Central Zone, undertake Land preparation and nursery preparation for second paddy (mundakan) crop after current spells of heavy rain. To control sheath blight disease in Virippu rice, spray 4 gram Trifloxystrobin +Tebuconazole in ten litre of water. 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. Also there is a chance of Leaf Blotch in Turmeric. To control, spray 2 ml Contaf (Hexaconazole) in one litre of water after current spells of rain.
- 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 Southern Zone, for control of 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 after current spells of rain.

Andhra Pradesh

- In Srikakulam, Vizianagaram and Visakhapatnam district, prevailing weather is favourable for incidence of sucking pest in Cotton (Flowering Stage), vegetable nurseries and papaya. Spray Imidacloprid 0.3 ml/lit or neem oil 0.5 ml/lit./ lit of water after current spells of rain.
- In Ananthpur district, drain out the excess water cotton due to heavy rains. If yellowing of leaves and leaf reddening symptoms are observed, take up foliar spray of urea @ 20 g/litre or 19-19-19 @ 10 g/litre of water.
- In East Godavari district, Running of cono weeder for every 10 days in rice(tillering stage) will remove the weeds and will help in good aeration to the roots. In fields with heavy broad leaves weeds after removing excess water (in saturation conditions only) spray 2,4-d Sodium salt @ 400g per acre.
- In Guntur district drain out the excess water from Pulses(GreenGram/Blackgram). Undertake harvesting of the matured kharif pulses.
- In Prakasam district, take up top dressing of nitrogen fertilizer in Maize, Sorghum, Bajra, Regram and castor crops after current spells of heavy rain.
- In West Godavari district, apply recommended dosage (booster dose) of fertilizers where the standing crops (rice, vegetables and cotton) are effected by floods or heavy rainfall. Proper protection should be taken to prevent soil borne pest and diseases during flooding condition. Remove dead plants and replace it with new plants (gap filling).
- In YSR Cadapah district, standing crops are inundated due to realized rainfall (groundnut, cotton, rice, turmeric and banana), the water should be drained as soon as possible. Since the soil does not get nitrogen due to excessive moisture. Spray 2% urea or DAP or 1% KNO₃ twice in 4 - 5 days interval.
- In Kurnool district, drain out excess water if any in the crop field due to recent rains and go for weed control immediately after drying of field.
- In Chittoor, Nellore district, undertake paddy nurseries after seed treatment. Soak the seed for 24 hr in Carbendigem solution (3g/L of water) and take up nursery.

Telangana

- Drain out excess water from the fields of rainfed crops like cotton, maize, redgram, soyabean and

vegetables wherever heavy rainfall received.

- Prevailing weather conditions are congenial for incidence of Phytophthora Wilt in Redgram. To control, soil drenching with Copper-Oxy-Chloride @ 3 g per liter of water.
- Prevailing cloudy weather conditions are congenial for incidence of square and flower drop in cotton, spray Planofix @ 2 ml per 10 liter of water twice at 10 days interval.
- Heavy rains may effect Rhizome rot in turmeric crop. To control, drench with Cymoxanil+Mancozeb @ 3g/lit is recommended

Tamil Nadu

- In Cauvery Delta Zone, to control the stem borer incidence in rice, seedling treatment can be done with Chlorpyrifos 20 EC @ 2.5 ml/ Litre for 20 minutes or transplanting the seedling after cutting the tip of the leaf. For 1 acre Samba crop, apply 200 kg of gypsum, 10 kg zinc sulphate, 15 kg of urea, 40 kg DAP and 10 kg potash as basal fertilizers. Apply 100 kg of neem cake before transplanting to avoid insect and nematode attack and nutrient loss due to rain.
- In Southern Zone, Farmers are advised to sow drought tolerant rice varieties like Anna 4, Co 53, and ADT 45.
- In Western Zone, continue 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, vaccinate lambs of age more than 3 months against PPR & Enterotoxemia. Provide half dried grass material for feeding to avoid Diarrhea. Maintain sanitation around the sheep yard.
- In Tamil Nadu, prevailing weather condition is favourable for Ranikhet disease in poultry. The main symptoms are twisting of neck and paralysis of wings and legs, Diarrhoea. Drop in egg production and sudden death. To prevent ranikhet diseases in poultry contact the local veterinarian for vaccination.

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

Realised Rainfall : Rainfall occurred in all districts of Meghalaya and Tripura; all the districts except Lower Subansari district of Arunachal Pradesh; all the districts except Darrang, Kamrup(Rural), Karbi Anglong, Morigaon, Nowgaon, Sonitpur and Udalgiri districts of Assam; all districts except Chhimituipu district of Mizoram; Bishnupur, Imphal West, Tamenglong and Ukhrul districts of Manipur; Dimapur, Kephire, Longleng, Mokokchung, Paren and Phek districts of Nagaland.

Advisories:

- **Thunderstorm with lightning** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 21st & 22nd September, 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.

- As **rain/thundershowers** likely at **most/ many** places over Arunachal Pradesh, Assam & Meghalaya on 21st & 22nd, over Nagaland, Manipur, Mizoram & Tripura from 20th to 22nd along with, **heavy rainfall** at isolated places over Nagaland, Manipur, Mizoram & Tripura on 21st, **Heavy to very heavy rainfall** with **extremely heavy falls** at isolated places likely over Assam & Meghalaya; **heavy to very heavy rainfall** at isolated places over Arunachal Pradesh and **heavy rainfall** at isolated places over Nagaland, Manipur, Mizoram & Tripura on 22nd September, 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. Continue land preparation/ sowing of mustard and planting of potato. In already sown mustard seed, arrange for proper drainage in the field to avoid water stagnation.

Assam & Meghalaya

- In Hill Zone of Assam, continue nursery sowing/ transplanting of cauliflower and land preparation/sowing of sesame after current spells of heavy rain. Make provision of mechanical support to the canes of sugarcane, by tying 3 to 4 canes together by their leaves to prevent lodging. 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. Under fair weather, it is advised to top dress *Sali* paddy at tillering stage (20-30 days after transplanting) with urea @ 4.5 kg per bigha (for semi dwarf varieties) and 1.5 kg per bigha (for tall varieties).
- 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 at the earliest. Continue sowing of maize. Farmers are advised to repair the bunds in *Sali* paddy fields, so as to conserve rain water. Standing water of 5±2 cm depth should be maintained in the fields.
- 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 solution of Copper Hydroxide 77 WP mixed with 600-650 litre of water at 15 days intervals @ 1.25 kg/ha against the infection of Bacterial Leaf Blight disease during the tillering stage of *Sali* rice. To control Bunchy Top disease, the aphid vector should be controlled by spraying Dimethoate or Phosphamidon @ 1 ml/litre (3 litre/ 25 plants). Uproot and bury the infected plants.
- 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 Rice hispa 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 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 Chloropyriphos 20EC or Monocrotophos 40EC @ 1.5ml per litre of water.

- 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. Maintain proper drainage system in the field and harvest runoff water in tanks/bunds for use in *Rabi* season. Second hand weeding at 40-45 days after transplanting of *Sali* rice should be done to reduce the weed problem. Drain out the field for some time (2-3 days) to facilitate the tillering in *Sali* rice. Spray Azadirachtin 0.15% EC @ 3ml/litre or other neem formulation against Hopper, Stem Borer, Leaf Fodder in *Sali*/Kharif Rice (Lowland) when weather is clear.

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, maintain optimum water level in the *Kharif* rice fields at panicle initiation to flowering stage. Spray Hexaconazole @2ml/ litre of water against sheath blight or sheath rot disease in rice and 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. 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. 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, continue harvesting of Jhum rice on sunny days. Complete 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. Due to fluctuating the relative humidity (65-95%), possibility of leaf spot of turmeric is higher. Farmers are advised to spray Ridomil @ 2.0 g/litre of water for better management of the disease.
- In Tripura, continue sowing of black & green gram, sesame and cole crops. To manage the attack of white plant hopper on Aman rice, spray Imidachloprid, 1ml per litre of water to control the attack. Maintain good drainage in vegetable field. 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 Seed Kernel Extract @ 5% for management of early stage larvae and sucking pest in soybean. Continue sowing of green gram. During severe infestation of Leaf folder in rice, spray Neem Seed Kernel Extract 5 %. Keep the bunds clean.

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.

Fishery

- In Mizoram, farmers are suggested to strengthen the bunds surrounding the pond during rainy days and also advised to increase the level of pond dykes/banks so that the fishes cannot escape from the pond due to increasing water level. Fish hormones like Ovaprim, Ovatide or Wova-FH can be injected in both the brooders @ 0.5 ml/kg of fish for cattla, rohu and mirgal and 0.5-0.7 ml/kg for grass carp. Trenches/channels in rice field with a depth of 1.0 - 1.5m should be made. 30-40% of the field may be converted into trench/pond for fish culture.

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

Realised Rainfall: Significant rainfall occurred in all districts of Andaman & Nicobar Islands, in Araria, Banka, Bhagalpur, Bhojpur, Buxar, Darbhanga, East Champaran, Gopalganj, Jamui, Kathihar, Khagadia, Kishanganj, Lakhisarai, Madhepura, Madhubani, Muzaffarpur, Nalanda, Purnea, Rohtas, Saharsa, Saran, Sheikhpura, Sheohar, Sitamarhi, Siwan, Supaul and West Champaran districts of Bihar; in Deoghar, Godda, Khunti Koderma and Sahebganj districts of Jharkhand; in Deogarh, Gajapati, Ganjam, Kalahandi, Kandhamal, Koraput, Malkangiri, Nawarangpur and Rayagada districts of Odisha; in North 24 Paraganas and South 24 Paraganas districts of Gangetic West Bengal and in all districts of Sub-Himalayan West Bengal & Sikkim except Malda. Weather remained dry/mostly dry over the rest of the region.

Advisories:

- **Thundersquall (speed 50-60 kmph) accompanied with lightning** very likely at isolated places over Andaman & Nicobar Islands on 19th & 20th ; **thunderstorm with lightning** at isolated places over Jharkhand, Odisha, on 19th, **thunderstorm with lightning at isolated** places over Jharkhand, Gangetic West Bengal on 20th , over Bihar on 21st and 22nd September, 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.
- As **rain/thundershowers** likely at **most/ many** places over Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim during the period, over Gangetic West Bengal and Odisha from 20th to 22nd along with **Heavy to very heavy rainfall** very likely at isolated places over Andaman & Nicobar Islands and **heavy rainfall** at isolated places over Odisha, on 19th, **heavy to very heavy rainfall** at isolated places over Odisha, and **heavy rainfall** at isolated places over Jharkhand, Gangetic West Bengal, Andaman & Nicobar Islands on 20th , **heavy to very heavy rainfall** at isolated places over Gangetic West Bengal, Odisha, and **heavy rainfall** at isolated places over Jharkhand, Sub-Himalayan West Bengal & Sikkim on 21st . **Heavy to very heavy rainfall** with **extremely heavy falls** at isolated places likely over Sub-Himalayan West Bengal & Sikkim; and **heavy rainfall** at isolated places over Bihar, Jharkhand, Gangetic West Bengal, Odisha on 22nd September, 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 East and South Eastern Coastal Plain Zone, spray Mancozeb 63%+ Carbendazim 12% WP (Saaf/Sixer/Companion) @ 400- gram/acre to control Cercospora leaf spot disease in black gram and green gram crop. For Tikka disease in groundnut, spray Chlorothalonil 75% WP (Ishaan/ Kavach) @ 400-gram/ acre or Hexaconazole 5% E.C (Contaf /Hexadhan) @ 300-ml/acre.

- In Western Undulating Zone, transplanted paddy is at tillering to PI (five to nine week) stage and direct seeded rice is at panicle initiation to flowering (ten to eleven week) stage; BLB disease may infest the crop in this weather condition; spray Streptocycline 20g/acre @ 0.1g/litre of water with Copper oxychloride 500g/acre @2.5g/litre of water. Drain out excess water from cotton, maize, arhar, green gram, groundnut and sugarcane fields.
- In North Eastern Ghat Zone, complete nursery sowing for tomato in upland well drained soil; use high yielding varieties @ 150-200 g seed/acre; place polythene covers above the nursery to protect seedlings from excess rainfall. There is a chance of downy mildew attack in vegetables; if observed, spray Metalaxyl 8% + Mancozeb 64% @ 2 g/litre of water after current spells of rain.

Bihar

- In North East Alluvial Zone, continue sowing of pigeon pea. Monitor for Gundhi bug in early sown rice at grain forming stage; it causes appreciable losses to crop during milky stage as rice grains become white and chaffy; to control, apply Folidol dust@10-15 kg per hectare in the early morning or late evening. If fall armyworm and stem borer attack is found in maize field, spray of Emamectin Benzoate @1 ml in 2 liters of water under clear weather condition.
- In South Bihar Alluvial Zone, continue transplanting of ready seedlings of brinjal, tomato, chilli, cauliflower and cabbage; apply 10-15 tons 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. Continue sowing of early potato and table pea may select suitable field and sow the seeds on ridge. To control blast disease in paddy crop, spray the fungicide Beam @ 3 gram per 5 litres of water during clear weather; for sheath blight disease, spray the fungicide Bavistin @1 gm or Kantaf/Samadhan (@ 1 ml per liter of water during clear weather condition.
- In Central & North Eastern Plateau Zone, continue cultivation of horse gram (kulthi) and toria. Continue cultivation of short duration early potato Carry out sowing of tomato, cabbage and cauliflower inside net shed with raised seed bed; treat seeds with Carbendazim @ 2g or Trichoderma @ 5g per kg of seeds. 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, high relative humidity and stagnation of water favours spread of sheath blight in rice; drain out excess water; avoid application of Nitrogenous (Urea) fertilizer or rather the dose should be reduced; spray Propiconazol+ Difenconazole 1ml/litre of water or Carbendazim + Flusilazole 1.5 ml/litre of water or Carbendazim (Bavistin) 1 gram/litre of water to control this disease. Ginger soft rot disease spreads very fast from infected field to healthy field during rainy season; ensure proper drainage and manage weeds; uproot and destroy the infected clumps.
- In Terai Zone, to control fruit and stem Borer in brinjal, collect affected plant parts and fruits and burn them; set up light traps and pheromone traps @ 1-2/Bigha to monitor the moths and their egg-laying; spray B.t formulation 5% WP such as Dipel @ 1.5 g / litre of water after current spells of rain.

Gangetic West Bengal:

- 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. Spray Streptocycline @ 0.2g/liter of water + Planktomycin @ 1-2g/liter of water + Copper fungicide or blue copper @ 2g/liter of water to control BLB disease in wet *Aman* paddy.
- In Laterite & Red Soil Zone, in transplanted paddy, keep the field weed free; for control of Blast disease, apply Tricyclazole @ 0.75 g in 1 litre of water; spray at an interval of 10-12 days depending on the severity and for sheath blight, carry out soil application of *Pseudo monasfluorescens* @ of 500g/bigha after 30 days of transplanting (should be mixed with 10 kg of FYM/Sand and then applied).

Andaman & Nicobar Islands

- In Andaman Islands, keep the rice field bunds open to drain excess water as moderate to heavy rainfall is expected. Provide drainage facility in vegetable field to drain out excess water.
- In Nicobar Islands, provide drainage facility in vegetable field to drain out excess water. Collect all the fallen coconut from the field to avoid sprouting and also clean the coconut garden.

Animal Husbandry

- Provide protein enriched diet to the animals and give them mineral mixture @ 40-50gm /animal. Maintain hygiene at the place where animals are kept. Use ecto-parasiticide and fly repellants to cow and buffalo.

Fishery

- In Andaman & Nicobar, safely open water channel in fish pond and cover around the pond with net to stop escaping of fish.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Significant rainfall occurred in all districts of Konkan & Goa; all districts except Dhule, Jalgaon, Nandurba and Sangali districts of Madhya Maharashtra; all districts of Marathwada and all districts except Bhandara, Chandrapur, Gondia and Nagpur districts of Vidrabha; all the districts of Saurashtra & Kutch, in all the districts of Gujarat Region except Ahmedabad, Anand, Bharuch, Chota Udepur, Dahod, Kheda, Mehsana, Navsari, Panchmahal, Patan and Vadodara districts.

Advisories:

- **Thunderstorm with lightning** at isolated places over Vidarbha on 19th & 20th, over Gujarat region from 19th to 21st September, 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.
- As **rain/thundershowers** likely at **most/ many** places over Maharashtra and at a few places Gujarat region during the period along with **Heavy to very heavy rainfall** very likely at isolated places over Madhya Maharashtra, Konkan & Goa, south Gujarat region, Marathawada on 19th, **heavy to very heavy rainfall** with **extremely heavy falls** at isolated places over south Konkan & Goa; **heavy to very heavy rainfall** at isolated places over Madhya Maharashtra and **heavy rainfall** at isolated places over south Gujarat Region, Marathwada on 20th, **heavy to very heavy rainfall** with **extremely heavy falls** at isolated places over south Konkan & Goa; **heavy to very heavy rainfall** at isolated places over Madhya Maharashtra and **heavy rainfall** at isolated places over south Gujarat Region on 21st, **heavy to very heavy rainfall** at isolated places over Konkan & Goa and **heavy rainfall** at isolated places over Vidarbha, Madhya Maharashtra, Marathawada on 22nd September, 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**, in view of rainfall during last few days and expected rainfall during next 4-5 days, drain out excess water from standing crops, orchards and vegetable fields; also postpone intercultural operations and fertilizer applications in Sindhudurg and Ratnagiri district. In view of rise in humidity, there is possibility of incidence of *Phytophthora palmivora* (fungal disease) which leads to fruit drop in Sapota, for control spray 1% Bordo mixture on whole plant during clear weather.
- **In Madhya Maharashtra**, in Madhya Maharashtra, continue sowing of rabi jowar. Continue harvesting of matured green gram and black gram during clear weather. Keep the harvested produce in safer place. In view of rain fall received during last two days and expected rainfall during next five days, drain out excess water from standing crops, orchards and vegetable fields in Solapur district. To control blight in onion, spray Tebuconazole @ 1 ml per liter of water during clear weather. To control wilt in cotton due to water logging in fields, apply Urea @ 1.5 kg + Potash @ 1.5 kg in 100 liters of water in clear weather condition. If yellowing of pigeon pea is observed due to stagnated water in the fields, spray 1 % Urea during clear weather condition. To control rust in maize, spray Propiconazole @ 10ml per 10 liters of water during clear weather. Due to humid and cloudy condition, to control 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. Due to continuous rainfall, to control brown plant hopper on rice (ETL-15 to 20 hoppers per hills), spray Buprofezin 25 % SC @ 1000 ml or Thiamethoxam 25 WG @ 100 g in 500 liters of water.
- **In Marathwada**, in view of rain fall received during last few days and expected rainfall during next five days, drain out excess water from standing crops, orchards and vegetable fields. To control sucking pest (white fly, sugarcane pyrilla) in sugarcane, spray Chlorpyrifos 20% @ 30 ml per 10 liter of water during clear weather.
- **In Vidarbha**, continue harvesting of matured soybean during clear weather. Keep the harvested produce in safer place. Apply 3rd dose of Nitrogen @ 25 kg/ha (54 Kg Urea per ha) in early varieties of rice. Continue preparatory tillage in harvested greengram/blackgram fields with minimum tillage for early rainfed rabi sowing. To control girdle bittle in rice, spray Nimboli Arc of 5 % or foliar spray of Indoxacarb 15.8 SC @ 7 ml per 10 liters of water during clear weather. Undertake spray of alpha NAA 4.5% SL @ 4 ml /10 litres of water during clear weather to avoid shedding of squares and flowers of cotton and it is also suggested to undertake spray of Chlormequat chloride 50% SL @ 1 to 2 ml per 10 litres of water to restrict the excess vegetative growth and induce reproductive development. To control wilting/blight in pigeon pea, undertake drenching with Copper oxychloride 50% WP @ 25 g or Captan 75% WP @ 20 g in 10 litres of water after current spells of rain.

Gujarat

- In North Gujarat, continue picking of matured green gram pods. Carry out intercultural operations in pigeon pea and tomato crops. Install the light trap in sesame crop field to control population of leaf webber. If intensity of infestation of sucking pest in castor crop is more, spray Cypermethrin @ 5 ml /10 litres of water in clear weather.
- In Middle Gujarat, undertake gap filling in transplanted chili, tomato crops. Carry out intercultural operations in transplanted tobacco field. In humid weather condition, there is chance of incidence of sigatoka disease in banana; for mechanical control, cut and remove leaves with spots and burn it outside the field; spray Carbendazim 50 WP @ 10 g or Mencozeb 75 WP @ 27 g in 10 litres of water under clear weather.

- In Saurashtra and Kutch, drain out excess water from onion crop fields. As there is chance of rain fall, postpone harvesting of black gram and bunch groundnut crops. Keep already harvested produce of black gram and groundnut in safe place. Undertake harvesting of matured sesame and pearl millet crops under clear weather conditions. Carry out intercultural operations in cotton and vegetable crops.
- In South Gujarat, maintain optimum water level in rice fields. Undertake harvesting of cucurbits . For control of sucking pests in cotton crop, spray mixture of 500 g (5% extract) of neem seed powder or 40 g powder of biological fungus called Beauveria bassiana and Verticillium lecanii in 10 liters of water after current spells of rain.

Animal Husbandry

- In Gujarat, spray Phenyl in the animal shed to avoid flies and mosquitoes. Give stored fodder with mineral mixture.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Rainfall occurred in Anuppur, Chindwara, Mandla, Narsinghpur, Panna, and Singrauli districts of East Madhya Pradesh, in Barwani, Betul, Bhopal, Burhanpur, Dewas, Dhar, Harda, Raisen, Ratlam, Shajpur, Indore, Jhabua, Khandwa, Khargone Mandsaur, Ujjain, Vidisha districts of West Madhya Pradesh, in Balrampur, Bemetara, Dantewara, Dhamtari, Durg, Gariaband ,Janjgir Jashpurnagar Kanker, Kondagaon, Narayanpur, Sukma and Surajpur districts of Chhattisgarh during the week.

Advisories:

- **Thunderstorm with lightning** at isolated places over Madhya Pradesh, Chhattisgarh on 19th & 20th, **thunderstorm with lightning** likely at isolated places over West Madhya Pradesh on 21st & 22nd , over Chhattisgarh on 21st September, 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/ many** places over Chhattisgarh from 19th to 22nd , over East Madhya Pradesh on 21st & 22nd along with **heavy rainfall** at isolated places over Chhattisgarh on 19th, 20th , **heavy to very heavy rainfall** at isolated places over Chhattisgarh, and **heavy rainfall** at isolated places over Madhya Pradesh on 21st, **heavy rainfall** at isolated places over Madhya Pradesh and Chhattisgarh on 22nd September, 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 Nimar Valley Zone, if Groundnut crop is 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 cyhalothrin 125 ml/ha.
- In Malwa Plateau Zone, in some of the areas, early maturing soybean varieties are ready to harvest; 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. 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 Bundelkhand Zone, continue 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 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.
- In Chhattisgarh Plain Zone, Farmers are advised to go for third dose of top dressing with urea (40 kg/ha.) fertilizer in medium and late duration rice crop at 60-75 days (Primary panicle initiation), top dressing only after control of insects and disease. Also go for 25% potash top dressing to increase rice grain quantity and quality. Maintain 5cm water in the rice fields. If leaf caterpillar and girdle beetles is observed in soybean crop, apply Trizophos 40% EC 1 liter/ ha or Flubendiamide 39.35% SC 150 ml per ha. 500 liter water per ha.
- 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 fields, spray Quinalphos 25 EC @ 2 ml / litre of water.

Animal Husbandry

- In Chhattisgarh, Store cattle feeds in dry places. Keep the cattle shed floor dry as far as possible. Goats & sheep should be given Entorocostimia Vaccine at the age of 6-10 weeks.

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

Realised Rainfall : Significant rainfall occurred in Banswara, Dungarpur, Pratapgarh, Sirohi, Udaipur districts of Rajasthan; Ballia, Chandauli, Chitrakoot, Gorakhpur, Kushinagar, Maharajganj, Sonbhadra and Varanasi districts of East UP. No significant rainfall occurred in Himachal Pradesh, UTs of Jammu & Kashmir and Ladakh, Uttarakhand Punjab, Haryana and Delhi and in West UP during the week.

Advisories:

- **Thunderstorm with lightning** at isolated places over East Uttar Pradesh, Rajasthan on 19th, 20th, over Uttar Pradesh, East Rajasthan on 21st & 22nd September, 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.

UTs of Jammu & Kashmir and Ladakh

- In Sub Tropical Zone, undertake sowing of toria crop. Due to dry weather and presence of sufficient moisture in the soil, sowing of direct sown vegetables like fenugreek, spinach beet, coriander, radish and carrot should be done without any further delay. Due to high humidity coupled with high temperature the incidence of sheath blight and blast in basmati rice crop may appear. If the symptoms are observed, spray Carbendazim @ 0.1% and Tricyclozole @ 0.06% during the evening hours.
- In Cold Arid Zone, continue nursery sowing of lettuce, kale broccoli, cabbage and Chinese cabbage in greenhouses. Nursery beds may be covered with grass mulch. Apply irrigation once a day. Do not over

water.

- In Intermediate Zone, undertake sowing of toria. 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 attack of Blister Beetle is observed in maize, apply Carbofuron 3G @ 20 kg/ha (apply 3- 4 granules/leaf whorls). Collect blister beetle by hand and kill them by burning or putting in water.
- In Valley Temperate Zone, undertake harvesting of rice. Complete sowing of carrot, radish and turnip. Undertake nursery sowing of onion seeds.

Himachal Pradesh

- In Sub Montane and Low Hills Sub Tropical Zone, undertake field preparation for early sowing of mustard. Complete sowing of gram and lentil. Undertake land preparation for early sowing of wheat. In mid hill region undertake nursery sowing of Chinese cabbage and direct sowing of raddish, carrot, broccoli and lettuce. In case of severe problem of cutworms in vegetable crops, apply Chlorpyrifos 20 EC @ 2 litres of water mixed with 25 kg sand per hectare.
- In Mild Hills Sub Humid Zone, monitor the rice crop for false smut disease. False smut causes chalkiness of grains which leads to reduction in grain weight. False smut is visible only after panicle exertion. Rain, high humidity, and soils with high nitrogen content also favors disease development. Collect and burn diseased ears.
- In High Hill Temperate Dry Zone, carry out ploughing operation after harvesting pea, to control the growing weeds. Undertake harvesting of matured pods of rajmash and mature barley.
- In Mid Hills Sub Humid Zone, undertake sowing of cabbage, cauliflower and other cole crops as well as early varieties of garden pea. Continue picking of apple fruits.

Punjab, Haryana, Delhi

- In Western Zone of Punjab, due to favourable weather for root crops, continue sowing of “desi” varieties of radish (Punjab Safed Mooli2), turnip (L-1) and carrot (Punjab Black Beauty and PC 161). Weather is suitable for planting of evergreen fruit plants like citrus, mango, guava, litchi, loquat, sapota etc. as per prevailing humid weather conditions, regularly monitor rice crop for fungal disease and cotton crop for infestation of whitefly and jassid. 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 rice 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.
- In Western Plain Zone of Punjab, due to persistence of high humidity and cloudy weather false smut may appear, so, farmers are advised to spray with Kocide 46 DF (Chopper hydroxide) @ 500 g in 200 litres of water per acre to control false smut and after 10 days of its application spray Tilt 200 ml in 200 litres of water.
- In Undulating Plain Zone of Punjab, weather is ideal for planting of potato, transplanting of cauliflower, broccoli during the period and continue planting of evergreen fruit trees like mango, litchi, guava, etc. 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 Pyrilla 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, continue 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, withhold temporarily, application of irrigation and chemical spray in existing crops and complete picking in cotton crop. Also suggested to keep harvested bajra crop at safe places and monitor for infestation of insect/pest and diseases in field.
- In Eastern Zone of Haryana, undertake sowing of early mustard variety - Pusa agreni. Season is suitable for sowing of autumn sugarcane, cabbage and cauliflower and undertake transplanting of raised in nursery of tomato. Harvest bajra crop. Monitor constantly brown plant hopper (BPH) in paddy field. To prevent gindhi bug pest in paddy crop, spray 10 kg / acre of methyl parathion at the rate of 2%. In view of variable weather, apply needful irrigation in the cotton crops. Monitor the cotton crop for white fly attack carefully, if population reaches 6 white flies per leaf in the upper canopy before 10 AM only, then spray 80 g Ulala 50 WG/200g Polo in 125-150 liters of water per acre.
- In Delhi, undertake sowing of early pea, 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 sowing of 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**, continue nursery sowing of tomato (hybrid variety), gobhi and Knol khol, sowing of radish, use 6-8 Kg/ha seeds for sowing. 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. For the treatment of Pyorrhea disease of sugarcane, spray Phosphomidon (300-400 ml or methyl-o-demeton (1.5 liter) dissolved in 1000 liters of water. Apply top dressing to Pearl Millet of improved Urea (87-108kg.) supplementing half residual amount of Nitrogen (40-50kg) after 25-30 days of sowing. Undertake weeding and hoeing in the standing crops of bottle gourd. Farmers who want to establish new orchard gardens (Mango, citrus and guava) are advised for planting of new plants from recognized sources.
- **In West Uttar Pradesh**, farmers are advised to control the bacterial disease / leaf spot diseases in vegetables and citrus fruits by spraying of copper oxychloride 2.5 g with streptomycin 200 ml per liter of water. In maize crop, there is a possibility of outbreak of stem borer so for its prevention, Imactin Benzoate 5% Sg 4 g / ha should be sprayed in 500-600 litre of water solution sprinkle on clean weather. 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. Field preparation should be done for moisture conservation and early sowing of rabi crops. Maintain sufficient moisture at the time of panicle initiation and flowering in the paddy. The current weather is favorable for gandhi bug , so after the flowering of paddy crop, if on an average, 2 - 3 gandhi bug / hill appear, then spray imidacloprid 17 to control it.

Undertake sowing of fenugreek, cabbage, toria, carrot.

Uttarakhand

- In Sub Humid Sub Tropic Zone, continue land preparation for sowing of sugarcane. Maintain optimum soil moisture in rice field. Spray Oxymethochloride @ 400g with 20g of Oxydemeton-methyl in 200 litres of water per hectare in rice field, for the prevention of infestation of Sheath blight disease. Maintain optimum soil moisture in barseem field.
- In Bhabar and Tarai Zone, undertake harvesting of finger millets in low and mid hills region. Undertake sowing of short duration varieties of rapeseeds. If there is occurrence of Green leaf hopper in rice crop, immediately spray 120 g of Pymetrozine 50 % (chess) or 80 g of Dinotefuran 20% (oz shine) with 150 litres of water per acre in the affected crops.
- In Hill Zone, undertake harvesting of rainfed rice. In irrigated rice maintain proper water level in rice fields during grain formation/grain filling stage. Undertake sowing of short duration varieties of rapeseeds.

Rajasthan

- In Irrigated North Western Plain Zone, undertake sowing of radish (Pusa Chetki, Pusa rashmi), spinach (Pusa Bharti, All green) seed rate, turnip (white no. 4) on ridges. 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 Diphentheron (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. Spray thiamethoxam 25 WG @ 0.3 g per litre water to control white fly in cluster bean. To control blight disease in guar to spray copper oxy chloride 50 W.P. @ 0.3 percent.
- 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.
- In Arid Western Plain Zone, start field preparation by 2-3 harrowing for sowing of Taramira and winter vegetables like radish, carrot, turnip etc Leaf curl & Mosaic diseases attack on tomato crop may be seen. To control spray Malathion 50 EC @ 1 ml/ liter water.. There may be chances of attack of semilooper and bihar hairy caterpillar in castor crop, spray Quinalphos 25 EC @ 1 liter per hectare.
- In Southeastern Humid Plain Zone, to control insects in soybean, install bird perch and pheromone trap. Uproot of YMV infected crop plant and destroyed it and spray imidachlorpid 17.8 SL @ 600 ml /ha.
- In Transitional Plain Zone of Inland Drainage, undertake transplanting of ready seedlings of brinjal, tomato, chilli and early cauliflower on ridge. Proper drainage should be done in the fields. 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.

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