



# *National Agromet Advisory Service Bulletin*

*Friday 15<sup>th</sup> September 2017*  
*(For the period 15<sup>th</sup> to 20<sup>th</sup> September 2017)*



*Issued by*  
*India Meteorological Department*

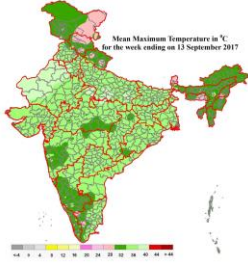
**Weblink For**

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

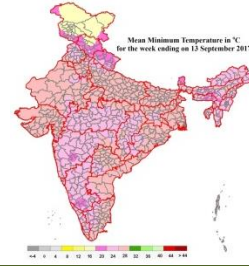
**State Composite AAS Bulletin:** <http://www.imdagrimet.gov.in/node/3544>

**Spatial distribution of weather parameters for the week ending 13.09.2017**

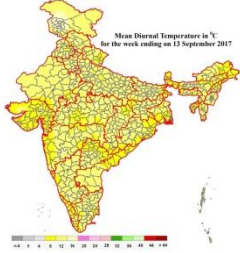
**Mean Maximum Temperature (°C) for the week ending 13.09.2017**



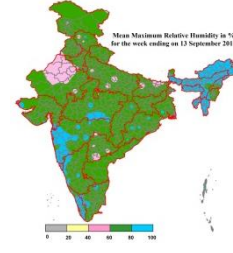
**Mean Minimum Temperature (°C) for the week ending 13.09.2017**



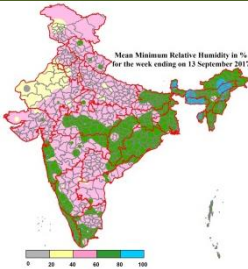
**Diurnal Temperature Variation (°C) for the week ending 13.09.2017**



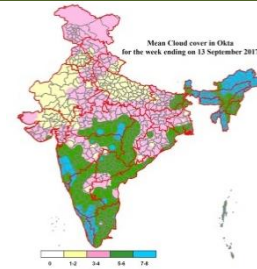
**Mean Maximum Relative Humidity (%) for the week ending 13.09.2017**



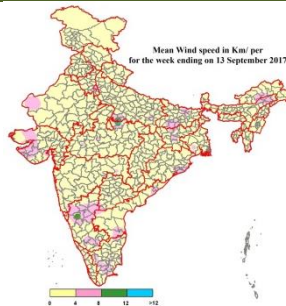
**Mean Minimum Relative Humidity (%) for the week ending 13.09.2017**



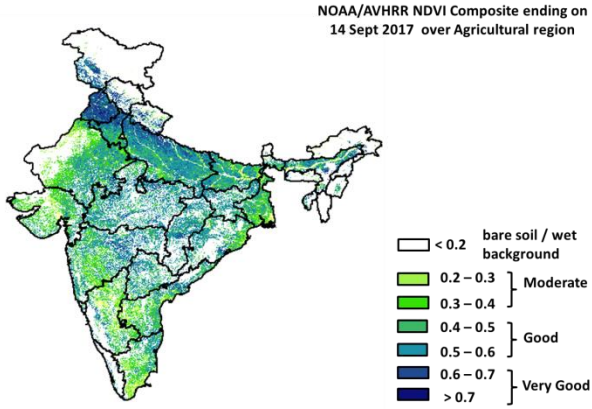
**Mean Cloud Cover (okta) for the week ending 13.09.2017**



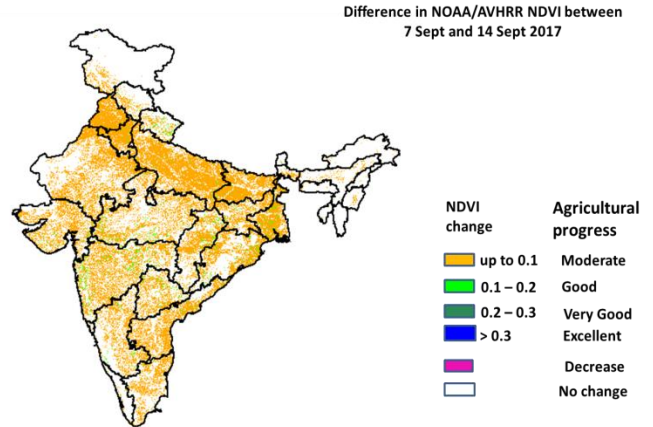
**Mean Wind Speed (km/hr) for the week ending 13.09.2017**



**NOAA/AVHRR NDVI composite ending on 14<sup>th</sup> September 2017 over Agricultural regions of India**



**Difference in NOAA/AVHRR NDVI between 7<sup>th</sup> and 14<sup>th</sup> September 2017**



**Standardised Precipitation Index Cumulative 15 weeks for the period 1<sup>st</sup> June 2017 to 13<sup>th</sup> September 2017**

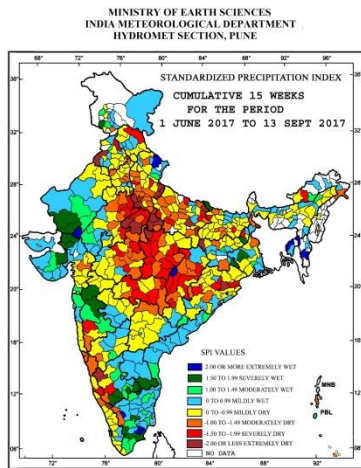


Fig : ACTUAL SPI CONDITIONS FOR THE PERIOD 1 JUNE TO 13 SEPT 2017

**Standardised Precipitation Index Cumulative 16 weeks forecast for the period 1<sup>st</sup> June 2017 to 20<sup>th</sup> September 2017**

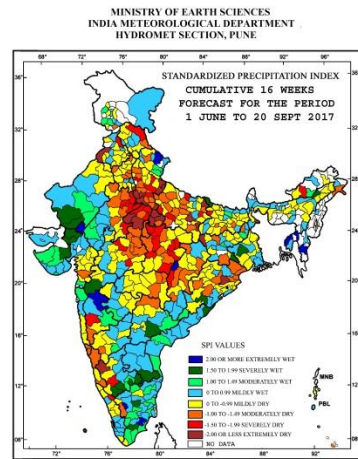


Fig : FORECAST SPI CONDITIONS FOR THE PERIOD 1 JUNE TO 20 SEPT 2017



## Weather Forecast for next 5 days valid upto 0830 hours of 20<sup>th</sup> September 2017

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- No significant change in maximum and minimum temperatures over most parts of the country during next 2-3 days.

### 5 Day Rainfall Forecast (Mid-day) 15<sup>th</sup> September 2017

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

#### % Station Reporting Rainfall

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

### Weather Warning during next 5 days

- **15 September (Day 1):** Heavy rain at isolated places very likely over Konkan & Goa, Madhya Pradesh, Madhya Maharashtra, Vidarbha, Chhattisgarh, Odisha, Coastal Andhra Pradesh, Telangana, Coastal Karnataka, North Interior Karnataka, Andaman & Nicobar Islands and Kerala. Thunderstorm very likely at isolated places over Jammu & Kashmir, Punjab, Jharkhand, north Odisha, Gangetic West Bengal, Gujarat state, Konkan & Goa, Madhya Maharashtra, Marathawada, Coastal Andhra Pradesh, Telangana, Rayalaseema and North Interior Karnataka.
- **16 September (Day 2):** Heavy to very heavy rain at isolated places very likely over Andaman & Nicobar Islands; Heavy rain at isolated places over Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Konkan & Goa, Coastal Andhra Pradesh, Coastal Karnataka, Kerala and Lakshadweep area. Thunderstorm very likely at isolated places over Madhya Maharashtra, Marathawada, Coastal Andhra Pradesh, Telangana, Rayalaseema and North Interior Karnataka.
- **17 September (Day 3):** Heavy to very heavy rain at isolated places very likely over Coastal Karnataka and Andaman & Nicobar Islands; Heavy rain at isolated places over Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, South Interior Karnataka, Kerala and Lakshadweep area.
- **18 September (Day 4):** Heavy to very heavy rain at isolated places very likely over Assam & Meghalaya, Konkan & Goa and Coastal Karnataka; heavy rain at isolated places over Odisha, Madhya Maharashtra, South Interior Karnataka, Kerala & Lakshadweep area.

- **19 September (Day 5):** Heavy to very heavy rain at isolated places very likely over Konkan & Goa; heavy rain at isolated places over Odisha, Assam & Meghalaya, Madhya Maharashtra, Coastal Andhra Pradesh, Coastal Karnataka and Kerala.

#### **Weather Outlook for subsequent 2 days from 20<sup>th</sup> to 22<sup>nd</sup> September 2017**

- Rain at many places very likely over northeast India, Kerala, Lakshadweep and Andaman & Nicobar Islands.
- Rain at a few places very likely over central and east India and at isolated places over rest Peninsular India.
- Weather likely to be dry over most parts of northwest India.

#### **Salient Advisories**

- As per the forecast table and weather warning given above, the regions likely to receive rainfall at most/many places and heavy/heavy to very heavy rainfall, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.
- As thunderstorm very likely at isolated places over **Coastal Andhra Pradesh, Telangana, Rayalaseema and North Interior Karnataka** on 15<sup>th</sup> and 16<sup>th</sup>, over **Konkan & Goa** on 15<sup>th</sup>, over **Madhya Maharashtra and Marathawada** on 15<sup>th</sup> and 16<sup>th</sup> September, provide support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane.
- In the Southern Zone of **Kerala**, as rainfall is expected at most places with isolated heavy spells, avoid harvesting of Viruppu rice in Thiruvananthapuram and Kollam districts. Keep already harvested produce at safer places. In the Central Zone, due to continuous rain, there is a chance of sigatoka disease in banana. As a precaution measure, spray Pseudomonas 20g/litre of water. In case of severe attack, spray Bavistin @ 1 gm/litre of water on lower surface of leaf (by mixing with gum). If yellowing symptom due to downy mildew is observed in cucurbitaceous vegetables, apply Mancozeb @ 3g/litre of water. Undertake plant protection methods after current spells of rain.
- In Kymore Plateau and Satpura Hill Zone of **East Madhya Pradesh**, in view of the prevailing mainly dry weather condition, apply irrigation to maintain optimum soil moisture level in rice fields. In Central Plain Zone of **Uttar Pradesh**, irrigate the paddy crops as per requirement and top dress with 1/4th dose of nitrogen.
- In Western Zone of **Punjab**, as mainly dry weather would prevail, apply irrigation in standing crops as per requirement. In cotton, apply 4 sprays of 2 % potassium nitrate (13-0-45) solution at weekly intervals, starting at flower initiation. If the whitefly reaches 6 whiteflies per leaf in the upper canopy, spray the crop with Ulala 50 WG 80 g/acre or Lano 10 EC @ 500 ml/acre or 200 ml/acre Oberon in 125-150 litres of water/acre.
- In **South Bihar Alluvial Zone**, present weather conditions are highly favourable for incidence of Blast disease in rice. Monitoring at 2-3 days interval is advised. Early symptoms include development of eye shaped spot in the leaf sheath with light center and dark boundaries. If symptoms appear, spraying of Bavistin 2 g/litre of water 2-3 times with an interval of 10 day is advised for effective control.

#### *Detailed Zonewise Agromet Advisories*

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

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala except Kannur, Kasaragod and Kozhikode, in all districts of Coastal, North Interior and South Interior Karnataka, Coimbatore, Dindigul, Erode, Karaikal, Krishnagiri, Madurai, Nammakal, Nilgiris, Perambalur, Ramanathapuram, Salem, Theni, Tiruppur, Tiruvannamalai and Vellore districts of Tamil Nadu, Guntur district of Coastal Andhra Pradesh and Cuddappah district of Rayalaseema during the week and weather remained mainly dry over rest of the region.

• **Advisories:**

- As rainfall is very likely at most places over Coastal Karnataka and Kerala during the period, at most/many places over North Interior Karnataka on 15<sup>th</sup> and 16<sup>th</sup>, at many places over Coastal Andhra Pradesh, Telangana during the period, over Rayalaseema on 15<sup>th</sup> and over South Interior Karnataka from 16<sup>th</sup> to 19<sup>th</sup> September, along with heavy to very heavy/heavy rain at isolated places over Coastal Karnataka during the period, heavy rain at isolated places over Coastal Andhra Pradesh on 15<sup>th</sup>, 16<sup>th</sup> and 19<sup>th</sup>, over Kerala on 15<sup>th</sup>, 16<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup>, over South Interior Karnataka on 17<sup>th</sup> and 18<sup>th</sup>, over North Interior Karnataka and Telangana on 15<sup>th</sup> Septmeber, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in in standing crop fields to avoid water stagnation.
- As thunderstorm very likely at isolated places over Coastal Andhra Pradesh, Telangana, Rayalaseema and North Interior Karnataka on 15<sup>th</sup> and 16<sup>th</sup> September, provide support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane.
- **Kerala:**
  - In the Southern Zone, as rainfall is very likely at most places during the period, avoid harvesting of Viruppu rice in Thiruvananthapuram and Kollam districts. Keep already harvested produce at safer places.
  - In the Problem Area Zone, Nendran bananas are nearing harvest. Covering banana bunches especially Nendran varieties helps to improve the quality of bunches. As rain is expected, care should be taken to do harvest the bunches before noon. Give propping to protect the plants from lodging.
  - In the Central Zone, due to continuous rain, there is a chance of sigatoka disease in banana. As a precaution measure, spray Pseudomonas 20g/litre of water. In case of severe attack, spray Bavistin @ 1 gm/litre of water on lower surface of leaf (by mixing with gum). If yellowing symptom due to downy mildew is observed in cucurbitaceous vegetables, apply Mancozeb @ 3g/litre of water. Undertake plant protection methods after current spells of rain.
- **Karnataka:**
  - In the Southern Dry Zone, continue sowing of short duration varieties of ragi (GPU-28, GPU-48, Indaf-9, Indaf-5, KMR-204 and KMR-301) with receipt of sufficient rainfall.
  - In Central Dry Zone, wherever groundnut, red gram crops are 30 days old, go for making dead furrow at a distance of 10 mt. to conserve the ensuing rainfall.
  - In Eastern Dry Zone, undertake sowing of medium to short duration crops like ragi (Indaf-5, 9, MR-6, GPU-28, 48, ML-365), groundnut (JL-24, KCG-2, GBBDD-4), cowpea (C-152, KM-5 and PKB-4 for vegetable purpose) and green gram (PS-16, PDM-84 & 178 are recommended).
  - In North East Transition Zone, as per the July month weather forecast, adequate rains have occurred just to overcome moisture stress of the various crops at various stages. But even then in some of the blocks due to moisture stress, application of 19:19:19 is being recommended @ 3gm/liter of water.
  - In Coastal Zone of Karnataka and Hill Zone, maintain optimum water level in transplanted rice.
  - Incidence of leaf eating caterpillar is noticed in Soybean in North East Transition Zone; for effective management, application of Chlorpyrifos @ 2 ml/liter of water is recommended after current spells of rain.
- **Andhra Pradesh:**
  - In the North Coastal Zone, as there is forecast of rain during the period, drain out excess water if any from the standing crop fields. Monitor for pests and diseases and go for spraying when sky is clear and there should be at least 3-4 hours between spraying and occurrence of rain.
  - In the Krishna Godavari Zone, remove excess rain water immediately from chilli fields and cotton fields. Excess moisture condition in n cotton the fields may favour the appearance of root rot. If it is severe, spray Copper Oxycloiride @ 3g/ litre of water after current spells of rain.
  - In Chittoor and Kadapa districts of the Southern Zone, as there is rain forecast in the district, farmers are advised to take up sowing of crops like red gram, castor, green gram, cowpea, sorghum, bajra and horsegram when there is enough moisture in the soil.
  - In Chittoor and Kadapa districts of the Southern Zone, continuous cloudy weather along with rain /drizzle is favourable for bacterial leaf blight in rice. To control, temporarily avoid Nitrogen application and drain out the water. Apply Potash @ 15 kg per acre before flowering.
- **Telangana:**
  - In North Telangana Zone, continue planting of banana.
  - In South Telangana Zone, prevailing weather conditions are congenial for increase in leaf mite incidence in rice. To control, spray Dicofol @ 5 ml/litre of water after current spells of rain.
  - In North Telangana Zone, spodoptera incidence was noticed green gram, black gram and soyabean. To control, spray Chloripyriphos @ 2.5 ml/litre of water after current spells of rain.
- **Tamil Nadu:**
  - In the Cauvery Delta Zone, continue direct sowing/transplanting of thaladi and *samba rice*.
  - In the Western Zone, moderate rainfall is continuing for next few days. Proper drainage may be done in all the crops to avoid water logging and root rot incidence. By utilizing past rainfall, land preparation may be done at optimum

moisture for the North East Monsoon sowing. The root activeness is less due to continuous rainfall and cloudiness, hence avoid soil application of fertilizer to any crop. Considering the continuous rainfall, harvest the excess rain water into farm pond to reuse the same during scarce period. Provide propping for early season and midseason planted canes against lodging with heavy wind anticipated. Also protect banana crop against lodging by giving support.

- In the South Zone, for sowing during the ensuing northeast monsoon season under rainfed conditions select drought tolerant and pest and disease resistant varieties: KC 3 and PA 255 in cotton, CoH(M) 6 in maize, K 8 and K 12 in sorghum, CO 6 in green gram, CO 4 in sunflower, CO (Cu) 9 in pearl millet, TMV 5 in gingelly, CO 4 in coriander and KKM 1 in senna under rainfed conditions.
- In the High Altitude Hilly Zone, drainage facilities should be created in the field to drain out excess water. To manage leaf rust disease in coffee plantation, foliar spray of Bordeaux mixture @5 g/litre of water can be done.
- **Animal Husbandry**
  - In the Problem Area Zone of Kerala, avoid moist conditions in cattle shed to prevent incidence of foot rot.
  - In the Central Zone of Kerala, adopt mosquito control measures. Cattle should not be allowed graze in water logged areas for avoiding diseases.
  - In the Western Zone of Tamil Nadu, present weather is conducive for initiation of foot and mouth disease in dairy animals and cattle. Provide medicines to control.
  - In the South Zone, give Enterotoxemia vaccine to sheep before the start of monsoon.
  - In Eastern Dry Zone, maintain optimum room temperature in poultry and sericulture unit.

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

- **Realised Rainfall:** Rainfall occurred in Changlang, East Kameng, East Siang, Lohit, Lower Dibang Valley, Papumpara, Tawang, Tirap and West Siang districts of Arunachal Pradesh, all districts of Assam except Morigaon, N.C. Hills and Nagaon, East Garo Hills, East Khasi Hills and West Garo districts of Meghalaya, Aizwal, Lunglei and Serchip districts of Mizoram, Imphal East, Imphal West, Senapati and Thoubal districts of Manipur, Kohima and Phek districts of Nagaland and Dhalai, North Tripura, South Tripura and West Tripura districts of Tripura during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rainfall is very likely at most/many places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura from 16<sup>th</sup> to 19<sup>th</sup>, at many places over Arunachal Pradesh from 17<sup>th</sup> to 19<sup>th</sup> September, along with heavy to very rain at isolated places over Assam & Meghalaya on 18<sup>th</sup>, heavy rain at isolated places over Nagaland, Manipur, Mizoram & Tripura on 16<sup>th</sup> and 17<sup>th</sup>, over Assam & Meghalaya on 16<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> September, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crops and vegetables to avoid water stagnation.
    - **Assam & Meghalaya, Arunachal Pradesh:**
      - In the Lower Brahmaputra Valley Zone, undertake sowing of bottle gourd varieties like Pusa Summer Prolific Long, Pusa Summer Prolific Round, Pusa Meghdoot and Pusa Manjiri with seed rate @ 2.2-3.2 kg/ha. Undertake sowing of improved varieties of Black gram such as T9, T27, Pant U 19, T122, Saonia mah (SB123), KU 301, USJD113 and of Green gram such as T44, Kopergaon, K851, ML56, ML131, SG1 (Pratap), SG21-5, etc. in areas having well-drained sandy loam soil. Undertake land preparation and sowing of brinjal and potato. Undertake nursery sowing of early cauliflower varieties like Early Kunwari, Pusa Dipali, Pusa Katki etc. in the seedbed. Treat the seeds before sowing with fungicides like Thiram or Captan @ 3 gm/kg of seeds.
      - In Barak Valley Zone of Assam, apply top dressing of 5 kg Urea at the time of tillering stage of Sali rice, i.e., 20 -30 days after transplanting of seedlings. Undertake nursery bed preparation for winter vegetables. Prevent water logging in the banana field.
      - In the North Bank Plain Zone, repair the field bunds to reserve water in the paddy field. Apply 2<sup>nd</sup> dose of top dressing of urea @ 3 kg per bigha for semi dwarf and 1.5 kg per bigha for indigenous varieties of 25-30 days old paddy crop. Undertake sowing of brinjal, tomato, carrot, spinach beet, knol khol, cabbage, cauliflower and radish. Maintain proper drainage in the pulses fields.
      - In Arunachal Pradesh, avoid/delay harvesting of Jhum rice crop. Undertake nursery preparation for hybrid tomato, cabbage and cauliflower. Remove excess sucker from Banana in mother plant and give support to banana bunches to protect them from falling due to heavy rain.
      - In Barak Valley Zone of Assam, for controlling mosaic and leaf curl disease in papaya plant, either rouge out the affected plants or spray with Rogar @ 0.1%. For leaf miner and stem borer attack in the Sali rice field, apply Chlorpyrifos @ 2ml per litre of water after current spells of rain.
      - In the North Bank Plain Zone, present weather condition is favourable for attack of leaf folder and rice hispa at the tillering stage of paddy field. Spray Chlorpyrifos 20EC or Monocrotophos 40EC @ 1.5ml per litre of water for management after current spells of rain.
      - In the Lower Brahmaputra Valley Zone, foliar spray of 0.05 gm Streptocycline and 0.05 g Copper Sulphate per litre of water may be done for control of bacterial leaf blight in Sali rice after current spells of rain.



- In Arunachal Pradesh, apply need based spray of Flubendiamide 3.5% + Hexaconazole 5% @ 2ml/litre against rice skipper & leaf folder using sticker. Spray carbendazim/Mancozeb @ 1-2 ml/lit of water for leaf spot/tikka disease in groundnut. Uproot & burn virus infected plants of large cardamom and spray Imidacloprid 17.8% SL @ 2ml/10 litre at 10-15 days interval after current spells of rain.
- **Nagaland, Manipur, Tripura:**
- In Nagaland, monitor constantly for leaf folder in TRC/WRC rice fields and use mechanical methods such as rope method for its management. Fix dead crabs, frogs or even pieces of jackfruit to bamboo sticks and place them in rice fields to attract/divert pests from sucking milk of rice grain. Carry out timely harvesting of cucurbits and okra. Carry out timely weeding and earthing up operation in brinjal, Naga king chilli and groundnut crops. Remove and destroy wilt affected brinjal plants. Provide proper drainage to soybean crop. Spray Neem oil @ 5ml/litre of water for aphids and white flies in ginger and turmeric crops after current spells of rain.
- In Tripura, apply urea @ 10kg per kani to Aman rice crop. Carry out weeding in the paddy field. Birds may pose problem in Jhum rice field at grain filling stage. It may be managed through mechanical ways. Carry out harvesting of groundnut crop. Undertake sowing of winter vegetable like tomato, cauliflower, cabbage, broccoli, etc. on raised nursery beds. Give a foliar spray of Zinc Sulphate and spray of Boron @ 2gm per liter for better grain filling. Spray Penconazole 10% EC @ 1ml per liter of water or Dinocap 48% EC @ 2ml or Triadimefon 25% WP @ 0.3gm per liter of water to manage the attack of powdery mildew in bitter melon and pointed melon after current spells of rain.
- In Manipur, undertake land preparation for planting potato for early crop and also for production of seed after the rains in foothills and upland areas. Undertake sowing/planting of onions in upland areas. Undertake land preparation for sowing of french beans, broad beans and pea in a field having proper drainage facility.
- In Manipur, in kharif rice, spray Fipronil @ 2g/pump or Imidachloprid 17.8 SL @ 7 ml/ 15 litres for aphids and Coragen @ 3ml/15 lit of water or Lambdacyhothrin @ 15ml/15 litre of water for borer, leaf folder & plant hopper, after rains. For control of red hairy caterpillars in black gram and rice bean crops, dust 5% Malathion @ 20 kg/ ha or spray Dichlorovos 7.6 EC 0.05% (0.6ml/litre of water) after current spells of rain.
- **Animal Husbandry**
- In the Northeastern states, vaccinate poultry birds against prevalent diseases like Ranikhet disease and deworm them every two months, provide ad libitum water, clean drinking water and take measures to prevent fungal contamination of bird feed.
- To prevent mastitis in dairy cows, clean the floor of the dairy shed with suitable antiseptic solution.
- **Fishery**
- Apply fish feed (mustard oil cake) for achieving higher yield.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, all districts of Madhya Maharashtra except Dhule and Jalgaon, all districts of Marathwada except Hingoli and Nanded, all districts of Vidarbha except Gadchiroli and Washim, in Dangs district of Gujarat Region during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rainfall is very likely at most places over Konkan & Goa during the period, at most/many places over Madhya Maharashtra during the period, at many places over Marathwada and Vidarbha during the period, along with heavy to very heavy/heavy rain at isolated places over Konkan & Goa during the period, heavy heavy rain at isolated places very likely over Vidarbha on 15<sup>th</sup>, over Madhya Maharashtra on 15<sup>th</sup>, 16<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> September, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.
  - As thunderstorm very likely at isolated places over Konkan & Goa on 15<sup>th</sup>, over Madhya Maharashtra and Marathawada on 15<sup>th</sup> and 16<sup>th</sup> September, provide support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane.
  - **Maharashtra:**
  - In Konkan, in view of realized rainfall and heavy rain at isolated places very likely over the region during next 72 hours and isolated heavy to very heavy on 18<sup>th</sup> & 19<sup>th</sup> September, drain out excess water from rice field, finger millet field, vegetables and orchards.
  - In North Konkan, there is a possibility for incidence of blue beetle, if it is noticed, spray Quinalphos 25% EC per 2 litre of water or Triazophos 40% EC @ 625 ml or lambdacyhalothrin 5% EC @ 250 ml in 500 litres of water/ha after current spells of rain. There is a possibility for incidence of blast on rice crop, if incidence is noticed; spray any one fungicides of Tricyclazole (75% WP) @ 10 g per 10 lit of water or Isoprothiolane 40% @ 10 ml per 10 lit or water after current spells of rain.
  - In Western Ghat Zone, considering the forecast farmers are advised to close the bunds and maintain water level upto 5-10 cm in rice fields. Control the leaf roller in rice by spraying of Chloropyriphos @ 1 ml per litre water or Cypermetharin @ 0.5 ml per litre water after current spells of rain. To control rust & spodoptera caterpillar in soybean, spray Propiconazole @ 1ml + Lambda Cyhalothrin @ 1 ml per liter of water after current spells of rain.
  - In Western Maharashtra Plain Zone, in rice fields maintain 5 cm of water level at tillering stage in western parts of Pune district. Prepare field for sowing of rainfed rabi sorghum and use improved varieties for sowing. Before sowing



apply sulphur 300 mesh @ 4 g per kg of seed and after that apply Azotobacter @ 25 g and PSB culture as seed treatment. For control of pink boll worm in cotton, spray 5% neemark or Prophenophos 50 EC @ 30 ml or Spinosad 45 SC @ 3.5 ml per 10 litres of water after current spells of rain.

- In Vidarbha, maintain water level upto 5 cm in the rice field. Under present weather situation stem borer infestation was found in rice. Spray Quinalphos @ 32 ml in 10 liters of water after current spells of rain. For the control of girdle beetle take foliar spray of Trizophos 40 % @ 12.5 ml per 10 liters of water after current spells of heavy rain. In Bt Cotton attack of pink bollworm at flowering stage is observed, for its control manually pickup infected flowers from field, repeat the procedure each week, also take the foliar spray of Nimboli Arc of 5 % after current spells of heavy rain and also install 4-5 / hectore Pheromone traps in the field.
- **Gujarat:**
- As thunderstorm very likely at isolated places over Gujarat State on 15<sup>th</sup> September, provide support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane.
- Carry out hand weeding and intercultural operations in cotton crop in Bhal and Coastal Zone and in urd bean in North Gujarat Zone, in vegetable crops in South Saurashtra Zone and in rice and groundnut crops in Middle Gujarat Zone.
- In South Gujarat Zone, undertake intercultural operations in pigeon pea crop before flowering.
- In South Saurashtra Zone, complete sowing of castor crop.
- In North West Zone of Gujarat, undertake harvesting of matured green gram. Apply irrigation in castor.
- In North West Zone, for the control of aphid in groundnut, spray Imidacloprid 17.8 % 5 ml or Thiomethoxam 3 gram or Dimethoate 10 ml in 10 liters of water.
- In South Gujarat Heavy Rainfall Zone, maintain optimum water level in transplanted rice.
- In Middle Gujarat Zone, due to cloudy weather there are chances of infestation of blast disease in pearl millet crop; to avoid, apply Carbendazim @ 10 g or Tricyclazole @ 6 g in 10 litres of water.
- In North Gujarat Zone, Bhal and Coastal Zone and North West Zone of Gujarat, prevailing weather condition is favorable for infestation of heliothis in pulse crops; if observed, spray Quinalphos 25 EC @ 20 ml in 10 litres of water or Renaxypyr @ 3 ml in 10 liters of water under clear weather.
- In South Gujarat Zone, for effective control of stem borer in new planted mango spray Dimethoate (30% EC ) @ 10 ml/10 litres of water and for control of sucking pest in cotton, alternate spraying with Imidacloprid 200 SL @ 5 ml or Methyl-o-Demeton 25 EC @ 10 ml/10 litres of water is recommended.

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

- **Realised Rainfall:** Rainfall occurred in Purulia district of Gangetic West Bengal, all districts of Sub-Himalayan West Bengal & Sikkim except East Sikkim, North Sikkim, North Dinajpur and South Dinajpur, in Araria, Bhojpur, Katihar, Kishanganj, Madhubani, Monghyr, Purnea, Siwan and West Champaran districts of Bihar, Dumka, East Singbhum, Godda, Jamtara, Khunti, Pakur and Simdega districts of Jharkhand, Balasore, Bhadrak, Cuttack, Deogarh, Dhenkanal, Kalahandi, Kandhamal, Kendrapara, Keonjhar, Khurda, Koraput, Malkangiri, Mayurbhanj, Nawarangpur, Rayagada and Sundargarh districts of Odisha during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rain/thundershowers very likely at many places over Odisha during the period, over West Bengal & Sikkim and Jharkhand on 18<sup>th</sup> and 19<sup>th</sup> September, along with heavy to very heavy/heavy rain isolated places Andaman & Nicobar Islands from 15<sup>th</sup> to 17<sup>th</sup> September, heavy rain at isolated places over Odisha during the period, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.
  - As thunderstorm very likely at isolated places over Jharkhand, north Odisha, Gangetic West Bengal on 15<sup>th</sup> September, provide support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane.
  - **Odisha:**
  - In North Central Plateau Zone, now the weather is optimum for sowing of green gram, black gram and cowpea.
  - In West Central Table Land Zone, red and black hairy caterpillar has been found in groundnut and pulses. Apply 10-12 kg Chloropyriphs or spray 400 ml quinalphos and endosulphan in 200 liter water after current spells of rain.
  - In South Eastern Ghat Zone, current weather may favour blast disease in rice. Spray Carbendazim 50% WP @ 1g/litre of water or Tricyclazole 75% WP @ 0.6 g/litre of water after current spells of rain.
  - In South Eastern Ghat Zone, due to the high humidity and cloudy weather there is chance of bacterial leaf blight in paddy, spray the crop with 1 g Streptocycline along with 20 g Copper oxychloride in 10 litres of water after current spells of rain..
  - In South Eastern Ghat Zone, leaf folder reported in rice field, spray Chlorpyriphos 20% EC 2 ml/litre of water or Chlorantraniliprole 18.5% SC 0.3 ml/litre of water after current spells of rain..
  - **Bihar:**
  - In North East and North West Alluvial Zone of Bihar, to protect from damping - off of vegetable seedlings in

nursery bed, spray Copper oxychloride 50WP @ 3g/litre of water +Streptocycline @ 1g/10 litres of water after current spells of rain.

- In South Bihar Alluvial Zone, maintain 3-5 cm water level in rice fields and undertake weeding and hoeing in vegetables. Present weather conditions are highly favourable for incidence of Blast disease in rice. Monitoring at 2-3 days interval is advised. Early symptoms include development of eye shaped spot in the leaf sheath with light center and dark boundaries. If symptoms appear, spraying of Bavistin 2 g/litre of water 2-3 times with an interval of 10 day is advised for effective control. Also in maize fields, constant monitoring of stem borer should be done, if insect population is above ETL, spray Carbrayl @ 2 gm/ litre of water. Undertake plant protection measures on a non rainy day
- **Jharkhand:**
- In South Eastern Plateau Zone, undertake intercultural operation in standing crop of Horsegram, safflower, lobia, Urd and Moong bean at 15 DAS. Farmers may start preparation of land for the cultivation of short duration early potato hence, advised for the selection of varieties viz. Kufri Ashoka and Kufri Pukhraj, Kufri Surya and Kufri Puskar of 80-90 days crop.
- In Western Plateau Zone, undertake land preparation for sowing of toria. Recommended varieties of toria are T.-9, B.R.-23 and P.T.-303. Timely sown direct seeded rice crops are at flowering stage and this stage is susceptible to the attack of the insect Gandhi bug. To control the insects, dusting of Chlorpyrifos / Quinolphos / Methyl Parathion dust @ 10 kg per acre is recommended. However, dusting should be carried during clear weather.
- In South Eastern Plateau Zone, in the prevailing weather, chance of occurrence and spreading of Blast disease in rice is more. Hence, spraying of Bavistin @ 1 g or Beam (Tricyclazole) @ 6 g per 10 liter of water by mixing Teepol @ 0.5 ml per liter of water is advised on a non rainy day. Timely sown crops (Last week of June) are at flowering stage and this stage is susceptible to the attack of the insect Gandhi bug. To control the insects, dusting of Chlorpyrifos/Quinolphos/Methyl Parathion dust @ 10 kg per acre is recommended. However, dusting should be performed during clear weather.
- **West Bengal:**
- In the Hill Zone of West Bengal, provide proper drainage to ginger, turmeric, large cardamom and Mandarin orange. Harvest early maturity large cardamom crop/capsules. Maintain 2-3 cm of water in the rice field. Drainage system should be maintained properly to remove excess water from rice field. Carry out regular harvesting of bhindi and round chilli crop.
- In Coastal Saline Zone, carry out hand weeding in the Aman paddy field. Spray Trizophos @ 1.5 ml/litre of water for stem borer attack and Chlorpyrifos @1.5 ml/litre of water for leaf roller attack in Aman paddy. Spray a mixture of Bavitin @1g/liter of water and Diethane M-45 @ 2.5 gm/litre of water for Stem rot or blunt rot due to occasional rainfall and high humidity early winter vegetables after current spells of rain.
- In the Hill Zone of West Bengal, spray Azadirachtin 0.03% (300PPM) neem oil based WSP @ 2000gm/ha in 1000 litres of water, if 10% dead heart or 2 egg mass/m<sup>2</sup> of yellow stem borer is found in rice and spray Validamycin 3%L @ 0.75 ml/litre of water for incidence of blast and sheath blight disease in rice crop after current spells of rain.
- **Animal Husbandry**
- In North Central Plateau Zone of Odisha, periodic vaccination viz. FMD, HS & BQ may be carried out to protect the dairy animals. Keep the animal sheds clean and dry. RD vaccine should be given immediately to the chicks which are 7 days old. To prevent coxidirosis disease spray antibiotic solution named Kohrsolin-TH in the poultry house.
- In Jharkhand, for milch animals, provide mineral mixture and concentrates of groundnut/mustard/linseed, salt with clean green and dry fodder. Keep animal shelter clean and dry. Vaccinate poultry for the protection against ranikhet disease.

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

- **Realised Rainfall:** Rainfall occurred in Barwani and Bhopal districts of West Madhya Pradesh, Bemetara, Balod, Dantewada, Dhamtari, Gariaband, Jashpur, Kanker, Korba, Koriya, Mahasmund, Narayanpur, Raigarh, Raipur, Surajpur and Surguja districts of Chhattisgarh during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rain/thundershowers very likely at many places over Madhya Pradesh on 15<sup>th</sup>, over Chhattisgarh on 18<sup>th</sup> and 19<sup>th</sup>, along with heavy rain at isolated places over Madhya Pradesh and Chhattisgarh on 15<sup>th</sup> September, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.
  - **Madhya Pradesh:**
  - In Kymore Plateau and Satpura Hill Zone, undertake nursery preparation of cauliflower. Maintain optimum soil moisture level in rice fields.
  - In Satpura Plateau Zone, undertake harvesting of matured pods of red gram in clear weather.
  - In Malwa Plateau Zone, continue transplanting of onion, brinjal, tomato, chilli, cauliflower and cabbage on raised bed. Continue nursery preparation of cauliflower for mid season (Oct-Nov.). Undertake harvesting of matured early soybean variety and green cobs of maize in clear weather.

- In Jhabua Hill Zone, at flower initiation stage of cotton apply remaining dose of nitrogen fertilizer through urea and spray Naphthalene Acetic Acid (NAA) @ 50.0 ppm solution. Undertake harvesting of matured pods of black gram in clear weather.
- In Jhabua Hill Zone, due to cloudy weather there are chances of attack of shoot and fruit borer in okra, tomato & brinjal, spray Triazophos @ 2.0 ml/litre of water after current spells of rain.
- In Gird Zone, undertake sowing of toria. Undertake land preparation for sowing of mustard.
- In Malwa Plateau Zone, in long duration soybean varieties to control the white fly spray of neem oil 5 ml/5 litre of water after current spells of rain.
- In Central Narmada Valley Zone, infestation of stem borers and gundhi bug can be seen in the rice fields, apply Quinalphos 25 EC or 20 EC @ 1-1.25 litre per hectare after current spells of rain.
- **Chhattisgarh:**
  - In North Hill Zone, raise the seedlings of winter vegetables like cauliflower, cabbage, chilli, tomato, brinjal.
  - In Bastar Plateau Zone, maintain 5-7 cm water in rice fields for better growth and to suppress weeds. Continue nursery preparation for papaya and custard apple. Continue sowing of niger, kulthi, urad and vegetable crops.
  - In Chhattisgarh Plain Zone, continue nursery sowing of medium duration cauliflower.
  - In North Hill Zone, attack of blast is observed in rice crop, spray Tricyclazole @ 120 gram per acre after current spells of rain and repeat after 10-12 days as per requirement.
- **Animal Husbandry**
  - In Madhya Pradesh, vaccinate the poultry birds to prevent Ranikhet disease.
  - In Chhattisgarh, provide concentrate feed to milch animals mix with dry and green fodder and insure for enrich diet having protein, carbohydrate, fat, vitamins etc.

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

- **Realised Rainfall:** Rainfall occurred in Baramula district of Jammu & Kashmir, in Kangra, Mandi districts of Himachal Pradesh; in Gurdaspur, district of Punjab; in Faridabad, Mewat districts of Haryana; in Gautam Buddha Nagar, Meerut, Saharanpur districts of West Uttar Pradesh; in Banswara, Baran, Jhalawar districts of East Rajasthan during the week and weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - As thunderstorm very likely at isolated places over Jammu & Kashmir and Punjab on 15<sup>th</sup> September, provide support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane.
  - **Jammu & Kashmir:**
    - In Valley Temperate Zone, as mainly dry weather would prevail, undertake harvesting of matured rice, maize and pulses. Continue planting of saffron corms and transplanting of cole crops.
    - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, farmers are advised to continue nursery raising of main season cole crops (cauliflower, cabbage and Knol khol). Sowing of root crops like carrot and radish can be done on ridges. Light irrigation with sprinkler should be provided to nursery beds.
    - In Intermediate Zone, prevailing weather is congenial for attack of stem borer in rice. If attack of stem borer is observed, look for egg mass on flag leaf of paddy plant and destroy the mass, if any. Fields with records of infestation during previous years should be applied Carbofuron 3G @ 20 kg/ha in standing water and do not drain or irrigate the field for 72 hours after application. Those farmers who installed pheromone traps for management of stem borer are advised to replace lure (use yellow stem borer lure) after every 30 days. Also, farmers are advised to keep vigil on blister beetle attack in maize crop. If observed, apply Carbofuron 3G @ 20 kg/ha (apply 3- 4 granules/leaf whorls to control the blister beetle).
  - **Uttarakhand:**
    - In Sub Humid Sub Tropical zone, as mainly dry weather would prevail, undertake harvesting of tomato, okra and French Beans.
    - In Central Plain Zone of Uttar Pradesh, undertake sowing of toria. Keep mustard seeds ready ( kanti, narendra mustard ageti-4) and fertilizers for early sowing of mustard. Undertake hoeing and weeding operation in arhar crop.
    - In Udhm Singh district of Bhabar and Tarai Zone, in irrigated areas sowing of radish and turnip should be completed in this month. In unirrigated mid hills, radish varieties like Meenu early, Japanese white, Pusa Himani and early varieties of Saljam like Parpiltop, white glow should be sown at the earliest.
  - **Punjab, Haryana and Delhi:**
    - In Delhi, continue sowing of carrot in the raised bed. Recommended cultivars: - Pusa Rudhira with Seed rate- 4 kg/acre. Application of FYM, potash and phosphorus fertilizer is recommended. Seed treatment with Captan @ 2 gm per kilogram is advised. Field preparation should be started for early pea and arrangement for quality seeds should be done. In vegetables (brinjal, cauliflower, cabbage, tomato etc) constant monitoring of borers by using pheromone traps 4-6 per acre is advised, If insect population is above ETL than spraying of Spinosad 1.0 ml/4 litre of water is advised against fruit borer, diamond back moth. Undertake transplanting of onion, brinjal, tomato, chilli



cauliflower and cabbage are advised on raised bed for those farmers whose seedlings are ready. It is suitable time for preparation of nurseries on raised bed for mid season cauliflower (Nov.-Dec.). Varieties: Pusa sharad, Pusa hybrid-2, Pant shubra. In present weather condition, constant monitoring for brown plant hopper in paddy field is advised. Farmers are advised to enter into the middle of the crop field and see mosquito like insect at the basal portion of the plant. If insect population is above ETL, spray of Imidacloprid 17.8 % SC @ 1.0 ml / 3 lit of water is recommended. In paddy crop constant monitoring of stem borer is advised by using pheromone traps 4-6 per acre is advised, If insect population is above ETL, than broadcast of Cartap 4% granules @ 10 kg/acre for effective control is recommended.

- In Western Zone of Punjab, as mainly dry weather would prevail, apply irrigation in standing crops as per requirement. In cotton, apply 4 sprays of 2 % potassium nitrate (13-0-45) solution at weekly intervals, starting at flower initiation. If the whitefly reaches 6 whiteflies per leaf in the upper canopy, spray the crop with Ulala 50 WG 80 g/acre or Lano 10 EC @ 500 ml/acre or 200 ml/acre Oberon in 125-150 litres of water/acre. Continue sowing of early potato and “desi” varieties of radish (Punjab Pasand), turnip (L-1) and carrot (Punjab Black Beauty, Punjab Carrot Red and PC 34), using 4-5 kg seed rate of radish and carrot and 2-3 kg seed rate of turnip per acre. Keep ridges 45 cm and plants 7.5 cm apart.
- In Western Zone of Punjab, in rice, control leaf folder when leaf damage reaches 10 per cent by spraying 20 ml Fame 480 SC or 170g Mortar 75 SG or one litre of Coroban/Durmet/Force 20 EC or 560 ml Monocil 36 SL or 350 ml Sutathion/Marktriazio 40 EC in 100 litres of water per acre.
- **Himachal Pradesh:**
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmaur districts, present weather is conducive for attack of late blight disease in tomato crop, for control spray Diethane M-45 or Ridomil Gold @ 250 gram in 100 litres of water.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmaur districts, farmers are advised to prepare fields for sowing of garlic, radish, carrot, turnip and other winter vegetables. Used the large & medium procedure for the preparation of Mushroom FYM.
- **Uttar Pradesh:**
- In Central Plain Zone of Uttar Pradesh, irrigate the paddy crop as per requirement and top dress with 1/4th dose of nitrogen in paddy crop.
- In Central Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of khaira disease in paddy crop, for control apply Zinc Sulphate @ 25kg/ha as basal. For control of stem borer, brown plant hopper, gall midge, leaf folder and jassids, apply Profenophos 50EC @ 2 ml/litre.
- In Central Plain Zone of Uttar Pradesh, there may be chances of attack of yellow mosaic in moong/urad crop for control spray 2 to 3 times of Dimethoate 30 E.C. @ 1 litre or Methylo-Demeton 25 E.C. @ 1 litre per hectare.
- **Rajasthan:**
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, undertake harvesting of matured pulse crops like green gram, moth bean and cowpea. Undertake field preparation for early sowing of pea, Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6 are improved varieties of early pea. Field preparation may be started for the sowing of rainfed Taramira and Mustard. Farmers are advised to procure seed, fertilizers and chemical in advance for the sowing of crops. Time to procure seed for the sowing of Radish (Pusa Rasmi). Use 10-12 kg seed per hectare and 20 kg Nitrogen, 48 kg Phosphorus and 48 kg potash per hectare at the time of sowing.
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, apply irrigation in standing paddy, sugarcane crops as per requirement.
- In Jaisalmer and Bikaner districts of Arid Western Plain Zone, undertake harvesting of matured early moong bean, moth bean crops in clear weather and keep the produce under shelter to protect the produce from rains and to protect the quality of the produce.
- In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, undertake preparation of seed bed for raising nursery of chilli, brinjal and tomato for Rabi season. Undertake hoeing and weeding operation in vegetables.
- In Irrigated North Western Plain Zone, in Sriganganagar, prevailing weather condition is congenial for attack of pyrila in sugarcane, for control spray Dimethoate 30 EC @ 1 litre per hectare.
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of tikka in groundnut crop, for control spray of Carbendazim (50 % WG) 0.1% @ 1 g per litre of water or Hexaconazol 5 EC @ 1.0 ml/litre of water during appearance of initially symptoms & second spray after 15 days interval.
- In Dungarpur, Banswara and Pratapgarh districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of Powdery mildew in Black gram, for control spray Kerathane @ 1ml/litre of water.
- In Jaisalmer and Bikaner districts of Arid Western Plain Zone, prevailing weather condition is congenial for attack of tikka in groundnut crop, for control spray Mencozeb or Chlorothalonil @ 2 gram per litre of water.
- In Southeastern Humid Plain Zone, in Jhalawar, Kota, Bundi, Baran districts, prevailing weather condition is congenial for attack of leaf eater, semilooper in soybean crop, for control spray Quinalphos 25 EC @ 1.50 litres in sufficient amount of water per hectare.

- In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, prevailing weather condition is congenial for attack of grass hopper in sorghum and maize crops, for control apply Methyl Parathion 2% dust. For the control of stem fly in sorghum apply 5% solution of neem seed.
- **Animal Husbandary:**
- In Jammu & Kashmir, ensure that the brooder room has been properly disinfected before introduction of new batch. Give broad spectrum antibiotics to avoid different infections in chicks during brooding like Taxim @1g/100 chicks once daily.
- In Punjab, in poultry, light plays an important role in egg production. Provide 14-16 hours of total light to layers, including the day light. Gradually go on increasing the light when egg production starts.
- **Horticulture:**
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of leaf curl & mosaic in papaya, for control uproot & burn the affected plants and spray Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 ml per litre of water.

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