



# *National Agromet Advisory Service Bulletin*

*Friday 27<sup>th</sup> October 2017*

*(For the period 27<sup>th</sup> October to 1<sup>st</sup> November 2017)*



*Issued by*

*India Meteorological Department*

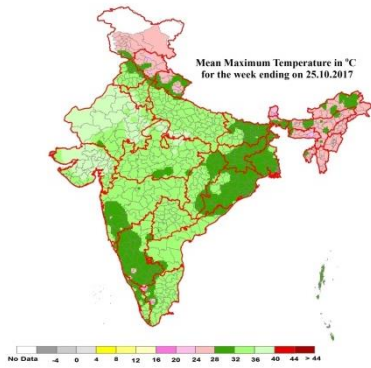
**Weblink For**

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

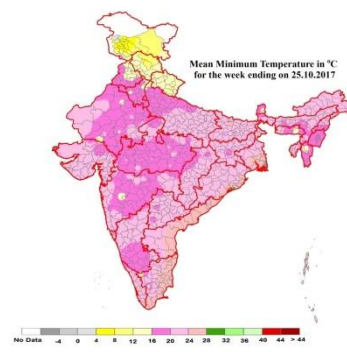
**State Composite AAS Bulletin:** <http://www.imdagrimet.gov.in/node/3544>

**Spatial distribution of weather parameters for the week ending 25.10.2017**

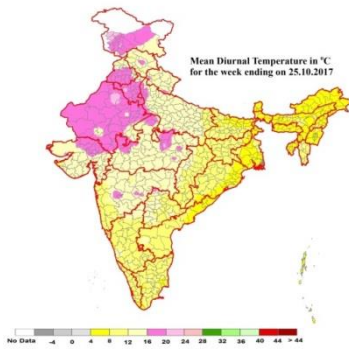
**Mean Maximum Temperature (°C) for the week ending 25.10.2017**



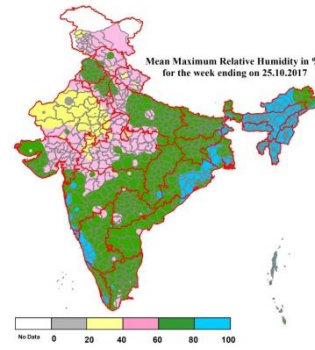
**Mean Minimum Temperature (°C) for the week ending 25.10.2017**



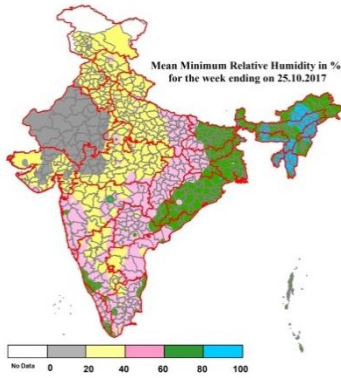
**Mean Diurnal Temperature Variation (°C) for the week ending 25.10.2017**



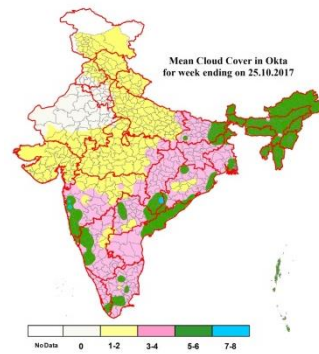
**Mean Maximum Relative Humidity (%) for the week ending 25.10.2017**



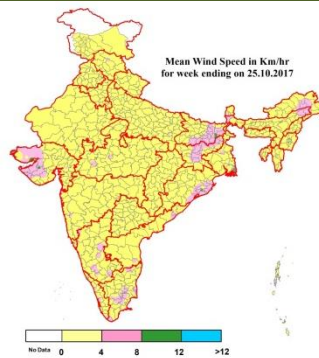
**Mean Minimum Relative Humidity (%) for the week ending 25.10.2017**



**Mean Cloud Cover (okta) for the week ending 25.10.2017**



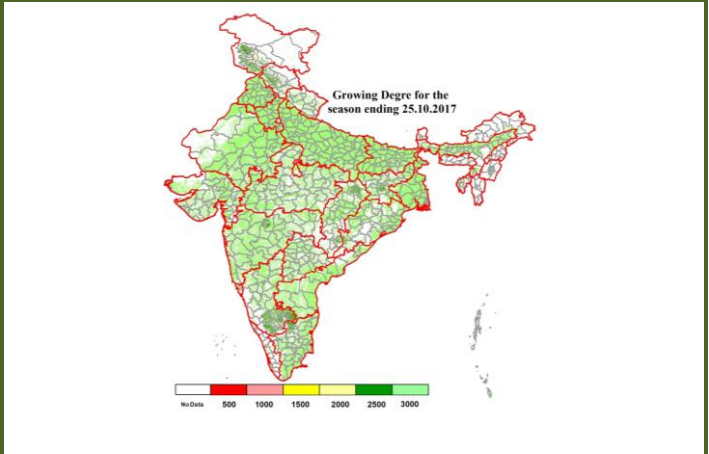
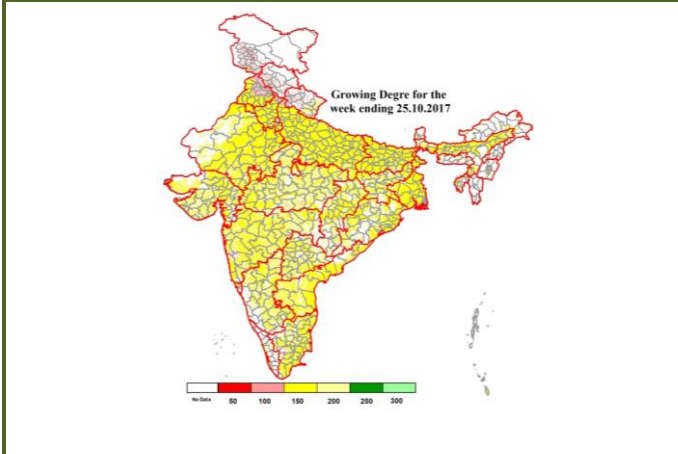
**Mean Wind Speed (km/hr) for the week ending 25.10.2017**





**Growing Degree Days for the week ending 25.10.2017**

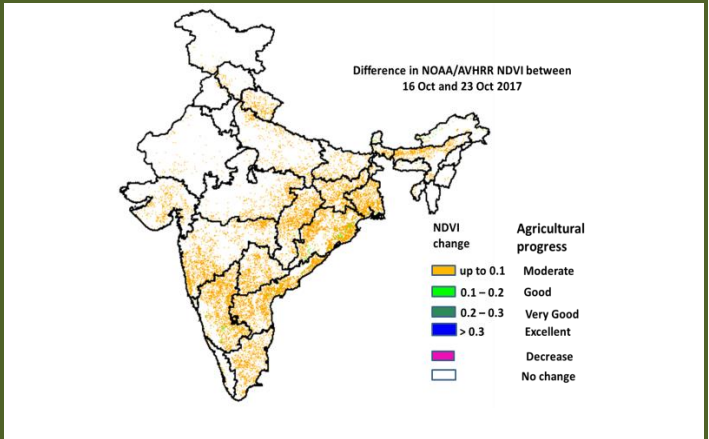
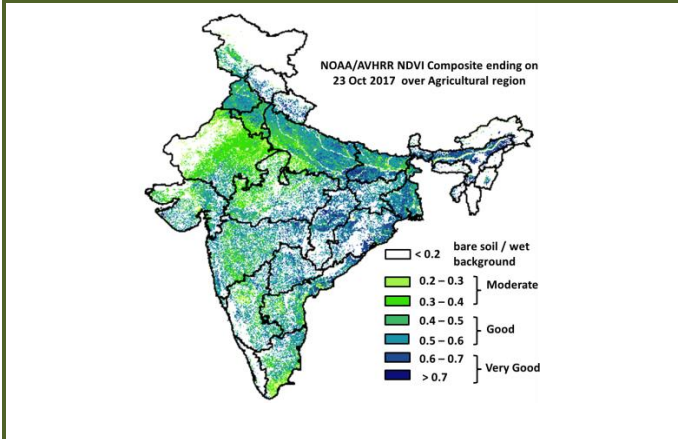
**Growing Degree Days for the season ending 25.10.2017**



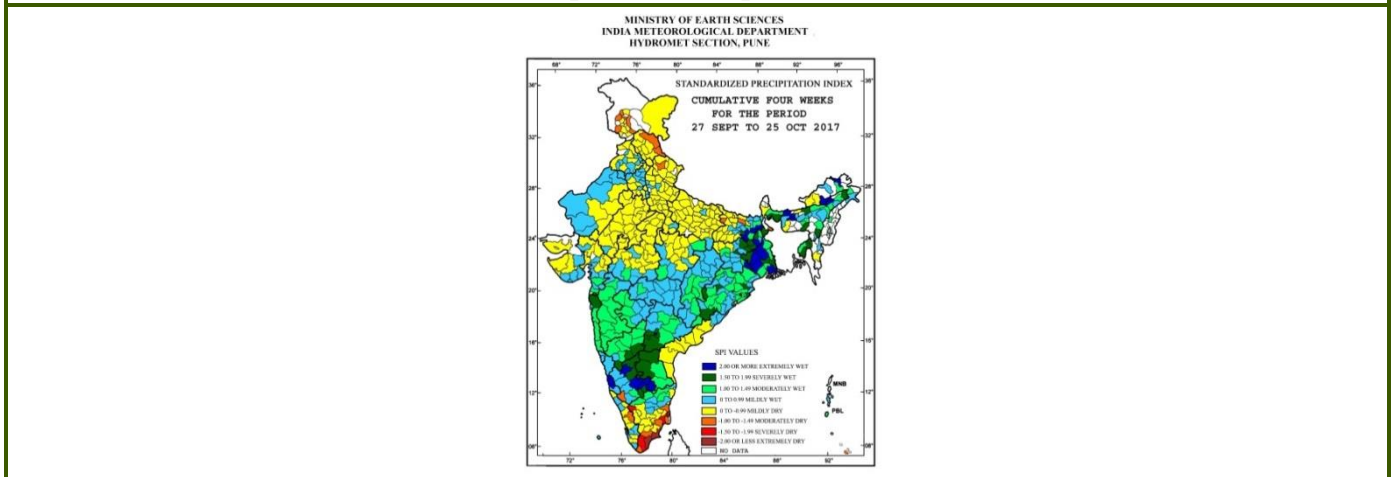
\* Base temperature for *Kharif* Season is taken as 10<sup>0</sup> C

**NOAA/AVHRR NDVI composite ending on 23<sup>rd</sup> October 2017 over Agricultural regions of India**

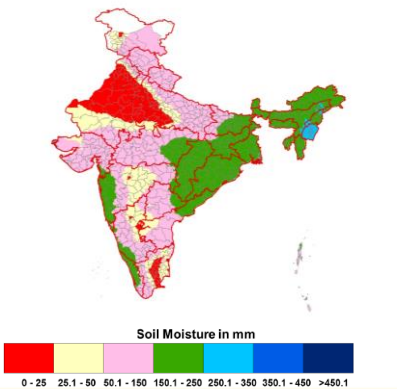
**Difference in NOAA/AVHRR NDVI between 16<sup>th</sup> and 23<sup>rd</sup> October 2017**



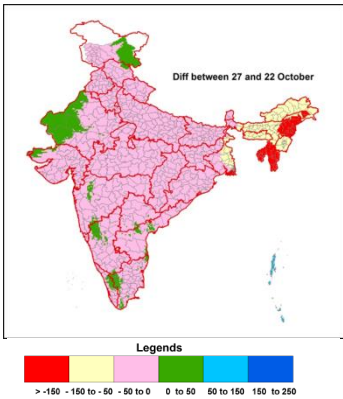
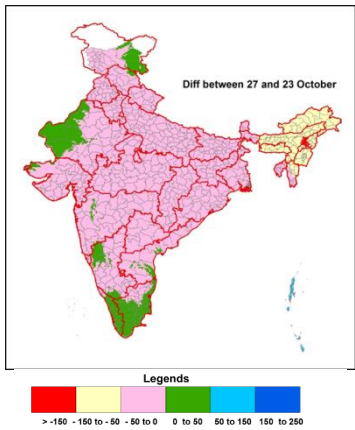
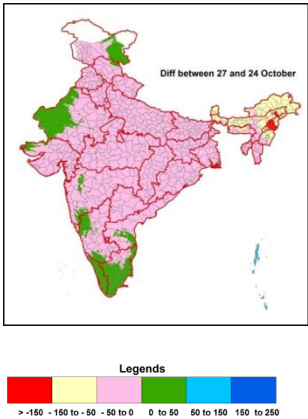
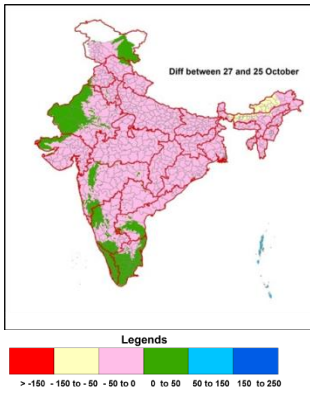
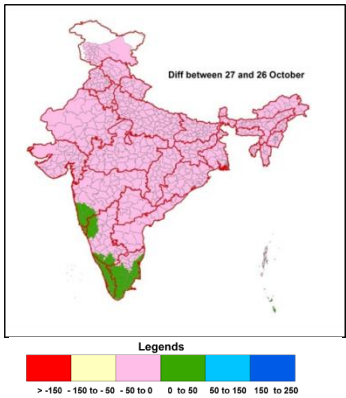
**Standardised Precipitation Index  
Cumulative 4 weeks for the period 27<sup>th</sup> September 2017 to 25<sup>th</sup> October 2017**



**Daily Soil Moisture (mm) for 27<sup>th</sup> October (ending at 0830 IST) for 1 m depth**



**Difference of Soil Moisture (mm) for 1 m depth**



## Northeast Monsoon

- In view of the establishment of northeasterly winds in the lower tropospheric levels along the east coast, the Northeast Monsoon rains have commenced over Tamilnadu & Puducherry, Kerala and adjoining areas of Andhra Pradesh and Karnataka from today, the 27<sup>th</sup> October, 2017.

### Weather Forecast for next 5 days valid upto 0830 hours of 1<sup>st</sup> November 2017

- Meteorological subdivision wise detailed 5 days rainfall forecast is given below.
- Minimum temperatures very likely to fall by 1-2°C over northwest India & adjoining parts of central India during next 48 hours.
- Shallow/Moderate fog at isolated places very likely over East Uttar Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Bihar, southern parts of Sub-Himalayan West Bengal and northern parts of Gangetic West Bengal during next 2-3 days.

### 5 Day Rainfall Forecast (Mid day) 27<sup>th</sup> October 2017

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

#### % Station Reporting Rainfall

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

### Weather Warning during next 5 days

- 27 October (Day 1):** Heavy rain very likely at isolated places over Tamilnadu & Puducherry and Kerala. Thunderstorm accompanied with lightning very likely at isolated places over southern parts of Konkan & Goa.
- 28 October (Day 2):** Heavy rain very likely at isolated places over Tamilnadu & Puducherry and Kerala.

- **29 October (Day 3):** No Weather Warning.
- **30 October (Day 4):** Heavy rain likely at isolated places over Tamilnadu & Pudducherry.
- **31 October (Day 5):** Heavy rain likely at isolated places over Tamilnadu & Pudducherry.

#### Weather Outlook for subsequent 2 days from 1<sup>st</sup> to 3<sup>rd</sup> November 2017

- A fresh Western Disturbance is likely to affect Western Himalayan region from 1<sup>st</sup> November.
- Rain at a few/many places likely over south peninsular India and Islands and at isolated/few places over east & northeast India.
- Rain/Snow at isolated places likely over Western Himalayan region.
- Weather is likely to be dry over the remaining parts of the country.

#### Salient Advisories

- As rainfall is very likely at most/many places over **Kerala** on 27<sup>th</sup>, 28<sup>th</sup> and 31<sup>st</sup> and over **Tamil Nadu & Puducherry** on 27<sup>th</sup>, 28<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup> October along with heavy rain likely at isolated places over Kerala on 27<sup>th</sup> and 28<sup>th</sup>, over Tamil Nadu & Puducherry on 27<sup>th</sup>, 28<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup> October, 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. Avoid harvesting of crops and keep harvested produce at safer places.
- As thunderstorm accompanied with lightning very likely at isolated places over Southern parts of **Konkan & Goa** on 27<sup>th</sup> October, provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds and keep cattle indoor. Keep harvested produce at safer places.
- In the Cauvery Delta Zone of **Tamil Nadu**, continue nursery field preparation of *thaladi* rice crop. In **Karnataka**, in Central Dry Zone, continue sowing of Bengal gram and harvesting of matured groundnut. In North Transition Zone, continue sowing of *rabi* sorghum (DSV-4, M 35-1 Muguthi, CSV-29R and SPV-2217), chickpea (Annigeri-1, JG-11 and BGS-964) under optimum soil moisture conditions. In North East Dry Zone, continue sowing of *rabi* sorghum and Bengal gram (JG -11, Annigeri -1, ICCV-10) crops. In **Jharkhand, Madhya Pradesh and Chhattisgarh**, undertake sowing of gram, pea, linseed and lentil crops and in **Jammu & Kashmir**, undertake field preparation for sowing of wheat and mustard. In **Haryana and Delhi**, continue sowing of mustard.
- In the South Zone of **Tamil Nadu**, prevailing high cloud cover and high humidity conditions are congenial for incidence of leaf hopper in cotton. To control, spray Imidachloprid 200 SL @ 100 ml/ ha after current spells of rain.

#### Detailed Zonewise Agromet Advisories

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

- **Realised Rainfall:** Rainfall occurred in Alappuzha, Ernakulam, Idukki, Kollam, Kottayam Pathanamthitta and Thiruvananthapuram districts of Kerala, Dindigul, Kanyakumari, Perambalur, Sivaganga and Tiruvannamalai districts of Tamil Nadu, Srikakulam and Vizianagaram districts of Coastal Andhra Pradesh during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rainfall is very likely at most/many places over Kerala on 27<sup>th</sup>, 28<sup>th</sup> and 31<sup>st</sup>, over Tamil Nadu & Puducherry on 27<sup>th</sup>, 28<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup> October, along with heavy rain likely at isolated places over Kerala on 27<sup>th</sup> and 28<sup>th</sup>, over Tamil Nadu & Puducherry on 27<sup>th</sup>, 28<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup> October, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.
  - **Kerala:**
    - In the Southern Zone, continue tapping of rubber and planting of Nendran bananas.
    - In the Problem Area Zone, ensure proper drainage in coconut, nutmeg and pepper fields and continue harvesting of Nendran bananas.
    - In the Northern Zone, continue planting of vegetables(okra) and harvest all matured crops quickly since heavy rain

is likely in the coming days.

- In the High Altitude Zone, undertake planting of polybag coffee seedlings, cultivation of short duration vegetable crops like amaranthus, cow pea etc. in the interspaces of newly planted banana crop and harvesting of green ginger and cardamom.
- In the Central Zone, spray Trichoderma @ 20g/litre of water on both sides of leaves of vegetables for powdery mildew attack. Apply Tebuconazole @ 1.5 ml/litre of water in cucurbitaceous vegetables, if powdery mildew is severe. For other vegetables, apply Wettable sulphur @ 2 g/litre of water after current spells of rain.
- In the Problem Area Zone, chances of occurrence of anthracnose disease in cow pea is more. Drench pits of cow pea with Copper oxy chloride @ 4g/ litre of water before planting as a prophylactic measure against the disease.

▪ **Karnataka:**

- In Coastal Zone, undertake harvesting of matured rice in clear weather.
- In Southern Transition Zone, undertake harvesting of matured groundnut and maize cobs.
- In Central Dry Zone, continue sowing of Bengal gram and harvesting of matured groundnut.
- In North Transition Zone, continue sowing of *rabi* sorghum (DSV-4, M 35-1 Muguthi, CSV-29R and SPV-2217), chickpea (Annigeri-1, BG-1105, BGD-103, JG-11 and BGS-964) under optimum soil moisture conditions. Undertake harvesting of matured groundnut and soybean.
- In North East Dry Zone, continue sowing of *rabi* sorghum and Bengal gram (JG -11, Annigeri -1, ICCV-10) crops. Undertake harvesting of matured bajra.
- In North East Transition Zone, continue new plantation of sugarcane (variety Co-86032) crop. In order to protect the tur crop from flower drop or pod drop, spray 20 ppm of Napthalene Acetic Acid @2ml in 100 liters of water and then spray 3 times at an interval of 15 days each.
- In Eastern Dry Zone, undertake sowing of short duration crops like ragi (Indaf-9, GPU- 45 & 66, ,PR- 202), cowpea (KBC-1, TVX-944 and PKB-4 for vegetable purpose), sunflower (Morden, KBSH-1,41,44 & 52 and Niger (KBN-1, No-71) and in black soils-Bengal gram (Annigeri-1, J.J-11, KAK-2, Vishal) under optimum moisture condition.
- In North East Dry Zone, infestation of Brown plant hopper is noticed in rice crop; to control, spray the crop with Chloropyrifos @ 2.0 ml or Monocrotophos @ 1.5 ml dissolved in one liter of water.
- In Southern Dry Zone, due to cloudy weather, there is chance of blast infection in rice and ragi nurseries; to manage the blast infection, spray Bavistin @ 1g/litre or Saaf @ 2g / litre of water.

▪ **Andhra Pradesh:**

- In the Krishna Godavari Zone, undertake sowing of Bengal gram and continue land preparation for sowing of blackgram.
- In the Scarce Rainfall Zone, procure seeds and keep inputs ready for sowing of groundnut under assured irrigated conditions, complete harvesting of July first fortnight sown groundnut crop(kharif) on clear weather days and heap the produce to avoid wetting in the rain. Continue sowing of Bengal gram in black soil areas after seed treatment.
- In the Southern Zone, undertake sowing of black gram in Chittoor district.
- In the Scarce Rainfall Zone, gall midge incidence was observed in late transplanted conditions in paddy. Present weather conditions are also favorable for further spreading of gall midge. Farmers are advised to apply Carbofuran 3G granules @10 kg/acre for control.

▪ **Telangana:**

- In North Telangana Zone, continue land preparation for sowing of maize, sowing of groundnut, cowpea and field bean.
- In South Telangana Zone, continue sowing of maize. Prevailing weather conditions are congenial for incidence of grain spot disease and increase in blast (leaf, neck and spikelet) disease in rice. To control grain spot disease, spray Propiconazole @ 1 ml / litre of water twice at 7-10 days interval. To control blast (leaf, neck and spikelet) disease in rice, spray Isoprothiolane @ 1.5 ml/r litre of water twice at 7-10 days interval.
- In North Telangana Zone, incidence of false smut will be seen in rice at flowering stage due to high relative humidity and rains. To control, undertake prophylactic spraying of Propiconazole @1ml/litre of water twice at 50 and 100% panicle emergence.

▪ **Tamil Nadu:**

- In the Cauvery Delta Zone, continue nursery field preparation of thaladi rice crop.
- In the High Altitude Hilly Zone, drainage facilities should be created in the field to drain off excess water. To increase the berry size in pepper crop, foliar spray of Napthalene Acetic Acid (NAA) @ 40 ppm (40 mg/litre of water) can be done.
- In the Western Zone, rain and high relative humidity is congenial for rhizome rot infection in turmeric. Drench with Bordeaux mixture @ 1% to control rhizome rot. Leaf spot also would vigorously spread in turmeric belt due to wind speed of 10km/hr, high relative humidity and rainfall. Spray mancozeb 1kg/ha after current spells of rain.
- In the High Rainfall Zone, spray Malathion 50 EC @ 500 ml/ha to control earhead bug in rice after current spells of rain.
- In the South Zone, prevailing high cloud cover, moderate rainfall and high humidity conditions are congenial for incidence of leaf hopper in cotton. To control, spray Imidachloprid 200 SL @ 100 ml/ ha after current spells of rain.



- **Animal Husbandry**

- In the Problem Area Zone of Kerala, avoid moist conditions in cattle shed to prevent incidence of foot rot.
- In the Cauvery Delta Zone of Tamil Nadu, vaccinate lambs to protect them from problems associated with excess grazing like Enterotoxaemia disease. Restrict the time that they spend in pastures.
- In the Western Zone of Tamil Nadu, considering the morning relative humidity and past week wet spell, both poultry and cattle feeds may be contaminated with Aflatoxin fungus. Enough care must be taken against the dysentery and diarrhea.
- In the Southern Zone, prevailing weather condition is congenial for incidence of Black quarter disease in cow. Death usually occurs within 24 hours. Hyper immune serum (HIS) is used to control explosive outbreaks. Penicillin along with HIS is used to treat the disease. Vaccinate the cow before one month of rainy season.
- In Southern Dry Zone of Karnataka, maintain the optimum room temperature in sericulture, poultry and dairy unit by providing electric bulb.

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

- **Realised Rainfall:** Rainfall occurred in Changlang, East Siang, Lohit, Pupumpare, Tirap, Upper Siang, Upper Subansiri, West Kameng and West Siang districts of Arunachal Pradesh, all districts of Assam & Meghalaya, Aizwal and Serchhip districts of Mizoram, Imphal East and Imphal West districts of Manipur, Dimapur and Kohima districts of Nagaland and all districts of Tripura during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rainfall is very likely at many places over Nagaland, Manipur, Mizoram & Tripura on 31<sup>st</sup> October, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.
  - **Assam & Meghalaya, Arunachal Pradesh:**
    - In Arunachal Pradesh, continue nursery sowing of hybrid tomato, cabbage and cauliflower. Undertake sowing of black gram and green gram in the fallow of jhum rice without delay. Avoid water logging in the field. Undertake harvesting of cucurbits. Undertake harvesting of soybean and mature cobs of maize. Continue sowing of pea. Maintain optimum water level in the rice fields where crop is in grain filling stage. Alternate drying and wetting of field is highly desirable in WRC field.
    - In Meghalaya, maintain water level of 2-5 cm in rice. Continue nursery preparation of cabbage, broccoli and cauliflower.
    - In the North Bank Plain Zone of Assam, continue land preparation for sowing of rape seed and mustard. Optimum sowing period is from 20<sup>th</sup> October to 20<sup>th</sup> November. Continue planting of early varieties of potato as low rainfall is forecast during next 6days. Continue sowing of Knolkhol, brinjal and tomato. Continue relay cropping with suitable varieties of pea in the rice field 20- 25 days before harvesting the Sali paddy.
    - In Barak Valley Zone of Assam, continue planting of potato during mid-October to mid-November. Complete field preparation and undertake sowing of rape seed (TS-36, TS-38 and TS-29 varieties).
    - In Lower Bramhaputra Valley Zone of Assam, continue land preparation for planting of potato. Undertake sowing of cabbage, spinach, garlic and transplanting of brinjal.
    - In the North Bank Plain Zone of Assam, at PI, milky and dough stage of Sali paddy, take plant protection measure against Gundhi bug based on ETL. Apply Malathion 5% dust @ 20 kg/ha to control rice bug infestation in *Sali* rice.
    - In Central Bramhaputra Valley Zone and North Bank Plain Zone of Assam, continue land preparation for sowing of rapeseed-mustard. Undertake nursery sowing of brinjal and cole crops. Undertake land preparation for wheat and Rabi pulses. Undertake landpreparation and planting of potato.
    - In Arunachal Pradesh, install local trap of dead frog/fermented fish etc against gundhi bug in rice or spray triazophos/chloripyriphos@1- 2ml/litre. Maintain the periphery of nursery field weed free and clean to prevent disease and pest harboring in weeds. Apply need based spray of Flubendiamide 3.5% + Hexaconazole 5% @ 2ml/litre of water.
    - In Barak Valley Zone of Assam, apply 5% Malathion dust @ 20 kg per hector of land against gundhi bug at milky stage in Sali rice.
  - **Nagaland, Mizoram, Manipur and Tripura:**
    - In Manipur, harvest rice crop if 75-80 % of the spikelet is yellow in clear weather . Clean and sun-dry seeds to properly attain optimum moisture content before storage. Undertake sowing of rapeseed, field pea and lentil after harvesting rice/ soybean/ groundnut/ blackgram/ rice bean to make full utilization of the residual moisture. Undertake land preparation/ sowing of coriander, spinach, French bean and broad bean. Continue transplanting of cabbage and cauliflower.
    - In Mizoram, continue sowing of *rabi* maize, toria and nursery sowing of early cole crop, brinjal, chilli, capsicum, French bean and onion. Maintain water level in kharif rice.
    - In Nagaland, Follow sanitation during drying, milling and after milling at harvesting stage to avoid contamination of grains and protect from insects, rodents and birds. Continue land preparation for sowing of toria and *rabi* maize. Undertake nursery preparation of vegetables like cabbage, cauliflower, knolkhol, broccoli, radish and tomato.



- In Mizoram, use any systemic insecticide like Monocrotophos 1 ml/litre of water for light damage and 2 ml/litre of water for heavy damage due to rice leaf roller in Kharif rice.
- **Animal Husbandry**
- In Hill Zone of Assam, ensure proper ventilation in poultry houses. Replace the poultry houses with fresh litter and keep the houses clean. Climate is congenial for attack of Diathermia, advice to increase protein in feed of poultry birds.
- In the Barak Valley Zone of Assam, feed calcium and Vitamin supplements to the dairy cattle to have good productive and reproductive performance. Use lime powder as calcium source up to 2 kg per 100 kg of feed for Layer birds and provide them light during the night time to have more egg production.
- **Fishery**
- Add 2 to 5% vitamin mineral mixture in fish feed for good growth and to strengthen immunity in fish.

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

- **Realised Rainfall:** Weather remained mainly dry/dry over the region during the week.
- **Advisories:**
  - As thunderstorm accompanied with lightning very likely at isolated places over Southern parts of Konkan & Goa on 27<sup>th</sup> October, provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds and keep cattle indoor. Keep harvested produce at safer places.
  - **Maharashtra:**
    - In North Konkan, continue harvesting of early maturing rice varieties and start harvesting of mid late and late maturing rice varieties. Harvest crop during morning to afternoon hours, dry the harvested crop for 1-2 days, store the harvested crop in shed after threshing. Do not apply any insecticides/fungicides 8 days before harvesting of matured rice crop. Start harvesting already matured finger millet.
    - In Madhya Maharashtra, continue harvesting of matured rice and nagli in morning hours. Complete the sowing of rabi crops like jowar, safflower & gram in available soil moisture. Undertake land preparation for sowing of wheat & keep the land weed free. Undertake planting of rabi potato.
    - In Marathwada, undertake sowing of gram upto first week of November. Select varieties like Vijay, Vishal, Digvijay, Akash (BDNG-797), Vikas, BDN-9-3 for sowing. Continue sowing of irrigated safflower upto 5th November. Select varieties like Sharda, Parbhani Kusum (PBNS-12) and PBNS-40. Undertake land preparation and planting of preseasonal sugarcane. Select varieties like CO-86032, CO-94012, CO-0265, COVIAS-03102, COVIAS-9805 and CO-92005 for planting. Apply light irrigation to vegetables.
    - In East Vidarbha, undertake harvesting of early maturing rice varieties. In late maturing rice varieties maintain 5-7 cm water level in rice field. In low water logging area there may be incidence of brown plant hoppers in rice, spray 50% Malathion @ 10 ml or Cypermethrin @ 3 ml per 10 litres of water. Sucking pest is observed in cotton, spray Dimethoate 30% @ 10 ml or Methyl Dimeton 25% @ 8 ml / 10 liter of water. For control of white flies in vegetable, use yellow sticky trap in the field.
    - In Konkan, due to change in weather, if the new flush is occurred in cashew, regular supervision should be done for attack of Tea mosquito bug, leaf miner and leaf eating/cutting beetle. If noticed spray 36 % Monocrotophos @ 14 ml per 10 litres of water.
  - **Gujarat:**
    - In South Gujarat Heavy Rainfall Zone, continue land preparation for *rabi* pulses like Indian bean, gram, green gram crops; continue planting of sugarcane crop, nursery preparation of chilli and brinjal and sowing of offseason okra. Complete harvesting/threshing of rice crop.
    - In South Gujarat Zone, continue sowing of sweet corn crop. Under present weather condition, spread plastic or fodder on the soil in vegetable crops for soil moisture conservation. As there is an increase in temperature, apply irrigation in fruit crops.
    - In South Saurashtra Zone, keep inputs ready for sowing of wheat, chickpea, coriander and garlic. Complete harvesting of matured groundnut, pulse crops (black gram, green gram), sesame and soybean.
    - In North Gujarat Zone and North West Zone, complete harvesting of matured groundnut, sesame, bajra, maize, green gram and cowpea. Continue land preparation for sowing of mustard, carrot and *rabi* fennel crops in North Gujarat Zone and for mustard crop in North West Zone.
    - In Bhal and Coastal Zone, undertake sowing of *rabi* crops like wheat, chickpea and mustard and nursery preparation of cauliflower and brinjal.
    - In North Saurashtra Zone, continue sowing of garlic (Gujarat Garlic-5 or Local), gram (Gujarat chana-2 (unirrigated), Gujarat chana-3 (irrigated), mustard (Varuna, Gujarat rai-3) crop. Complete harvesting of groundnut and keep harvested produce in safe place. Undertake intercultural operations to maintain the soil moisture and to control weeds. Undertake mulching by using dry grass, crop residues etc.
    - In Middle Gujarat Zone, continue harvesting of rice, groundnut, sesame, pearl millet and green gram crops. Undertake land preparation for sowing of *rabi* crops. Keep inputs ready for sowing of *rabi* crops, Plan for sowing

according to availability of irrigation water; under prevailing high temperature wait for sowing of rabi crops.

- In North Saurashtra Zone, heavy infestation of prodenia observed in castor; spray Quinalphos @ 20 ml in 10 liters of water for control. Pink boll worm infestation was noticed in cotton; pick and burry the infested flowers/bolls in soil for control. Also spray Profenofos 50 EC @ 20 ml or Cypermethrin @ 10 ml in 10 liters of water.
- **Animal Husbandry**
- In Gujarat, for prevention of foot & mouth diseases in animals do vaccination with FMD vaccine. Provide 6-8 kg good quality dry roughage with 15-20 kg green fodder to the animals.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands, all districts of Gangetic West Bengal, Cooch Behar, Jalpaiguri, Malda and North Sikkim districts of Sub-Himalayan West Bengal & Sikkim, Araria, Bhagalpur, Kishanganj and Purnea districts of Bihar, Bokaro, Deogarh, Dhanbad, Dumka, East Singbhum, Giridh, Godda, Jamtara, Latehar, Pakur, Ramgarh, Ranchi, Saraikela and West Singbhum districts of Jharkhand, all districts of Odisha except Bargarh, Bolangir, Deogarh, Jharsuguda, Malkangiri, Nawapada and Sambalpur during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rain/thundershowers very likely at many places over Andaman & Nicobar Islands on 30<sup>th</sup> and 31<sup>st</sup> October, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.
  - **Odisha:**
    - In Western Undulating Zone, as dry weather would prevail during the period, undertake harvesting of maize, rice and picking of cotton. Undertake nursery sowing of tomato, onion cabbage and cauliflower.
    - In North Eastern Ghat Zone, continue sowing of sesame. In short duration varieties of rice, apply 15kg Urea and 10kg MOP and in medium duration varieties apply 18kg Urea with 13kg MOP at Panicle initiation stage.
    - In Mid Central Table Land Zone, start nursery raising of cole crops as soon as possible and undertake harvesting of groundnut at the earliest.
    - In North Central Plateau Zone, continue land preparation for sowing of mustard and sesame in fallow uplands.
    - In North Eastern Coastal Plain Zone, current weather is favourable for attack of top shoot borer and Pyrilla in sugarcane. Following control measures should be adopted after cessation of rain, for control of top shoot borer, release bio agent *Trichogramma chilonis* @ 50000/acre at a time for 4-6 times and for pyrilla, spray Chloropyriphos or Fipronil @ 400 ml/acre in 200 litre of water.
    - In Western Undulating Zone, in the prevailing weather, sucking pests like aphids, jassids infestation may occur in cotton at boll development stage. Spray Acephate 75% SP 400g or imidacloprid 17.8% SL 50ml or thiomethaxome 25% WG 60g or buprofezin 25% SC 400 ml or Flonicamide 50% WG 80g for control.
  - **Bihar:**
    - In North East Alluvial Zone, continue field preparation for sowing of lentil, mustard, maize and pea. Continue planting of early variety of potato.
    - In South Bihar Alluvial Zone, present weather conditions are highly favourable for incidence of blast disease in rice, spray Bavistin 2 g/litre of water 2-3 times with an interval of 10 day. In North East Alluvial Zone, for control of shoot borer in sugarcane, spray Chlorpyriphos 20 EC @ 3ml/litre of water.
  - **Jharkhand:**
    - In South Eastern Plateau Zone, after harvesting of rice, undertake land preparation for sowing of mustard. Improved varieties of like – Pusa bold, Shivani, Varuna, Kranti, JD 6 and Sedge 2 etc. can be undertaken by treating the seed with Bavistin @ 2g per kg seed. Generally 3 kg seed for an acre land is sufficient by maintaining plant to plant 30 cm and row to row 10 cm distance.
    - In Western Plateau Zone, continue harvesting of matured rice. After harvesting of rice, farmers having at least 3-4 irrigation facility may undertake cultivation of wheat, potato and green pea and those who have only 2 - 3 irrigation facility may proceed for gram, toria and mustard sowing. For sowing of toria select varieties like T.-9, B.R.-23 and P.T.-303. Undertake field preparation and sowing of mustard and select the improved varieties like Shiwani, Varuna, Pusa Bold, BR-40 etc. Select varieties like Kufri Ashoka, KufriPukhraj, KufriLalima, KufriPushkar and Kufri Kanchan for planting of potato and Arkel, Kashi Nandini, P.E.-6, Birsa Matar varieties for sowing of green pea.
    - In Central and North Eastern Plateau Zone, undertake nursery bed preparation for tomato, cabbage, cauliflower and brinjal. Continue land preparation for sowing of mustard, potato and pea.
  - **West Bengal:**
    - In Coastal Saline Zone, keep the field and drainage channels weed free. Drain out excess water from Aman paddy field and maintain only 1-1.5 inch water level. Undertake sowing mustard as paira crop in the field of aman paddy with residual moisture.
    - In the New Alluvial Zone, continue harvesting of Aman rice. Continue sowing of mustard, radish and broccoli.

- In the Old Alluvial Zone, continue transplanting of cabbage and cauliflower.
- In Laterite and Red Soil Zone, for control of Gundhi bug in rice, spray Neem Oil @ 5ml/litre of water during early hours of the day.
- In Coastal Saline Zone, spray Triazophos @ 1.5 ml/litre of water for stem borer attack and Chlorpyrifos @1.5 ml/litre of water for leaf roller attack in Aman rice.
- **Andaman & Nicobar Islands**
- In North and Middle Andaman, apply FYM @ 10 kg/plant along with 5 kg neem cake to recover the coconut plant affected with coconut leaf eating caterpillar after current spells of rain.
- **Animal Husbandry**
- In Mid Central Table Land Zone of Odisha, vaccinate calves above three months and sheep and goat above two months against Foot and Mouth disease. Go for deworming in animals . For the control of tick, spray Deltamethrin or Amitaz 20 ml/10 litres of water. Animal sheds should be kept clean and dry and be disinfected by fumigation and white washing with lime. Clean and sufficient drinking water should be made available.
- **Fisheries**
- In Mid Central Table Land Zone of Odisha, apply raw cow dung (RCD) @1000kg/acre of pond size. After 5 days of application of RCD apply 30 kg of DAP/acre and then after 3 days of application of DAP stocking should be done @ 2000 yearlings/ac OR fingerlings @ 3000/acre OR Fry @ 8000/acre of pond size.

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

- **Realised Rainfall:** Rainfall occurred in Bemetara district of Chhattisgarh during the week and weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - **Madhya Pradesh:**
    - In Kymore Plateau and Satpura Hill Zone, continue nursery preparation of cauliflower and cabbage. Undertake sowing of mustard, lentil and garden pea.
    - In Malwa Plateau Zone, undertake transplanting of vegetables. Undertake sowing of chickpea, potato, pea and garlic.
    - In Jhabua Hill Zone, continue sowing of mustard and chickpea.
    - In Gird Zone, undertake sowing of mustard, chickpea, pea, lentil and planting of potato.
    - In Central Narmada Valley Zone, undertake sowing of mustard, lentil and garden pea.
    - In Bundelkhand Zone, continue sowing of linseed, chickpea, lentil, pea and mustard. Undertake planting of potato and seed bed preparation for onion.
  - **Chhattisgarh:**
    - In North Hill Zone, undertake harvesting of matured rice. Continue transplanting of winter vegetables like cauliflower, cabbage, chilli, tomato, brinjal etc. Continue sowing of *rabi* crops like toria, mustard, green pea, gram and linseed. Continue planting of potato and arrange seed & fertilizer for cultivation of rain fed wheat, if having assured irrigation facility.
    - In Bastar Plateau Zone, continue nursery preparation for *rabi* vegetables. Continue sowing of toria. Undertake sowing of gram, pea, linseed and lentil crops.
    - In Chhattisgarh Plain Zone, continue nursery sowing of vegetables. Undertake sowing of *rabi* crops like chickpea, linseed etc. Undertake harvesting of matured green gram and black gram.
    - In Chhattisgarh, symptoms of sheath blight in rice crop have been noticed. Spray Hexacabazole fungicide @ 1ml/litre of water on the affected parts. If necessary, spray should be repeated after 12-15 days.
- **Animal Husbandry**
  - In Madhya Pradesh, vaccinate the poultry birds to prevent Ranikhet disease. Provide green fodder, fresh and clean water three times a day to cattle.
  - 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:** Weather remained mainly dry/dry over the region during the week.
- **Advisories:**
  - **Jammu & Kashmir:**
    - In Sub Tropical Zone, as mainly dry weather would prevail, continue harvesting of matured pulses, rice and maize. Continue transplanting of cole crops and sowing of mid season pea. Complete sowing of garlic.
    - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, make preparations for timely sowing of wheat crop. The fields that have been vacated are required to be ploughed and prepared for conservation of moisture to keep them ready for timely sowing of wheat crop. Field preparation should be done with care as conservation of



moisture is dependent on it. Farmers are also advised to undertake sowing of mustard (var. Kranti, RLM 619, Varuna and RH 30 ) and oats crop (var. Kent and Sabzar) subject to the availability of moisture. Continue nursery sowing of late cauliflower and onion crop.

▪ **Uttarakhand:**

- In Sub Humid Sub Tropic Zone, undertake sowing of toria and harvesting of maize. Undertake nursery sowing of tomato.
- In Udham Singh district of Bhabar and Tarai Zone, continue harvesting of early and mid season variety of paddy. In irrigated areas continue sowing of radish and turnip and 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.

▪ **Punjab, Haryana and Delhi:**

- In Delhi, continue sowing of mustard using varieties like PusaTarak, Pusa Mahak. Continue sowing of carrot in the raised bed. Continue field preparation for early pea. Continue nursery preparation on raised bed for mid season cauliflower (Nov.- Dec.). Continue sowing of sarsonsaag and transplanting of green onion seedling in the prepared fields. Undertake planting of early potato in the fields.
- In Haryana, in Western Zone, as dry weather would prevail, continue picking of cotton. Continue sowing of mustard with varieties RH-30,RH-0749,RH-0406, Varuna , Laxmi etc if sufficient moisture is available in soil. In Eastern Zone, apply irrigation to late sown Basmati varieties to avoid water stress during anthesis and grain filling stage.
- In Western Zone of Punjab, continue sowing of wheat under irrigated condition. As dry weather would prevail, apply irrigation in rice and cotton fields as per requirement. Continue planting of early potato and “desi” varieties of radish (Punjab Pasand), turnip (L-1) and carrot (Punjab Black Beauty, Punjab Carrot Red and PC 34). In Western Plain Zone continue sowing of raya, berseem, onion, tomato, pea and chick pea. Complete sowing of potato.
- In Haryana, in Western Zone, there may be infestation of bacterial blight in cotton, if infestation is above ETL then spray 800g Copperoxychloride mixed with 250 water per acre in clear weather. In Eastern Zone there may be attack of hoppers on paddy, if infestation is above ETL then spray 330ml buprofezin(Tribune) 25SC or 250ml Monocrotophos 36SL or 125 ml Dichlorvos(Nuvan) 76 EC or 400g Carbaryl 50 WP in 200 litres water per acre.

▪ **Himachal Pradesh:**

- In High Hill Temperate Dry Zone, undertake harvesting of matured vegetables and apply irrigation in oat and undertake weeding.
- In Solan Shimla, Bilaspur and Sirmour districts of Mid Hills Sub Humid Zone, continue sowing of carrot, radish, spinach and turnip.
- In High Hills Temperate Wet Zone, to control grass hopper (tela) insect in cole crops, spray Melathian @15ml in 15 litre of water. To protect the fruit plants (litchi, Apple etc.) from direct sun shine which may cause canker disease, white wash the stem upto first branch and also on branches of sunny side with the solution of 30 kg white wash + 500 gram copper sulphate +500 ml linseed oil in 200 litre of water.
- In High Hills Temperate Dry Zone, for control of canker in apple plants post harvest, spray copper oxychloride 600gms/200litres of water.

▪ **Uttar Pradesh:**

- In Varanasi district of Central Plain Zone of Uttar Pradesh, undertake harvesting of matured rice. Continue sowing of pea, mustard, chickpea and linseed. Undertake sowing of wheat, barely and planting of garlic and potato.
- In Kanpur district of Central Plain Zone, undertake harvesting of matured rice. Continue sowing of winter vegetable like spinach, fenugreek, coriander, carrot, radish etc. Undertake sowing of mustard, gram, pea and planting of potato.

▪ **Rajasthan:**

- In Semi Arid Eastern Plain Zone, complete sowing of mustard and gram, continue sowing of pea, spinach and garlic.
- In Flood Prone Eastern Plain Zone, continue sowing of lentil and planting of potato. Undertake weeding and thinning in mustard.
- In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, complete sowing of mustard. Undertake land preparation for sowing of wheat. Preparation of seed bed should be done for raising nursery of onion, chilli, brinjal, cauliflower, cabbage and tomato for *rabi* season.

• **Animal Husbandary:**

- In Jammu & Kashmir, Nomads/Bakarwals are advised to deworm their flocks using Panacur @ 7.5 mg/kg body weight to avoid the economic losses. Vaccination should be done against foot & mouth disease, Haemorrhagic Septicemia etc. to avoid economic losses to livestock keepers. Vaccination of chicks against Fowl pox disease should be done at 6 weeks of age. Ventilation and hygiene should be maintained in the poultry house.

- 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.