



# *National Agromet Advisory Service Bulletin*

*Friday 14<sup>th</sup> August 2020*

*(For the period 14<sup>th</sup> to 18<sup>th</sup> August 2020)*



*Issued by*

*India Meteorological Department*

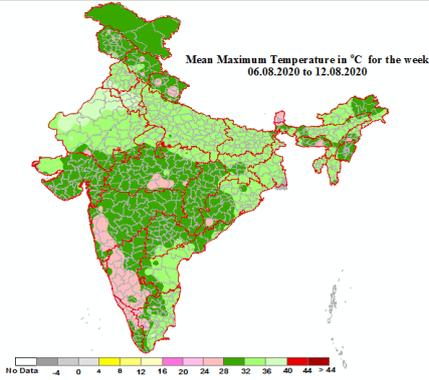
**Weblink For**

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

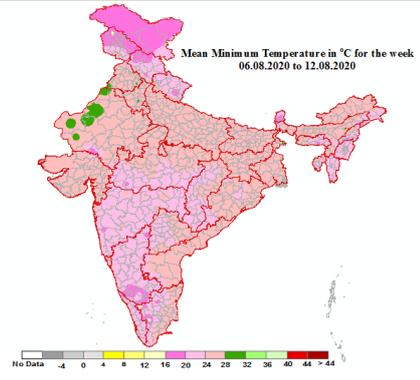
**State Composite AAS Bulletin:** <http://www.imdagrimet.gov.in/node/3544>

## Spatial distribution of weather parameters for the week ending on 12.08.2020

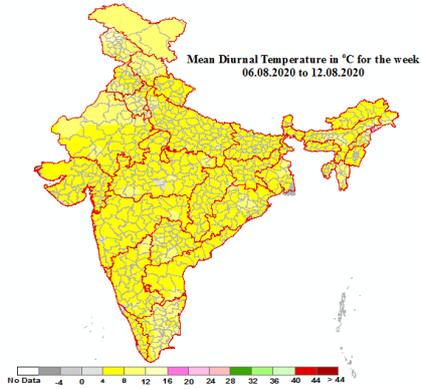
**Mean Maximum Temperature (°C) for the week ending on 12.08.2020**



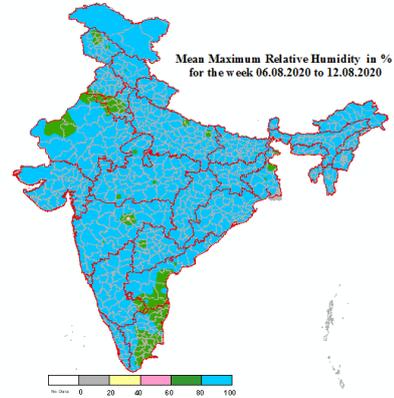
**Mean Minimum Temperature (°C) for the week ending on 12.08.2020**



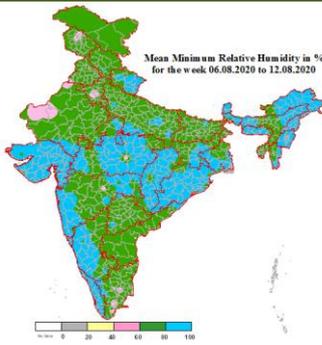
**Mean Diurnal Temperature Variation (°C) for the week ending on 12.08.2020**



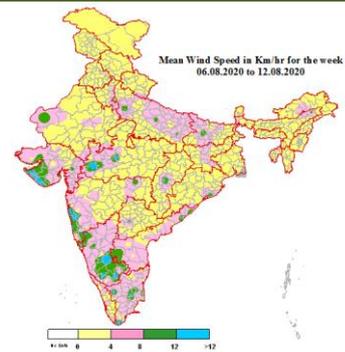
**Mean Maximum Relative Humidity (%) for the week ending on 12.08.2020**



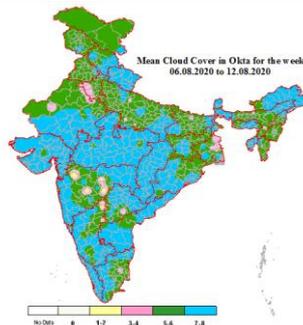
**Mean Minimum Relative Humidity (%) for the week ending on 12.08.2020**



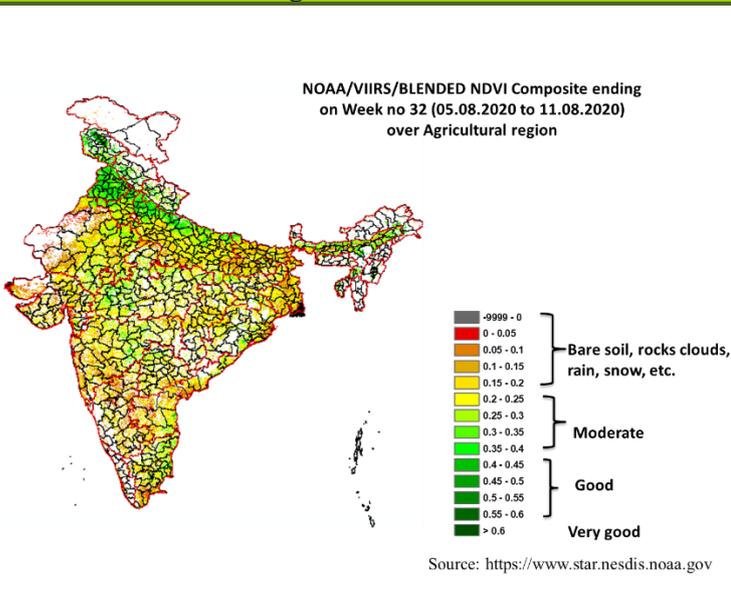
**Mean Wind Speed (km/hr) for the week ending on 12.08.2020**



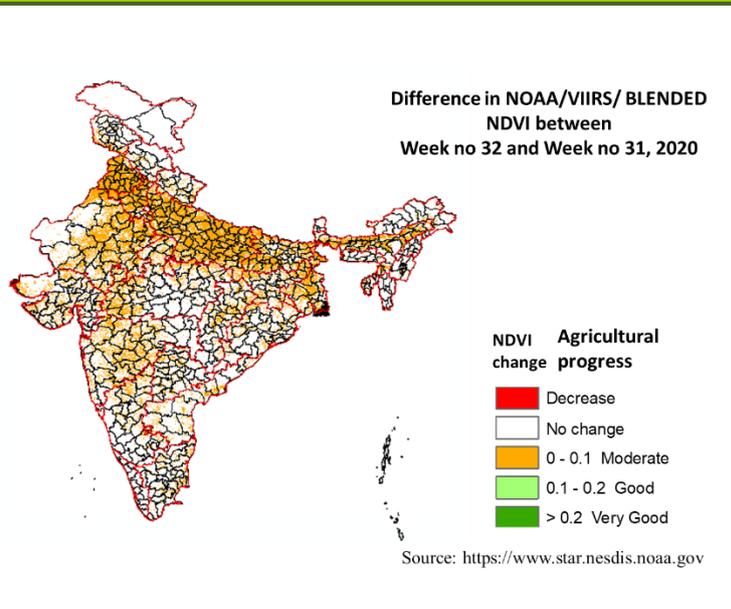
**Mean Cloud Cover (okta) for the week ending on 12.08.2020**



**NOAA/VIIRS/BLENDED NDVI composite for the week number 32 (05.08.2020 to 11.08.2020) over Agricultural regions of India**



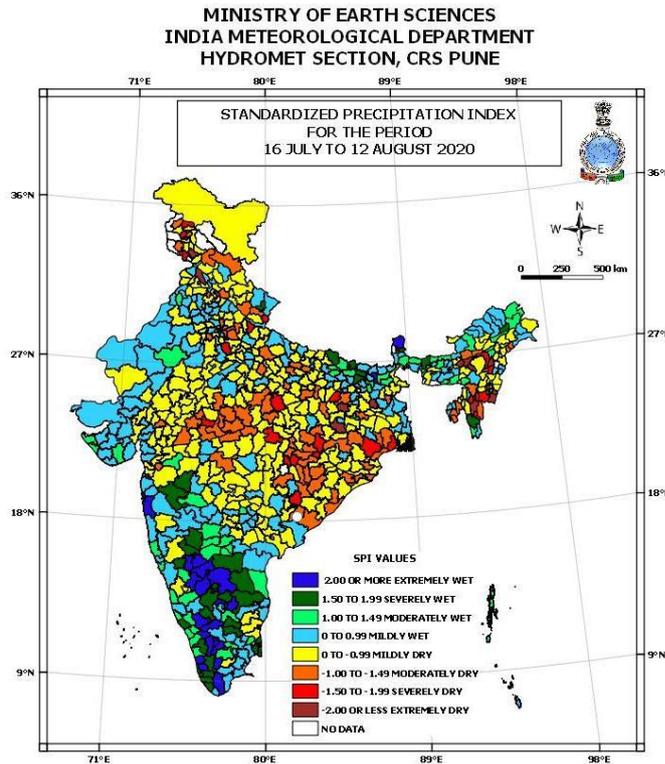
**Difference in NOAA/VIIRS/BLENDED NDVI between week number 32 and week number 31, 2020**



Agricultural vigour was good at many places of Jammu & Kashmir, few pockets of Himachal Pradesh, Uttarakhand, Punjab, West Uttar Pradesh & North Eastern states and at isolated pockets of Haryana, East Uttar Pradesh, Madhya Pradesh & Sub Himalayan West Bengal. Agricultural situation may not be observed properly in many parts of remaining districts either due to cloud cover or due to sowing or very early vegetative stage of kharif crops

Good difference in agricultural vigour was observed over few pockets of Uttarakhand and at isolated pockets of Jammu Division, Himachal Pradesh, Uttar Pradesh, Bihar, Jharkhand, Sub Himalayan West Bengal and North Eastern region.

## Standardised Precipitation Index for the period 16<sup>th</sup> July to 12<sup>th</sup> August 2020



- Extremely/ Severely wet conditions exist in Anantapur, Chittoor, Cuddapah, Kurnool districts of Andhra Pradesh; East Siang district of Arunachal Pradesh; Kokrajhar district of Assam; West Champaran, Darbhanga, Madhepura, Samastipur, Sitamarhi, Sheohar districts of Bihar; Bagalkote, Bijapur, Dharwad, Gadag, Koppal, Bangalore Rural, Bellary, Chamarajanagar, Chitradurga, Davangere, Kolar, Mandya, Mysore, Tumkur, Chickballapur districts of Karnataka; Alapuzha, Cannur, Ernakulam, Kottayam, Palakkad, Kollam districts of Kerala; Mumbai City, Mumbai Suburban, Ahmednagar, Aurangabad districts of Maharashtra; Lunglei district of Mizoram; Coimbatore, Dharmapuri, Nagapattinam, Nilgiri, Salem, Theni, Tirunelveli, Tiruvarur, Tirupur districts of Tamilnadu; Karaikal district of Puduchery; North Sikkim, East Sikkim, South Sikkim districts of Sikkim; Bageshwar district of Uttarakhand; Narayanpet district of Telangana.
- Extremely/Severely dry conditions exist in Nagaon, Morigaon, Golaghat districts of Assam; Aurangabad district of Bihar; Panchkula district of Haryana; Jammu, Udhampur, Badgam, Shopian, Bandipore districts of Jammu; Shajapur, Mandla, Satna districts of West Madhya Pradesh; Chandel, Churachandpur districts of Manipur; Aizwal, Kolasib, Serchhip districts of Mizoram; Kohima, Wokha districts of Nagaland; Mayurbhanj district of Odisha, Hoshiarpur district of Punjab; Mathura, Rampur districts of Uttar Pradesh; East Midnapore district of West Bengal; Chatra, Deoghar, Gumla districts of Jharkhand; Champawat district of Uttarakhand; Bastar, Durg, Raigarh, Raipur districts of Chhatisgarh.
- Moderately wet to moderately dry conditions were experienced in remaining districts of the country.

## Weather Forecast for next 5 days valid upto 0830 hours of 19<sup>th</sup> August, 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)

14-August-2020

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

#### % 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 five days:

#### 14 August (Day 1):

- ◆ Heavy to very rainfall at a few places with extremely heavy falls very likely at isolated places over Gujarat state; Heavy to very rainfall with extremely heavy falls at isolated places over East Rajasthan,

south Chhattisgarh, ghat areas of Madhya Maharashtra and ghat areas of Konkan & Goa; **Heavy to very heavy rainfall** at isolated places over Uttarakhand, West Madhya Pradesh, Coastal Andhra Pradesh & Yanam and Telangana and **heavy rainfall** at isolated places over Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, West Rajasthan, East Madhya Pradesh, Vidarbha, Jharkhand, Gangetic West Bengal, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Rayalaseema and Coastal Karnataka.

◆ **Thunderstorm accompanied with lightning** very likely at isolated places over south Haryana, West Uttar Pradesh, East Rajasthan, Jharkhand, Gangetic West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Telangana and Rayalaseema.

◆ **Strong Wind** (speed reaching 50-60 kmph) very likely over Southwest, Central & North Arabian Sea; (speed reaching 45-55 gusting 65 kmph) along & off Maharashtra-Goa-Gujarat coasts; West Central & North Bay of Bengal and along & off Andhra Pradesh-Odisha- West Bengal coasts. Fishermen are advised not to venture into these areas.

#### **15 August (Day 2):**

◆ **Heavy to very heavy rainfall with extremely heavy falls** very likely at isolated places over Gujarat State and ghat areas of Konkan & Goa; **Heavy to very heavy rainfall** at isolated places over East Rajasthan, south Chhattisgarh, Jharkhand, Gangetic West Bengal, Odisha, Arunachal Pradesh, Assam & Meghalaya, ghat areas of Madhya Maharashtra and Telangana and **heavy rainfall** at isolated places over Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, West Rajasthan, Madhya Pradesh, Vidarbha, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Coastal Andhra Pradesh & Yanam and Coastal Karnataka.

◆ **Thunderstorm accompanied with lightning** very likely at isolated places over south Haryana, West Uttar Pradesh, East Rajasthan, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Telangana and Rayalaseema.

◆ **Strong Wind** (speed reaching 50-60 kmph) very likely over Southwest, Central & North Arabian Sea; (speed reaching 45-55 gusting 65 kmph) along & off Maharashtra-Goa-Gujarat coasts; West Central & North Bay of Bengal and along & off Andhra Pradesh-Odisha- West Bengal coasts. Fishermen are advised not to venture into these areas.

#### **16 August (Day 3):**

◆ **Heavy to very heavy rainfall** very likely at isolated places over Rajasthan, Madhya Pradesh, Vidarbha, Jharkhand, Gujarat State, ghat areas of Madhya Maharashtra and Konkan & Goa and **heavy rainfall** at isolated places over Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, Chhattisgarh, Bihar, West Bengal & Sikkim, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Telangana and Coastal Karnataka.

◆ **Strong Wind** (speed reaching 50-60 kmph) very likely over Southwest, Central & North Arabian Sea; (speed reaching 45-55 gusting 65 kmph) along & off Maharashtra-Goa-Gujarat coasts; West Central & North Bay of Bengal and along & off Andhra Pradesh-Odisha- West Bengal coasts. Fishermen are advised not to venture into these areas.

#### **17 August (Day 4):**

◆ **Heavy to very rainfall with extremely heavy falls** likely at isolated places over West Madhya Pradesh; **Heavy to very heavy rainfall** very likely at isolated places over Rajasthan, East Madhya Pradesh, Vidarbha, Gujarat State, ghat areas of Madhya Maharashtra and Konkan & Goa and **heavy rainfall** at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Chhattisgarh, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Coastal Karnataka.

◆ **Strong Wind** (speed reaching 50-60 kmph) very likely over Southwest, Central & North Arabian Sea; (speed reaching 45-55 gusting 65 kmph) along & off Maharashtra-Goa-Gujarat coasts. Fishermen are advised not to venture into these areas.

**18 August (Day 5):**

◆ **Heavy to very rainfall with extremely heavy falls** likely at isolated places over Gujarat State; **Heavy to very heavy rainfall** at isolated places over Uttarakhand, Rajasthan, West Madhya Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, ghat areas of Madhya Maharashtra and Konkan & Goa and **heavy rainfall** at isolated places over Jammu & Kashmir, Ladakh and Gilgit-Baltistan, Muzaffarabad, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Madhya Pradesh, Vidarbha, Gangetic West Bengal and Coastal Karnataka.

◆ **Strong Wind** (speed reaching 50-60 kmph) very likely over Southwest, Central & North Arabian Sea; (speed reaching 45-55 gusting 65 kmph) along & off Maharashtra-Goa-Gujarat coasts. Fishermen are advised not to venture into these areas.

**Weather Outlook for subsequent 2 days from 19<sup>th</sup> to 21<sup>st</sup> August, 2020**

◆ Fairly widespread to widespread rainfall/thundershowers likely over Maharashtra-Goa and Karnataka coasts, Gujarat State, East Rajasthan, parts of Central, East and Northeast India. Isolated heavy to very heavy falls also likely over parts of central India, northeastern states, Maharashtra-Goa and Karnataka coasts, Gujarat state and East Rajasthan.

◆ Isolated to scattered rainfall/thundershowers likely over rest parts of the country.



### Salient advisories

- **Strong Wind** (speed reaching 50-60 kmph) very likely over Southwest, Central & North Arabian Sea; (speed reaching 45-55 gusting 65 kmph) along & off Maharashtra-Goa-Gujarat coasts; West Central & North Bay of Bengal and along & off Andhra Pradesh-Odisha- West Bengal coasts on 15<sup>th</sup> & 16<sup>th</sup>, .  
**Strong Wind** (speed reaching 50-60 kmph) very likely over Southwest, Central & North Arabian Sea; (speed reaching 45-55 gusting 65 kmph) along & off Maharashtra-Goa-Gujarat coasts on 17<sup>th</sup>& 18<sup>th</sup> August. Fishermen are advised not to venture into these areas.
- **Thunderstorm accompanied with lightning** very likely at isolated places over south Haryana, West Uttar Pradesh, East Rajasthan on 14<sup>th</sup> & 15<sup>th</sup>, over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Telangana and Rayalaseema on 15<sup>th</sup> August, 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. Farmers are advised to avoid standing in the open or working in the field during thunderstorm period. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely at **most/many places** over Arunachal Pradesh, Assam & Meghalaya, West Bengal & Sikkim, Bihar, Jharkhand, Nagaland, Manipur, Mizoram & Tripura, Uttar Pradesh, Himachal Pradesh, Uttarakhand, Haryana, Chd & Delhi, East Rajasthan, Madhya Pradesh, Chhattisgarh, Gujarat, Maharashtra, Telangana and Coastal Karnataka during the period, over West Rajasthan from 15<sup>th</sup> to 17<sup>th</sup>, over Odisha and Coastal Andhra Pradesh from 14<sup>th</sup> to 16<sup>th</sup> **along with Heavy to very rainfall with extremely heavy falls** very likely at isolated places over Gujarat State and ghat areas of Konkan & Goa; **Heavy to very heavy rainfall** at isolated places over East Rajasthan, south Chhattisgarh, Jharkhand, Gangetic West Bengal, Odisha, Arunachal Pradesh, Assam & Meghalaya, ghat areas of Madhya Maharashtra and Telangana and **heavy rainfall** at isolated places over Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, West Rajasthan, Madhya Pradesh, Vidarbha, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Coastal Andhra Pradesh & Yanam and Coastal Karnataka on 15<sup>th</sup>, **Heavy to very heavy rainfall** very likely at isolated places over Rajasthan, Madhya Pradesh, Vidarbha, Jharkhand, Gujarat State, ghat areas of Madhya Maharashtra and Konkan & Goa and **heavy rainfall** at isolated places over Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, Chhattisgarh, Bihar, West Bengal & Sikkim, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Telangana and Coastal Karnataka on 16<sup>th</sup>, **Heavy to very rainfall with extremely heavy falls** likely at isolated places over West Madhya Pradesh; **Heavy to very heavy rainfall** very likely at isolated places over Rajasthan, East Madhya Pradesh, Vidarbha, Gujarat State, ghat areas of Madhya Maharashtra and Konkan & Goa and **heavy rainfall** at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Chhattisgarh, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Coastal Karnataka on 17<sup>th</sup>, **Heavy to very rainfall with extremely heavy falls** likely at isolated places over Gujarat State; **Heavy to very heavy rainfall** at isolated places over Uttarakhand, Rajasthan, West Madhya Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, ghat areas of Madhya Maharashtra and Konkan & Goa and **heavy rainfall** at isolated places over Jammu & Kashmir, Ladakh and Gilgit-Baltistan, Muzaffarabad (UTs), Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Madhya Pradesh, Vidarbha, Gangetic West Bengal and Coastal Karnataka on 18<sup>th</sup> August, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables.

- In Lower Brahmaputra Valley Zone of **Assam**, farmers of flood affected areas where normal season *Sali* rice nursery is completely damaged by the flood, are advised to sow the seeds of short duration HYV *Sali* rice varieties viz. Luit, Kapilee, Dishang etc. in nursery bed upto 1st week of September.
- Farmers of flood affected areas of North Bank Plain Zone of **Assam** are advised to sow the seeds of short duration HYV *Sali* rice varieties like Luit, Kapilee, Kolong, Dishang, etc. within this week and transplant 21-25 days seedlings by mid-September. Late and staggered transplanting, after receding of flood, with seedlings of varieties like Prafulla (80 days old) and Gitesh (60 days old) is also suggested up to mid of September.

## *Detailed Agromet Advisories*

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

**Realised Rainfall:** Significant rainfall occurred in all the districts of Kerala; in Tamilnadu except Cuddalore, Dharmapuri, Dindigul, Erode, Karur, Krishnagiri, Madurai, Nagapattinam, Namakkal, Perambalur, Puducherry, Ramanathapuram, Sivaganga, Thanjavur, Tirupur, Tiruvallur, Tiruvannamalai, Tiruvarur, Toothukudi, Trichy, Vellore, Villupuram, Virudhunagar; in all the districts except Guntur, Nellore, Visakhapatnam of Coastal Andhra Pradesh, Yanam, all the districts of Rayalaseema, Hyderabad, Rangareddy, Sangareddy, Suryapet & Y. Bhuvangiri of Telangana; in all districts of Coastal Karnataka, in Belagavi, Bidar, Dharwad, Gadag, Haveri, Kalaburgi and Yadgir districts of North Interior Karnataka and in all districts of South Interior Karnataka except Bengaluru Urban, Chikaballapur, Chitradurga, Kolar, Mandya, Tumakuru and Ramanagara districts.

- **Advisories: Thunderstorm accompanied with lightning** at isolated places over Coastal Andhra Pradesh & Yanam, Telangana and Rayalaseema on 15<sup>th</sup> August, 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. Farmers are advised to avoid standing in the open or working in the field during thunderstorm period. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely at **most/many places** over Telangana and Coastal Karnataka during the period, over Coastal Andhra Pradesh from 14<sup>th</sup> to 16<sup>th</sup> **along with Heavy to very heavy rainfall** at isolated places over Telangana and **heavy rainfall** at isolated places over Coastal Andhra Pradesh & Yanam and Coastal Karnataka on 15<sup>th</sup>, **heavy rainfall** at isolated places over Telangana and Coastal Karnataka on 16<sup>th</sup> and **heavy rainfall** at isolated places over Coastal Karnataka on 17<sup>th</sup> & 18<sup>th</sup> August, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables.

#### **Karnataka**

- In North Interior Karnataka, continue transplanting of rice. Undertake nipping in pigeon pea crop. Carry out intercultural operation in groundnut, pigeon pea and maize crops. Apply irrigation in tomato, brinjal and chili crops once in 15 days in black soil and 8-10days in red soils. Wilting in cotton can be managed by drenching of Carbondizim @2 gm per lit of water and provide proper aeration by intercultural operations. Incidence of tobacco caterpillar in soybean is noticed; for its management, spray the crop with Chloroantriliniprole 18.5SC @ 0.2 ml of or Lambdacyalothrin @ 0.5ml or Bacillus Thuringensis (bacterial

suspension) @ 1 ml or Triazophos 40EC @ 2ml in one liter of water.

- In Coastal Karnataka, drain out excess water from arecanut plantation. Undertake hand weeding in maize and cotton crops. Set up Rhinolure pheromone trap to trap and kill the beetles in coconut plantation.
- In South Interior Karnataka, provide proper drainage facility in coffee, arecanut, black pepper plantation, ginger and turmeric fields. Continue transplanting of rice and ragi seedings. Complete sowing of maize, Foxtail Millet, Little Millet and Kodo millet, jowar, cowpea, red gram, green gram, black gram, horse gram, field bean crops.
- **Animal Husbandry**
- In Karnataka, for all age groups of poultry birds including local, broiler and layers give one dose of vaccine against Newcastle/Raniket disease in drinking water (Lasota/ F-1 vaccine). Maintain free circulation of air in poultry shed. Protect animals especially goats from rain and cold.

### **Kerala**

- In High Altitude Zone, for control of Mahali (fruit rot) in Arecanut, take necessary phyto-sanitary measures and provide proper drainage facilities. Prophylactic spraying of Bordeaux mixture(1%) along with sticker during non-rainy period or copper oxychloride 50WP (2g/l) with sticker is advised.
- In Problem Areas Zone, in severely flood affected vegetable fields, apply lime and give a fine tilth after drainage.
- In Northern Zone, for bud rot in coconut, as a preventive measure, small perforated sachets containing 2 g of Mancozeb may be tied to the top leaf axil. When rains, a small quantity of the fungicide is released from the sachets to the leaf base and thus protecting the palm. Spray 1% Bordeaux mixture on the crown of palms.
- In Central Zone, due to continuous rain, there is a chance of foot rot disease in pepper. As a preventive measure drench with three gram Copper Oxy Chloride (COC) per one litre of water in to the basin of each plant.
- In Southern Zone, weather is congenial for incidence of fungal diseases in young budded plants of rubber, apply Indofil M45 4g/ litre at 1 inch lower and upper sides of tapping panels.

### **Andhra Pradesh**

- In Visakhapatnam, Vizianagaram, Y.S.R.(Kadapa), Kurnool, Krishna districts continue transplanting of rice after clipping of leaf tips to avoid infestation of stem borer and leaf folder.
- In Ananthpuram district complete sowing of bajra, foxtail millet and cowpea, Redgram and castor crops upto 15th August.
- In Guntur district, to overcome the excess moisture problem due to rains in pulses, spray 5 grams Annabedhi+0.5 grams Nimma vuppu+ 10 grams urea.
- In Prakasam district, make alley ways for proper air and drainage conditions such that increase in number of tillers in rice for good growth conditions.
- In Y.S.R.(Kadapa) district, present weather conditions are favourable for incidence of sucking pest damage in groundnut. To control spray Imidacloprid @ 0.4 ml / lit of water or Dimethoate @ 2 ml / lit of water.
- In East Godavari district, humid and drizzling rain favours the blast disease in rice. To control blast spray Tricyclozole @ 1.6 g per litre of water.

### **Telangana**

- In Northern Telangana, complete sowing of red gram.
- In Telangana, Prevailing weather conditions are congenial for incidence of Aphids in redgram. To control, spray Monocrotophos @ 1.6 ml or Acephate @ 1.5 g and Urea @ 20 g or Multi K @ 5 g per liter of water.
- Prevailing weather conditions are congenial for the incidence of sucking pests in cotton. To control apply Fipronil 1:4 or Acetamiprid 1:20 ratio for aphids at 30 and 45 DAS and Flonicamid or Imidacloprid, water in 1:20 ratio at 60 DAS for Jassids and other sucking pests. To control sucking pests spray Fipronil 2ml or Acetamiprid 0.2g or Thiamethoxam 0.2g or Imidacloprid 0.25ml per litre of water.

### **Tamil Nadu**

- In Cauvery Delta Zone, by utilizing the received and anticipated rainfall, sowing of samba season rice varieties may be continued.
- In Western Zone, utilizing the received and anticipated rainfall, transplanting of short duration rice may be continued. Weather is conducive for blast disease in rice. If found, spray Tricyclozole @ 2g/lit of water.
- In High Altitude Hilly Zone, disease resistant potato variety kufri girdhari may be chosen for planting to avoid disease incidence during autumn season period.
- In Southern Zone, in prevailing weather condition, the incidence of Bud worm is expected in Moringa (drumstick). This Larva bores into flower buds and causes shedding. Collect affected buds and destroy the flower and buds. To control spray Neem oil 35 ml+Sticky agent 10 ml with 10 litres of water.
- In High Rainfall Zone, farmers are advised to take up planting operations, especially vegetable crops like chillies, brinjal, gourd, banana and perennial crops.
- In South Zone, weather is congenial for shoot and fruit borer incidence, spray Azadirachtin 0.03 % WSP (300 ppm) 5.0 g/lit. (or) Emamectin benzoate 5 % SG @ 4 g/10 litre.
- **Animal Husbandry:**
- In Tamilnadu, due to the risk incidence of Blue tongue infection in sheep during rainy season farmers are advised to segregate the sheep showing symptoms like fever and pneumonia and get veterinary advise. Prevailing weather is conducive for Food and Mouth Disease in cattle. Farmers are requested to utilize vaccination camp being conducted in all Government Veterinary Hospitals.

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

**Realised Rainfall:** Rainfall occurred in all districts except Dibang Valley and Lower Subansari districts of Arunachal Pradesh; all districts except Baksa,, Darrang, Golghat, Kamrup(Metro), Karbi Anglong, Morigaon, Nalbari and Udalgiri districts of Assam; all districts except Jaintia Hills district of Meghalaya; all districts of Mizoram; all districts except Chandel and Churachandpur districts of Manipur; all districts except Dimapur and Longleng districts of Nagaland and Dhalai and North Tripura districts of Tripura.

### Advisories:

- **Thunderstorm accompanied with lightning** very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 15<sup>th</sup> August, 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. Farmers are advised to avoid standing in the open or working in the field during thunderstorm period. Keep cattle/goats indoor during thunderstorm period.
- As **rain/thundershowers** likely at **most/many places** over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during the period **along with Heavy to very heavy rainfall** at isolated places over Arunachal Pradesh, Assam & Meghalaya and **heavy rainfall** at isolated places over Nagaland, Manipur, Mizoram & Tripura on 15<sup>th</sup>, **heavy rainfall** at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 16<sup>th</sup> &17<sup>th</sup>, **Heavy to very heavy rainfall** at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 18<sup>th</sup> August, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables.

### Arunachal Pradesh

- In Arunachal Pradesh, Due to high humidity conditions, there is chance of attack of fruit borer and leaf miner incidence in the tomato crop at flowering stage. Apply neem cake @ 250 kg/ha to ridges at 20-25 DAP to control the attack. In present weather conditions, there is chance of attack of gundhi bug in Jhum

rice at panicle initiation/booting stage, hang dead frog in the field. Keeping the periphery of the paddy field clean and weed free is very important during this stage to avoid diseases and insect attack.

### **Assam & Meghalaya**

- In Hill Zone of Assam, continue sowing of sesame and nursery sowing of cauliflower after current spells of heavy rain. Complete transplanting of *Sali* rice. 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. Spray Malathion (0.1%) to control sap sucking insects (aphids/mealy bug/scales) in Khasi Mandarin. Drainage system should be improved to prevent rhizome rot in ginger and turmeric. The affected areas may be drenched with 0.3% Mancozeb 75 WP @ 2g/l of water.
- In Lower Brahmaputra Valley Zone, farmers of flood affected areas are advised to sow the seeds of short duration HYV *Sali* rice varieties viz. Luit, Kapilee, Dishang etc. in nursery bed upto 1st week of September. Undertake replanting of dead hills should be done within 7-10 days of transplanting of *Sali* rice with seedling of same age. Undertake nursery raising of the photo insensitive short duration varieties like Luit, Kapilee and Dishang in flood affected areas whose normal season *Sali* paddy nursery is completely damaged by the flood. 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 sowing of sesame, black/green gram, Arhar and early cauliflower after heavy spell of rain. Due to congenial weather condition, there is chance of infestation of fruit sucking moth in citrus orchards. Thereby, farmers are also asked to prepare the poison baiting with 0.1% Malathion 50 EC @ 1 ml/litre of water, molasses (1%) and fruit juice helps in effective management of this pest.
- In Upper Brahmaputra Valley Zone, continue transplanting of seedlings of 60-70 days old seedlings of Gitesh and Prafulla varieties *Sali* rice. Continue sowing of seasmum, green gram and early cauliflower.
- In Barak Valley Zone, complete transplanting of *Sali* rice at the earliest. Spray Acephate @1.5g/litre of water or Cartap Hydrochloride @ 2g/litre of water or Chlorantraniliprole @4g/litre of water against the infestation of stem borer and leaf folder in *Sali* rice at tillering stage if infestation is above ETL on non rainy days. Complete sowing of early cauliflower and radish. Continue sowing of cow pea.
- In Central Brahmaputra Valley Zone, continue transplanting of seedlings of *Sali* rice. Spray Chloropyriphos 20EC or Monocrotophos 40EC @ 1.5ml per litre of water against rice hispa along with other insects like leaf folder, case worm etc in *Sali* rice. Complete sowing of sesamum and Arhar. Continue harvesting of Capsularis and Olitorius jute. Continue nursery bed preparation and sowing of early brinjal, cauliflower, cabbage, broccoli. To avoid damage of seedlings due to rainy season, farmers should apply portable transparent Polythene shade on bed of nursery seedlings. For flood prone areas farmers should go for portable nursery bed in wooden boxes, thermocol boxes and portable seedling tray for raising of seedlings of different vegetables like brinjal, cabbage, cauliflower, broccoli etc. within mid August. Continue land preparation for sowing of *kharif* pulses (green gram & black gram).
- In North Bank Plain Zone, continue land preparation/ sowing of *kharif* sesame, black gram and green gram. Farmers of flood affected areas are advised to collect short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. sow the seeds in nursery bed. These varieties can be transplanted upto 1st week of September. Long duration improved cultivars with staggering ability like Gitesh can be transplanted up to 20 August. Local cultivars like Monohar *Sali*, Andew *Sali* and improved cultivar Prafulla can also be transplanted up to 31 August with aged seedlings. (60 to 90 days). Undertake gap filling within 7-10 days after transplanting with seedling of same age. Spray Chloropyriphos 20EC or Quinalphos 25EC @ 2.0-2.5 ml per litre of water against rice hispa along with other insects like leaf folder, case worm etc. in *Sali* rice field at tillering stage. Complete the sowing of early cauliflower and Broccoli in the bed within mid of August. To avoid damage of seedlings due to rainy season, farmers

should apply portable transparent Polythene shade on bed of nursery seedlings.

- In Meghalaya, continue transplanting of *Sali* rice. In flood affected areas undertake transplanting of Gitesh variety or other submergence tolerance variety like Swarna Sub 1, Jalashree and Jolkunwari when water recedes as seedlings can be kept for upto 72 days in the nursery. Ensure proper drainage system in the ginger/turmeric and vegetable crop field. Continue sowing of cow pea and French bean on clear weather. Undertake nursery raising for cole crops.

#### **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. Monitor water level in the rice crop field. Drain out water to avoid water logging in the maize/ black gram/ ginger field. Spray Fipronil 5%SC @ 2ml/ litre water against Leaf Folder/ Gall Midge/ Stem Borer and Copper Hydroxide 53.8% DF @ 3g/ litre water against Bacterial Leaf Blight in rice.
- In Mizoram, complete sowing of soybean. Maintain the drainage channel around the soybean field to drain out excess water. Undertake harvesting of green gram and matured cobs of maize immediately. Maintain the water level 2-5 cm in the field of rice during transplanting to vegetative stages. Spray Copper Oxy Chloride (COC) or Ridomil Gold @ 2 g/litre of water in turmeric during sunny days to reduce shoot rot disease in vegetative stage.
- In Tripura, there is chance of attack of Gandhi Bug and rats in Aus and *Jhum* rice field. In case of severe moisture stress in *Aman* rice land, spray 2% urea solution along with irrigation. If infestation is more than ETL i.e. 16 bugs per 100 ear heads than apply Cypermethrin 1 ml per litre of water.
- In Nagaland continue harvesting of Naga King chilli, tomato, cow pea and maize. Undertake propping in banana. Undertake land preparation for sowing of soybean and harvesting of matured cobs of maize. Apply mulching in groundnut crop at flowering stage. If in some plot, rice has not been sown due to less rainfall or has been damage, cultivate low water consuming crops like maize, cowpea, black gram, green gram, sesame etc. undertake land preparation for sowing of green gram.

#### **Animal Husbandry**

- In Northeastern states, carry out immunizations against BQ, HS, Foot and mouth disease as well as anthrax diseases in livestock like cows, buffaloes, goats and pigs. Also carry out vaccination (RDF1) against Ranikhet disease in one week old chicks and against Gamboro disease in two weeks old chicks. During the monsoon season, animals should not be fed with water submerged rotten grasses.
- In North Bank Plain Zone, prevailing weather may cause stress to poultry birds. So the poultry farmers are advised to feed them with lemon water and Glucon-D @10gm/ 1 litre of water.

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

**Realised Rainfall:** Significant rainfall occurred in all districts of Andaman & Nicobar Islands, in all districts of Bihar except Bhabua, Gaya, Lakhisarai and Sheohar; in all district of Jharkhand except Chatra, Deoghar, Giridih, Godda, Jamtara, Pakur, Sahibganj and Saraikela; in all districts of Odisha except Bargarh, Nawapara and Puri; in all districts of Sub-Himalayan West Bengal & Sikkim except Malda and in all districts of Gangetic West Bengal. Weather remained dry/mostly dry over the rest of the region.

#### **Advisories:**

- As **rain/thundershowers** likely at **most/many places** over West Bengal & Sikkim, Jharkhand, Bihar, during the period, over Odisha from 14<sup>th</sup> to 16<sup>th</sup> **along with Heavy to very heavy rainfall** at isolated places over Jharkhand, Gangetic West Bengal, Odisha on 15<sup>th</sup>, **Heavy to very heavy rainfall**

very likely at isolated places over Jharkhand and **heavy rainfall** at isolated places over Bihar, West Bengal & Sikkim, Odisha on 16<sup>th</sup>, **heavy rainfall** at isolated places over Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim on 17<sup>th</sup>, **heavy rainfall** at isolated places over Gangetic West Bengal on 18<sup>th</sup> August, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables.

### **Odisha**

- In Western Undulating Zone, complete transplanting of four-week old rice seedlings. Make arrangement to drain out water from the cotton, maize and arhar crop fields. Collect rainwater in farm ponds and in the water harvesting structures for future use.
- In West Central Table Zone, in upland, if rice is sown and the mortality of seedlings is more than 50%, resow the crop after receipt of rainfall with short duration varieties like Vandana, Khandagiri, Parijat, Kalinga-III etc.; if the mortality rate is less than 50%, carry out gap filling. In medium or low land, if the mortality is more than 50%, resow the crop; prepare nursery beds for transplanting of rice; if mortality is less than 50%, adjust the plant population by *khelua* operation. Go for low water requiring non-paddy crops like ragi, green gram, black gram, cowpea, sesame, rice bean, castor, horse gram etc. and vegetables like cowpea, guar, okra, pumpkin, chilli, brinjal, tomato, etc.
- In North Eastern Plateau Zone, puddle the main field and apply the basal dose of NPK according to rice of variety; apply 10 kg Zinc Sulfate per acre at final land preparation stage; transplant 4-5 leaved rice seedlings at 21-15 DAS; maintain a thin layer of water level in the field. Undertake sowing of ragi and pulses like green gram, black gram and arhar.

### **Bihar**

- In North West Alluvial Zone, complete the transplanting of kharif paddy at the earliest; weed management is advised in the rice field on priority bases; regular monitoring is advised for infestation of stem borer and leaf folder in early sown paddy crop. Complete the sowing of kharif pigeon pea at the earliest. Intercultural operation is advised in 25-30 days old pigeon pea crop. Land preparation is advised for sowing of September pigeon pea. Carry out transplanting of chilli/kharif onion seedlings and early varieties of cauliflower seedlings.
- In South Bihar Alluvial Zone, carry out transplanting of brinjal, tomato, chilli, cauliflower and cabbage seedlings; apply 10-15 tonnes of cow dung and also apply 60 kg Nitrogen, 50 kg Phosphorus and 40 kg Potassium per hectare before final preparation of field. Use of Methyl eugenol trap is recommended to monitor cucurbitaceous crops against attack of fruit fly; if symptoms are noticed, spray Carbaryl @ 1.5 to 2 ml /litre of water during clear sky; fruit flies infected fruits should be picked and buried in the soil. If leaf folder or stem borer is observed in paddy, broadcast Cartap 4% granules @ 25 kg/ha in clear sky for effective control.

### **Jharkhand**

- In Western Plateau Zone, farmers wishing to cultivate horse gram may select improved varieties like V.L.G.-19 or Birsa kulthi-1; 8 kg of seeds are required for sowing in 1 acre; after field preparation, sow the seeds in line at a distance of 30 cm (row to row) and 10 cm (plant to plant) after treatment with Rhizobium culture. Farmers wishing to cultivate Niger may select improved varieties like Birsa niger-1, Birsa niger- 2, Birsa niger-3, Pooja-1 etc.; 2.5 kg of seeds are required for sowing in 1 acre; after preparing the field, sow the seeds in line at a distance of 30 cm (row to row) and 15 cm (plant to plant); farmers who wish to sow the seeds by broadcasting method must increase the seed rate (3.5 kg per acre).
- In South Eastern Plateau Zone, in fallow land, undertake cultivation of low water requiring crops viz. maize, pigeon pea, pulses, oilseeds, etc. and in sloped land, undertake sowing crops like niger, lobia, rice bean, urd bean, moong bean, guar, sesame, linseed, safflower and castor. Undertake planting of sweet potato, *jameenkand*; *semalkand* and *misrikand* in the month of August. Go for the cultivation of short duration vegetables like Bodi, French bean and leafy vegetables. Undertake sowing/planting/transplanting of low water requirement vegetables like tomato, brinjal, capsicum, rainy season cauliflower, potato and onion by adopting water conservation techniques like mulching and drip irrigation.

### **West Bengal**

#### **Sub-Himalayan West Bengal:**

- In Hill Zone, after transplanting of rice apply pre-emergence herbicide Butachlor (50 EC) @ 700 -800 ml per acre within 3-5 days after transplanting in standing water. Maintain proper drainage channels and manage weeds in soybean, ginger and turmeric fields.
- In Old Alluvial Zone, transplant 4-6 weeks old healthy seedlings of cabbage and cauliflower in the main field. There is a chance of downy mildew disease incidence in cucurbitaceous plants; to control, spray Zineb @ 1.5 gm/litre of water.
- In Terai Zone, due to stagnation of water in the field and high relative humidity, sheath blight fungal disease may appear in Aman paddy; to control, drain out excess water from infected field; reduce the dose of Nitrogen fertilizer; spray bio fungicides like Trichoderma or Pseudomonas Fluorescens; or spray Propiconazole + Difenconazole 1ml or Carbendazim + Flusilazole 1.5 ml or Carbendazim (Bavistin) 1 gram per litre of water

#### **Gangetic West Bengal:**

- In Red & Laterite Soil Zone, maintain water depth at 2cm in the paddy field; to control rice Hispa, delay the first top dressing, carry out manual collection and killing of beetles, clip the shoot tips and spray Quinalphos at the rate of 0.5 ml per 1 litre of water. Spray neem seed kernel extract (NSKE) solution @ 50ml/litre of water at clear weather condition for fruit and shoot borer in brinjal crop.
- In New Alluvial Zone, make proper arrangement for drainage in all vegetables, pulse, maize crops and crop nurseries. In the paddy field, if plants start to turn yellow i.e. top leaves turning yellow and bottom leaves remaining green, spray Zinc sulphate solution (6.0 kg Zinc sulphate dissolved in 300 litres of water / ha); carry out weeding at 15 days interval.

#### **Andaman & Nicobar Islands**

- Treat the paddy seedlings with 6 packets of Azospirillum and transplant them in main field at depth of 3cm. Keep open the bunds in vegetable field to drain out excess water.

#### **Animal Husbandry**

- Regularly clean the cattle shed with bleaching powder or Calcium carbonate. Do not let a cattle or goat to graze in a submerged field.

#### **Fishery**

- In West Bengal, keep the bottom of the pond free from aquatic plants; make sure that sunlight enters through the deep pond water; apply lime in pond water, follow proper feeding as per regular time interval for better growth of carp.

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

**Realised Rainfall:** Significant rainfall occurred in all districts of Gujarat ; in all districts of Maharashtra except Solapur, Beed and Akola.

#### **Advisories:**

- As **rain/thundershowers** likely at **most/many places** over Gujarat State and Maharashtra during the period **along with Heavy to very rainfall with extremely heavy falls** very likely at isolated places over Gujarat State and ghat areas of Konkan & Goa; **Heavy to very heavy rainfall** at isolated places over, ghat areas of Madhya Maharashtra and **heavy rainfall** at isolated places over Vidarbha on 15<sup>th</sup>, **Heavy to very heavy rainfall** very likely at isolated places over Vidarbha, Gujarat State, ghat areas of Madhya Maharashtra and Konkan & Goa on 16<sup>th</sup>, **Heavy to very heavy rainfall** very likely at isolated places over Vidarbha, Gujarat State, ghat areas of Madhya Maharashtra and Konkan & Goa on 17<sup>th</sup>, **Heavy to very rainfall with extremely heavy falls** likely at isolated places over Gujarat State; **Heavy to very heavy rainfall** at isolated places over ghat areas of Madhya Maharashtra and Konkan & Goa and **heavy rainfall** at isolated places over Vidarbha on 18<sup>th</sup> August, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables.

## Maharashtra

- **In Konkan**, drain out excess water from standing crops, orchards and vegetable fields. To control leaf eating caterpillar in new flush of mangoes, spray Dimethoate 25 EC @ 12 ml or Monocrotophos 36 WSC @ 11 ml per 10 litres of water during clear weather. Vaccinate cows, buffaloes and goats against foot and mouth disease.
- **In Madhya Maharashtra**, drain out excess water from standing crops, orchards and vegetable fields. Maintain 3-5 cm water level in rice fields. Apply fertilizer dose of Nitrogen @ 40 kg per ha to 30 days old maize crop during clear weather. To control aphid in lemon, spray Diamethoate 30 EC @ 20 ml per 10 litres of water and for powdery mildew in green gram, spray Carbendazim @ 500 g per ha during clear weather.
- **In Marathwada**, drain out excess water from all *kharif* crops, vegetables and orchards. Undertake intercultural operation like weeding in sapota orchards during clear weather condition. To control oily spot in pomegranate, spray Copper Oxochloride or Copper hydroxide @ 25 g + Streptocycline @ 5 g or Bronopol @ 5 g per 10 liter of water during clear weather.
- **In Vidarbha**, drain out excess water from standing kharif crops, orchards and vegetable fields. Undertake intercultural operations like hand weeding in pigeon pea and sesame during clear weather. After current spell of rains undertake nursery sowing of radish (Pusa Ketaki, Pusa Deshi) with fertilizer application @ 50 kg N and 25 Kg P /ha. To control stem borer in 30 to 40 days old sorghum release egg parasitoid *Trichogramma chilonis* @ 1.5 lakh/ha or apply Carbofuron 3% CG @ 8.3 kg/ha in leaf whorl during clear weather. To control stem fly in turmeric, remove the infected leaves and spray Neem oil @ 20 ml per 10 liter of water during clear weather.

## Gujarat

- In North Gujarat, drain out excess water from groundnut, cotton, green gram and pearl millet crops. Undertake sowing of castor, fodder maize and fodder sorghum after current spells of heavy rain. Due to forecast of rainfall, avoid application of fertilizers and irrigation in the standing crops. Continue transplanting of vegetable crops. Carry out the new planting of saplings in orchards.
- In South Gujarat, remove excess water and maintain 3-5 cm of water level in rice fields. Provide proper drainage to remove excess water from sugarcane field.
- In Saurashtra and Kutch, complete transplanting of onion, tomato, chili, brinjal and early cauliflower. Carry out earthing up in cotton crop to prevent lodging. Drain out excess water from standing crop fields. Keeping in view of constant wet period, to prevent infestation of fungal disease in sesame, spray Ridomil fungicide @ 15 gm in 10 litres of water in clear weather.
- In Middle Gujarat, complete transplanting of rice, chili and tomato after current spells of heavy rain. Undertake planting of mango.

## Animal Husbandry

- In Gujarat, keep animal indoor in rainy period. Keep fodder at safe place to avoid spoilage due to rainfall.

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

**Realised Rainfall:** Rainfall occurred in all districts of Madhya Pradesh and Chhattisgarh.

### ➤ **Advisories:**

- As **rain/thundershowers** likely at **most/many places** over Madhya Pradesh, Chhattisgarh during the period, **along with Heavy to very heavy rainfall** at isolated places over south Chhattisgarh, and **heavy rainfall** at isolated places over Madhya Pradesh on 15<sup>th</sup>, **Heavy to very heavy rainfall** very likely at isolated places over Madhya Pradesh, and **heavy rainfall** at isolated places over Chhattisgarh on 16<sup>th</sup>, **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over West Madhya Pradesh; **Heavy to very heavy rainfall** very likely at isolated places over East Madhya Pradesh and **heavy rainfall** at isolated places over Chhattisgarh on 17<sup>th</sup>, **Heavy to very heavy rainfall** at isolated places over West Madhya Pradesh and **heavy rainfall** at isolated places over East Madhya Pradesh on 18<sup>th</sup> August, avoid irrigation, intercultural operations and application of plant protection measures and

fertilizers to the standing crops. Arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables.

### **Madhya Pradesh**

- In Kymore and Satpura Hill Zone, drain out excess water from maize, soybean and turmeric fields. There is possibility of semi-granular disease in tomato, brinjal and chilli, sprinkle two spells of any fungal drug @ 1 to 1.5 gm per liter of water at 10-15 days intervals.
- In Nimar Valley Zone, for management of Girdle beetle in soybean, spray the crop with Thicloprid 21.7 SC @ 650 ml/ha, profenophos 50 EC @ 1.25 lit/ha. or Trizophos 40 EC @ 800 ml/ha. after current spells of rain
- In Jhabua Hills Zone, in maize, after weed control, give 1/3 dose of recommended nitrogen fertilizer in form of urea. Prepare drainage channels in proper distance for drainage of excess rain water in soybean and maize crop fields. Prepare field for cultivation of rainy season vegetables in raised furrow and poly-mulching method.
- In Central Narmada valley Zone, undertake hand weeding in soybean and maize after current spells of heavy rain. Clean the basins of old fruit trees.
- In Bundelkhand Zone, continue nursery sowing of tomato, chilli, brinjal, etc. after current spells of heavy rain, Carry out planting of new orchards of papaya, mango, lemon etc.

### **Chhattisgarh**

- In Northern Hill Zone, in the transplanted rice fields, maintain water level up to 3-5 cm. Farmers are advised Weeding/ Intercultural operation in maize before broadcasting of urea. Apply 10 - 15 grains of Furadon (insecticides) in each leaf sheath if the crops are attacked by stem borer.
- In Chhattisgarh Plain Zone, in the upland areas where rainfall has been less, rice crop early varieties like Tulsī, Aditya, Kalinga-3, Samleshwari, Vanprabha, Indira R-1 (Rajeshwari), Indira Barani Dhan-1 should be selected and sown in lines. In early duration varieties of arhar, row to row distance should be maintained 60 cms and plant to plant distance should be maintained 15cms. Medium duration varieties are sown at a distance of 90 cms x 20 cms.
- In Bastar Plateau Zone, prepare vegetable nursery on a 15cm high raised bed; sow the seeds after seed treatment against rotting diseases; provide thin net around the nursery as a protection against vector diseases. Continue sowing of minor millet (Kodo) and finger millet.

### **Animal Husbandry**

- In Madhya Pradesh, vaccinate cattle to prevent from Haemorrhagic Septicaemia and Black Quarter diseases. Vaccinate the goat to control PPR disease.

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

**Realised Rainfall** : Significant rainfall occurred in all the districts of Himachal Pradesh except Kinnaur and Lahaul & Spiti, in all the districts of Uttarakhand except Champawat and Uttarkashi, in Jammu, Kathua, Poonch, Rajouri, Reasi and Samba districts of Jammu & Kashmir, in all the districts of East Rajasthan; Bikaner, Churu, Jalore, Jodhpur, Nagaur, Pali in West Rajasthan; in all districts of East UP except Ambedkarnagar, Amethi, Chandauli, Hardoi, Jaunpur, Kaushambi, Kushinagar, Maharajganj, RaiBareilly, St. Kabir Nagar, Shrawasti and Siddharthnagar districts. Rainfall occurred in all districts of West UP except Auraiya, Badaun, Baghpat, Bulandshahar, Etah, GB Nagar, Ghaziabad, Hapur, Jotiba Phule Nagar, Meerut, Moradabad, Rampur, Sambhal, Shahjahanpur and Shamli districts; in all districts except Amritsar, Barnala, Fatehgarh Saheb, Ferozepur, Hoshiarpur, Mansa, Moga, Sangrur, Tarn Taran, Patiala in Punjab, in all districts except Bhiwani, Fatehabad, Gurgaon, Hisar, Jind, Katihal, Mahendergarh, Panipat, Sirsa, Sonipat districts of

Haryana, in New Delhi, South West Delhi, West Delhi and North Delhi districts.

- **Advisories: Thunderstorm accompanied with lightning** very likely at isolated places over south Haryana, West Uttar Pradesh, East Rajasthan on 14<sup>th</sup> & 15<sup>th</sup> August, provide mechanical support to young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds Farmers are advised to avoid standing in the open or working in the field during thunderstorm period. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely at **most/many places** over Uttar Pradesh, Himachal Pradesh, Uttarakhand, Haryana, Chd & Delhi, East Rajasthan during the period and over West Rajasthan from 15<sup>th</sup> to 18<sup>th</sup> **along with Heavy to very heavy rainfall** at isolated places over East Rajasthan and **heavy rainfall** at isolated places over Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, West Rajasthan on 15<sup>th</sup>, **Heavy to very heavy rainfall** very likely at isolated places over Rajasthan and **heavy rainfall** at isolated places over Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh on 16<sup>th</sup>, **Heavy to very heavy rainfall** very likely at isolated places over Rajasthan and **heavy rainfall** at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh on 17<sup>th</sup>, **Heavy to very heavy rainfall** at isolated places over Uttarakhand, Rajasthan and **heavy rainfall** at isolated places over Jammu & Kashmir, Ladakh and Gilgit-Baltistan, Muzaffarabad (UTs), Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh on 18<sup>th</sup> August, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables.

#### **UTs of Jammu & Kashmir and Ladakh**

- In Sub-Tropical Zone, Carry out intercultural operations like thinning, weeding and hoeing in kharif pulses during clear weather. Carry out weeding operation in vegetable fields and drain out excess water from the fields. Carry out manual pollination in bottle gourd in the morning or evening hours for maximum yield.
- In Cold Arid Zone, undertake harvesting of broccoli at proper maturity. Do regular and timely pruning in tomatoes, cucumbers, brinjal and capsicum.
- In Intermediate Zone, arrange for adequate drainage in kharif pulses fields to avoid water stagnation. Ensure staking with plastic string in tomato and cucurbits crops (bottle gourd, bitter gourd, sponge gourd and cucumber) for better crop stand. Provide proper drainage facilities in vegetable crops, particularly chilli to avoid wilting problem. To control red pumpkin beetle in cucurbits, apply imidachloprid 1 ml/3 litres of water or Dichlorvos 30 EC @ 2 ml/ litre of water on clear day.
- In Valley Temperate Zone, carry out hand weeding in rice at vegetative stage. Maintain water level of 5 to 7 cm in rice fields.
- avoid corm injury, mechanical hoeing to depth of 2-3 inches should be preferred over manual hoeing.

#### **Himachal Pradesh**

- In Sub Montane and Low Hills Sub Tropical Zone, shoot and fruit borer is expected in brinjal and tomato crops. Infested fruits and shoots should be collected and buried inside the soil. Continue picking in tea at 8-10 days interval to maintain the quality and productivity.
- In Mild Hills Sub Humid Zone, make bunds for conserving rain water in rice fields. Bunds should be higher and wider so that more rain water can be conserved in the field. At places where transplanted rice crop is 2 to 3 weeks old, apply nitrogenous fertilizer. To monitor Fall army worm on maize, install pheromone traps @ 4 traps per acre. Destroy the mass of eggs and larvae by crushing them. If the infection is more than 10 percent, then spray neem seed kernel extracts @ 5ml/ litre or Chloratriniliprole 18.5 SC @ 0.4 ml/litre or Emamectin Benzoate 5 SG @ 0.4 gram/litre or Spinetoram 11.7 SC @ 0.5 ml/litre.

- In High Hill Temperate Dry Zone, carry out weeding operation in rajmash field and apply irrigation. To control pod borer in pea, spray 1.5 kg Carbaryl in 750 litres of water per hectare.
- In Mid Hills Sub Humid Zone, break one third terminal part of the branches of litchi to improve growth of new shoots and higher yield in the next season. After breaking the shoots, apply foliar spray of 0.5 % ZnSO<sub>4</sub>. Undertake land preparation for planting of kharif onions. When plants with yellow leaf disease are found in black gram and green gram crops, uproot them and bury them in the ground. Spray 0.5 ml. Imidacloprid per litre of water when the sky is clear.

### **Punjab, Haryana, Delhi**

- In Western Zone of Punjab, due to prevailing humid weather conditions, farmers are advised to regularly monitor rice crop for fungal. Regularly monitor cotton crop for infestation of whitefly; if population reaches 6 whiteflies per leaf in the upper canopy, spray with 80g Ulala 50 WG (flonicamid) or 200g Polo in 125-150 litres of water/acre on clear days. Attack of jassid on bhindi can be reduced by spraying 40ml Confidor 17.8 SL (Imidacloprid) or 40g Actara 25 WG (Thiamethoxan).
- In Western Plain Zone of Punjab, weather is suitable for attack of stem borers in rice. If more than 5% dead hearts appears in the field then spray 20 ml Fame 480 SC or 170 g Mortar 75 SG or 350 ml of Marktriazol/Sutathion 40 EC or 560 ml Monocrotophos 36 SL or one litre of Chlorpyrifos 20 EC in 100 litres of water per acre In early transplanted crop, drying of leaves due to bacterial leaf blight disease may be noticed. Weather is suitable for planting of evergreen fruit plants like citrus, mango, guava, litchi, loquat, sapota etc. Adopt prompt measures to drain out excess rain water from the orchard.
- In Undulating Plain Zone of Punjab, past weather remained congenial for attack of rice hispa. On the transplanted crop, spray 800 ml Ekalux 25 EC (quinalphos) or 1.0 litre Dursban 20 EC (chlorpyrifos) in 100 litres of water per acre with a manually operated sprayer to control hispa. 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. For control of plant hopper spray 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. Weather is favourable for attack of maize borer. Use tricho cards twice having 40,000 eggs of *Corcyra cephalonica* parasitized by *Trichogramma chilonis* per acre to control borer damage. Spray the crop with 30 ml Coragen 18.5 SC (chlorantraniliprole) using 60 litres water per acre with knap-sack sprayer @ 2-3 weeks after sowing as soon as borer injury to the leaves is noticed. Remove excess rain water immediately after heavy rainfall from Sugarcane To save crop from *Pyrilla* damage, Spray the crop with 600 ml Dursban 20 EC (chlorpyrifos) in 400 litres of water per acre with manually operated sprayer.
- In Central Plain Zone of Punjab, undertake sowing of okra and cucurbits such as cucumber, bottle gourd, sponge gourd, pumpkin etc. To prevent the incidence of mealy bug on cotton crop, remove all the weeds growing around the crop fields and regularly monitor the crop. If symptoms of fungal foliar leaf spots are observed, spray the crop with 200 ml of Amistar Top in 200 litres of water per acre. Save the rice crop from sheath blight by keeping the bunds of the field clean; if the symptoms are observed, spray Galelio way@400ml or Nativo @80 g or Amitsar Top/Tilt/Folicur/Pikapika@200ml in 200 litres of water per acre.
- In Western Zone of Haryana, due to possibility of rainy weather conditions, withhold application of irrigation and chemical spray in existing crops and make arrangements for draining out excess amount of water from fields. Complete the transplanting of rice as earliest. Due to favourable conditions farmers are advised to keep vigil on root weevil in rice crop and if infestation occurs than the apply 10 kg Karberil 4 G/Sevidal 4 G per acre, if weather remain clear.
- In Eastern Zone of Haryana, withhold intercultural/hoeing operation and spraying in the cotton crops. Proper drainage management to be done if there is standing water after rain. Monitors the cotton crop for

white fly attack carefully. Undertake transplanting of brinjal on ridge whose seedlings are ready.

- In Delhi, maintain social distancing during picking of vegetables and other agricultural operations. In view of light to medium rainfall do proper arrangement for drainage in all vegetables, pulse, maize and nurseries of the crops and avoid spraying in the crops. Undertake weeding and hoeing in the standing crops and vegetables to protect them from weeds and proper drainage in all pulses, vegetables and other crops. Undertake transplanting of brinjal, tomato, chilli and early cauliflower on ridge whose seedlings are ready, sowing of sweet corn (Madhuri, win orange) and baby corn (HM-4). Maintain proper drainage in the fields. Undertake sowing of guar (Pusa Navbahar, Durga Bahar), radish (Pusa Chetki), cluster bean (Pusa Komal), Beans (Pusa Sem 2, Pusa Sem 3), spinach (Pusa Bharti), amaranths (Pusa Lal Chaulai, Pusa Kiran) and ladyfinger (Pusa A-4) on ridges.

#### **Uttar Pradesh:**

- **In East Uttar Pradesh**, this is the best time for plantation of guava, mango, aonla, jackfruit and lime for new orchard. Continue sowing of guar, cluster bean, amaranthus, ladyfinger and fodder sorghum. In the paddy field, if plants started turning yellow i.e. top leaves turned yellow and bottom leaves remained green, farmers are advised to spray zinc sulphate solution (6.0 kg zinc sulphate dissolved in 300 litres of water / ha.) or zinc sulphate @25kg per hectare. Undertake weeding and thinning and split application nitrogen in standing crop's field. Apply 40 kg nitrogen (87 Kg urea) at top dressing after sowing of 2530 day of sunflower. Undertake sowing of capsicum, lamite and cauliflower in nursery. Spray Blitox 0.3% (3 gm/litre of water) for protection of Red dust disease in Mango. Transplanting of brinjal, chilli and early cauliflower are advised.
- **In West Uttar Pradesh**, after 20 to 30 days of transplanting of paddy, apply top dressing of 30 kg nitrogen per hectare in high yielding species and 25 kg nitrogen per hectare in fragrant species and weed out before top dressing. Complete the sowing of millet, after 15 days of sowing, remove the weak plants and increase the distance between the plants and apply top dressing of nitrogen in high-producing species by 40 to 50 kg per hectare. After the second weeding and hoeing in groundnut at 30 to 40 days after sowing and do earthing up. Make second and final top dressing in okra of 30 to 40 kg nitrogen per hectare. Apply 200 to 250 quintal cow dung at the time of preparation for the onion cultivation field. When preparing for transplanting, mix 35 kg nitrogen 50 kg phosphorus and 40 kg potash per hectare before final plowing.

#### **Uttarakhand**

- In Sub Humid Sub Tropic Zone, to control yellow stem borer in rice, spray @750 grams of Cartap 4 g in 500 litres of water per hectare by keeping 2 inches of water in the field within 50 days of transplanting. Drain out excess water from okra fields and newly planted mango plants in the orchard.
- In Bhabar and Tarai Zone, carry out weeding and hoeing operations in soybean. Undertake transplanting of early variety of raddish. In unirrigated (rainfed) mid hilly regions, make arrangement of seeds of an early variety of pea for sowing in mid of August. Treat the seeds before sowing.

#### **Rajasthan**

- In Flood Prone Eastern Plain Zone, for avoiding sucking pest in green gram use spray Imidacloprid 250 ml/400 liters per hectare after 25-30 days of sowing after current spells of rain.
- In Irrigated North Western Plain Zone, on appearance of early stem borer and root borer in sugarcane crop, use Furodon dust 3% @ 6 kg per bigha or Phorate 10% @ 4 kg per bigha in sugarcane crop after current spells of rain. Repeat the spray after 40 to 50 days.
- In Sub Humid Southern Plain and Aravali Hill Zone, release Trichogramma @ 1.5 lack/ha for the control of fall army worm at egg stage in maize. If infestation is increase than foliar spray of Emamectin benzoate 5 SG @ 0.4 g/litre of water for the control of fall army worm in maize. Spray should be done after current spells of rain.
- In Semi Arid Eastern Plain Zone, this is suitable time for transplanting of tomato, chilli and brinjal in the field. Use healthy & nematode infestation free plants for transplanting.

#### **Animal Husbandry**

- In Uttar Pradesh, there is possibility of foot and mouth disease and langra fever in cow/buffalo, hence advised for vaccination at the earliest. Protect the poultry from moisture and dampness and provide proper lighting and maintain proper cleanliness.

**The Agromet Products in this Bulletin are generated by Agrimet Division, weather forecast issued by NWFC, New Delhi and Agromet Advisories are prepared based on the DAAS Bulletins issued by different Agrometeorological Field Units.**