



# *National Agromet Advisory Service Bulletin*



*Friday 3<sup>rd</sup> November 2017*  
*(For the period 3<sup>rd</sup> to 8<sup>th</sup> November 2017)*



*Issued by*  
*India Meteorological Department*

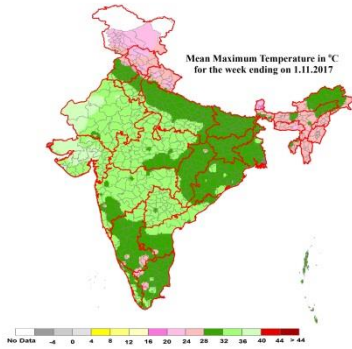
**Weblink For**

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

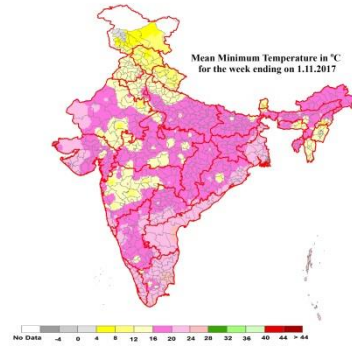
**State Composite AAS Bulletin:** <http://www.imdagrimet.gov.in/node/3544>

**Spatial distribution of weather parameters for the week ending 01.11.2017**

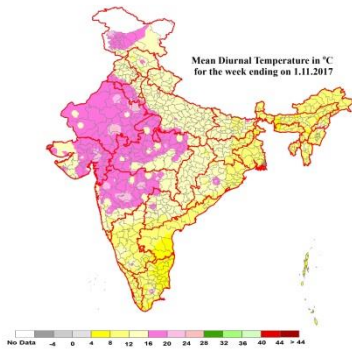
**Mean Maximum Temperature (°C) for the week ending 01.11.2017**



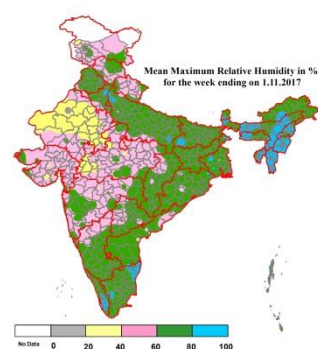
**Mean Minimum Temperature (°C) for the week ending 01.11.2017**



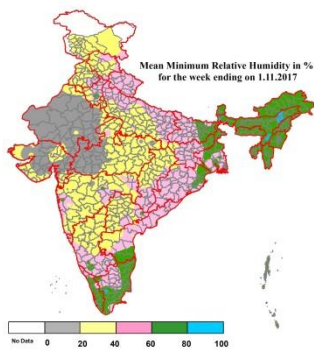
**Mean Diurnal Temperature Variation (°C) for the week ending 01.11.2017**



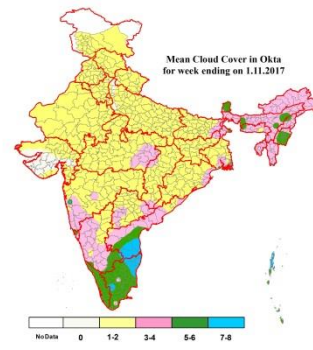
**Mean Maximum Relative Humidity (%) for the week ending 01.11.2017**



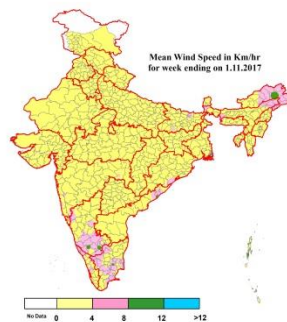
**Mean Minimum Relative Humidity (%) for the week ending 01.11.2017**



**Mean Cloud Cover (okta) for the week ending 01.11.2017**

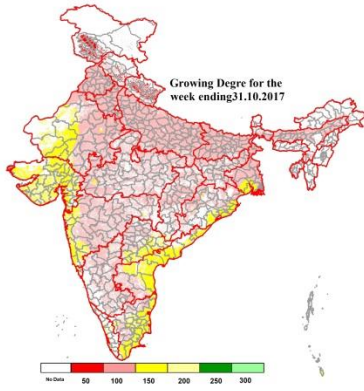


**Mean Wind Speed (km/hr) for the week ending 01.11.2017**

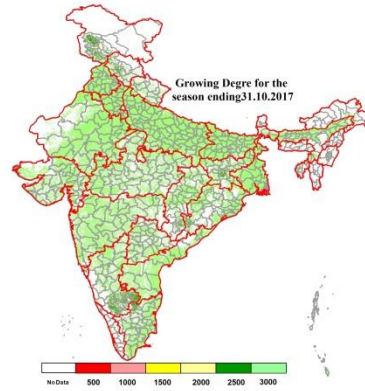




**Growing Degree Days for the week ending 31.10.2017**

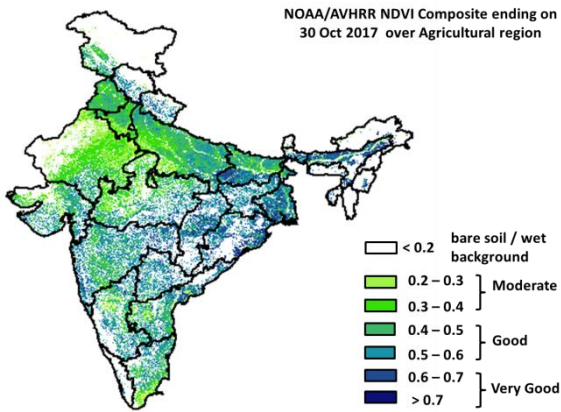


**Growing Degree Days for the season ending 31.10.2017**

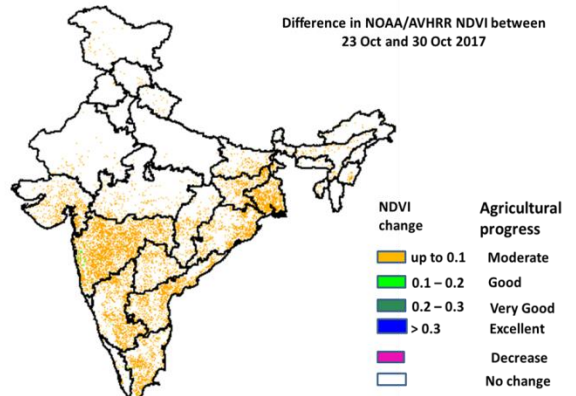


\* Base temperature for *Kharif* Season is taken as 10<sup>0</sup> C

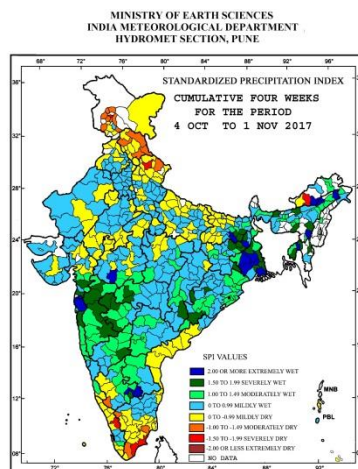
**NOAA/AVHRR NDVI composite ending on 30<sup>th</sup> October 2017 over Agricultural regions of India**



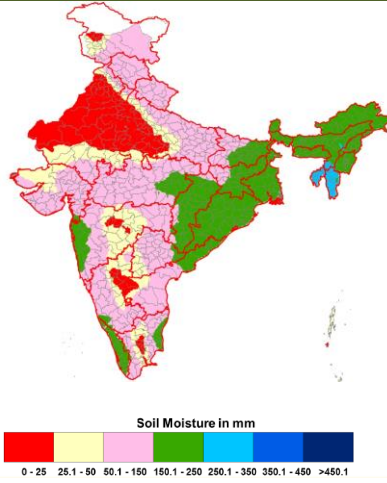
**Difference in NOAA/AVHRR NDVI between 23<sup>rd</sup> and 30<sup>th</sup> October 2017**



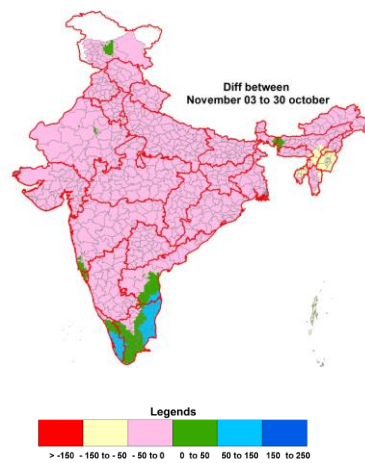
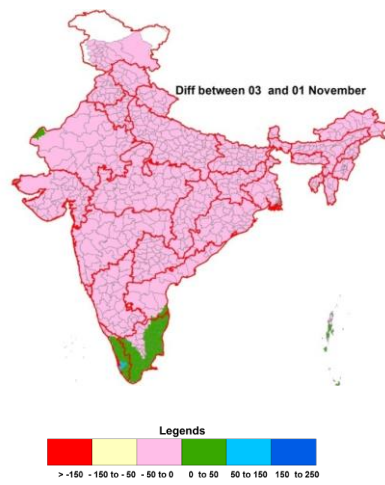
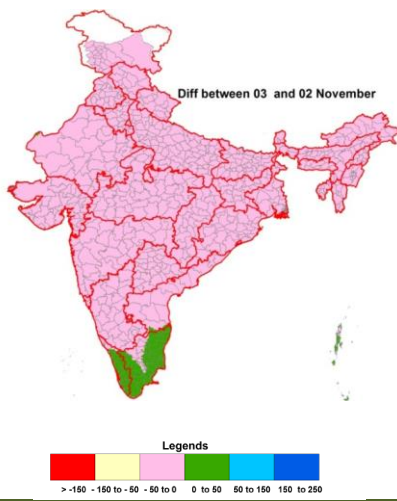
**Standardised Precipitation Index  
Cumulative 4 weeks for the period 4<sup>th</sup> October to 1<sup>st</sup> November 2017**

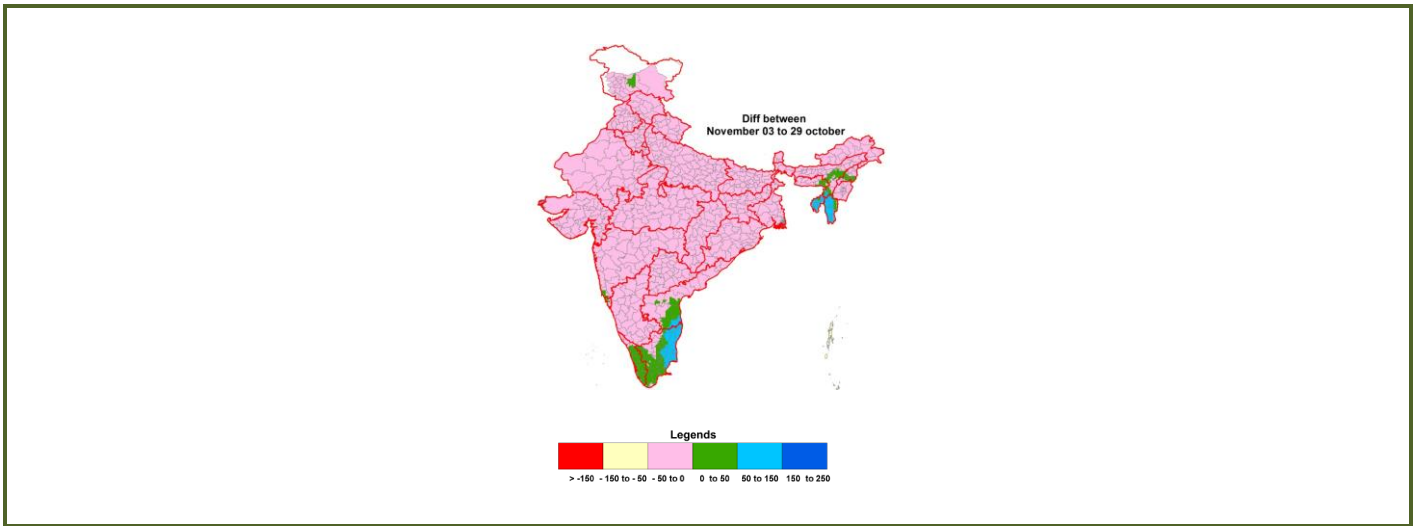


Daily Soil Moisture (mm) for 3<sup>rd</sup> November (ending at 0830 IST) for 1 m depth

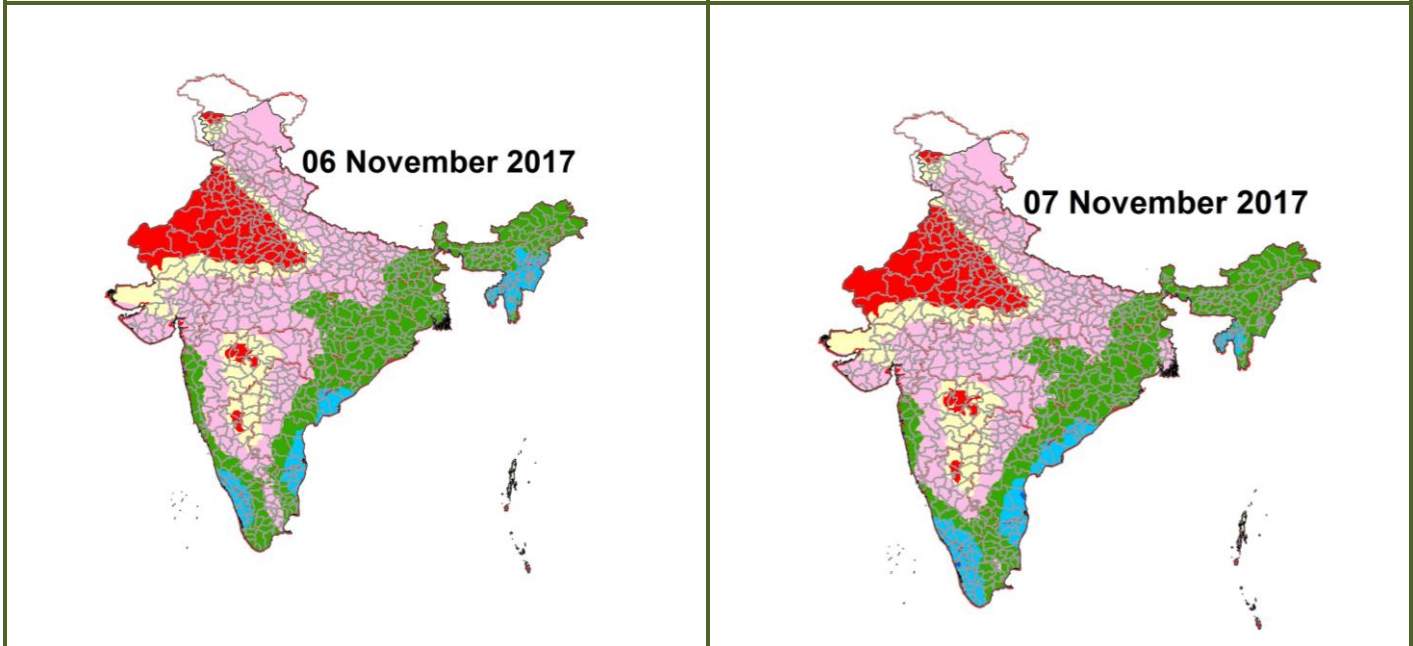
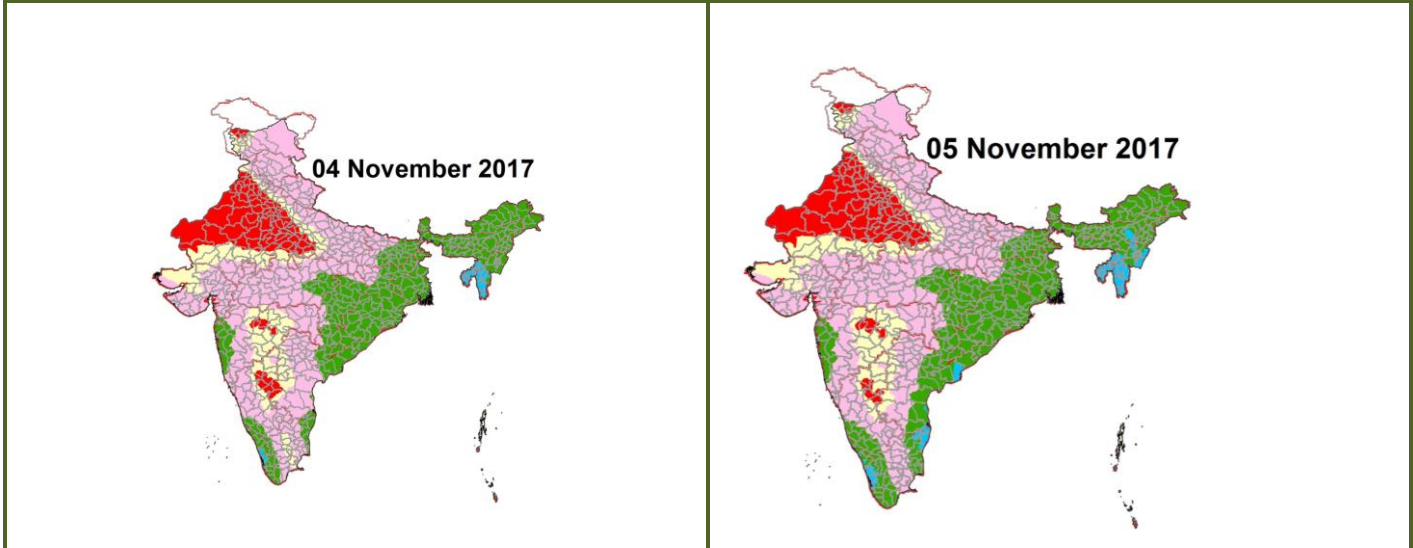


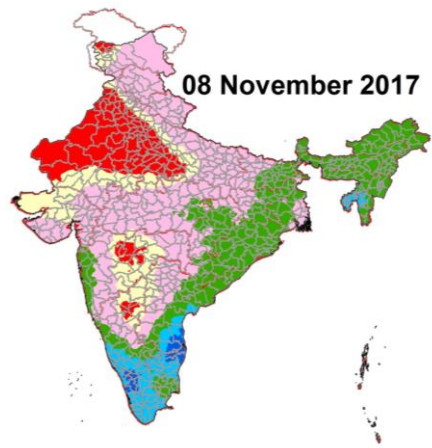
Difference of Soil Moisture (mm) for 1 m depth





**Forecasted Soil Moisture (mm) from 4<sup>th</sup> November to 8<sup>th</sup> November 2017 (ending at 0830 IST) for 1 m depth**





## Northeast Monsoon

- Northeast monsoon remained active over Tamilnadu & Puducherry.

### Weather Forecast for next 5 days valid upto 0830 hours of 8<sup>th</sup> November 2017

- Meteorological subdivision wise detailed 5 days rainfall forecast is given below.
- No significant change in Minimum temperatures likely over northwest India & adjoining parts of central India during next 3-4 days.
- Shallow to moderate fog at isolated places very likely over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and north Bihar during next 3 days.

#### 5 Day Rainfall Forecast (Mid day) 3<sup>rd</sup> November 2017

Met-Sub-Division	03-Nov Today	04Nov Sat	05Nov Sun	06Nov Mon	07Nov Tue
1. Andaman & Nicobar Islands	SCT	SCT	SCT	WS	WS
2. Arunachal Pradesh	DRY	DRY	DRY	DRY	DRY
3. Assam & Meghalaya	DRY	DRY	DRY	DRY	DRY
4. N. M. M. & T.	DRY	ISOL	ISOL	DRY	DRY
5. S.H. West Bengal & Sikkim	DRY	DRY	DRY	DRY	DRY
6. Gangetic West Bengal	DRY	DRY	DRY	DRY	DRY
7. Odisha	DRY	ISOL	ISOL	DRY	DRY
8. Jharkhand	DRY	DRY	DRY	DRY	DRY
9. Bihar	DRY	DRY	DRY	DRY	DRY
10. East Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
11. West Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
12. Uttarakhand	ISOL	DRY	DRY	DRY	DRY
13. Haryana, Chd & Delhi	DRY	DRY	DRY	DRY	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	DRY	DRY	DRY	DRY	DRY
16. Jammu & Kashmir	DRY	DRY	DRY	DRY	DRY
17. West Rajasthan	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	DRY	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	DRY	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	SCT	SCT	SCT	ISOL
29. Telangana	DRY	DRY	ISOL	ISOL	DRY
30. Rayalaseema	ISOL	ISOL	SCT	SCT	ISOL
31. Tamilnadu & Puducherry	FWS	SCT	SCT	SCT	SCT
32. Coastal Karnataka	ISOL	ISOL	ISOL	ISOL	SCT
33. North Interior Karnataka	DRY	DRY	DRY	ISOL	ISOL
34. South Interior Karnataka	ISOL	ISOL	SCT	SCT	SCT
35. Kerala	SCT	FWS	FWS	FWS	SCT
36. Lakshadweep	ISOL	ISOL	SCT	SCT	SCT

#### % Station Reporting Rainfall

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

#### Weather Warning during next 5 days

- 03 November (Day 1):** Heavy rain at a few places with heavy to very heavy rain at isolated places very likely over Coastal Tamilnadu & Puducherry; heavy rain at isolated places over Interior Tamilnadu, Rayalaseema and south Coastal Andhra Pradesh. Thunderstorm accompanied with lightning at isolated places very likely over south Coastal Andhra Pradesh, Tamilnadu & Puducherry and Kerala. Moderate to dense fog very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, and Uttar Pradesh.
- 04 November (Day 2):** Heavy rain at isolated places very likely over Tamilnadu & Puducherry, Rayalaseema and south Coastal Andhra Pradesh. Thunderstorm accompanied with lightning at isolated places very likely over south Coastal Andhra Pradesh, Tamilnadu & Puducherry and Kerala. Moderate to dense fog very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh.
- 05 November (Day 3):** Heavy rain at isolated places likely over Tamilnadu & Puducherry and Coastal Andhra



Pradesh.

- **06 November (Day 4):** No weather warning.
- **07 November (Day 5):** Heavy rain at isolated places likely over Andaman & Nicobar Islands.

**Weather Outlook for subsequent 2 days from 8<sup>th</sup> to 10<sup>th</sup> November 2017**

- Rain at most places with isolated heavy falls likely over Andaman & Nicobar Islands.
- Rain at many places likely over south Peninsula and Lakshadweep.
- Weather is likely to be dry over the remaining parts of the country.

**Salient Advisories**

- As rainfall is very likely at many places over **Kerala** from 4<sup>th</sup> to 6<sup>th</sup>, over **Tamil Nadu & Puducherry** on 3<sup>rd</sup> November, along with heavy rain at a few places with heavy to very heavy rain at isolated places very likely over Coastal Tamilnadu & Puducherry on 3<sup>rd</sup>, heavy rain at isolated places over Interior Tamilnadu on 3<sup>rd</sup>, over Rayalaseema on 3<sup>rd</sup> and 4<sup>th</sup>, over south Coastal Andhra Pradesh on 3<sup>rd</sup>, over Tamil Nadu & Puducherry on 4<sup>th</sup> and 5<sup>th</sup> and over Coastal Andhra Pradesh on 5<sup>th</sup> November, 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 accompanied with lightning very likely at isolated places over **South Coastal Andhra Pradesh, Tamilnadu & Puducherry** and **Kerala** on 3<sup>rd</sup> and 4<sup>th</sup> November, provide support to banana, 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 North Eastern Zone of **Tamil Nadu**, due to realized and expected heavy rainfall, excess water in the paddy field and other crops should be drained out. Safe guard the harvested food grains in damp proof areas to avoid spoilage.
- In the Cauvery Delta Zone of **Tamil Nadu**, continue nursery field preparation of thaladi rice crop after current spells of heavy rain. In the Northern Zone of **Kerala**, undertake transplanting of rice.
- Land preparation/sowing of following *rabi* crops are advised in different States/Agroclimatic Zones as given below:
  - **Wheat:** Undertake land preparation and sowing in Punjab, Haryana, Delhi, in Bhal and Coastal Zone of Gujarat, in Irrigated North Western Plain Zone and in Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan, in Jammu & Kashmir, South Interior Karnataka, Madhya Maharashtra, Marathwada and Madhya Pradesh under sufficient soil moisture condition.
  - **Mustard and rapeseed:** Undertake land preparation and sowing in Uttarakhand, Uttar Pradesh, Delhi, Haryana and continue sowing in Gujarat, Gangetic West Bengal, Assam, Nagaland, Manipur, Meghalaya, Tripura, Bihar, Jharkhand, Madhya Pradesh and Chhattisgarh.
  - **Bengal gram:** Undertake sowing of gram in Madhya Maharashtra, Marathwada, Vidarbha, Rayalseema, Telangana, Rajasthan (Western Plain Zone), Punjab and North Interior Karnataka. Continue sowing in Jharkhand, Madhya Pradesh and Chhattisgarh.
  - **Jowar:** Continue sowing in Madhya Maharashtra, Marathwada and in North Transition Zone of Karnataka.
- As dry/mainly dry weather would prevail, continue harvesting of matured rice, pulses and cotton in Punjab. Continue harvesting of matured groundnut and maize in South Interior Karnataka and undertake harvesting of kharif rice in North Telangana.



- In the Central Zone of **Kerala**, there is chance of attack of leaf folder, brown spot and blast incidence in mundakan paddy (second crop) due to prevailing rain. Spray Fubendiamide (Fame) @ 2ml/10 litre of water to control leaf folder and Nativo @ 4 g/10 litre of water to control brown spot and blast. In the Southern Zone, farmers are advised to keep vigil against blast and sheath blight in rice (transplanting stage). To control, spray Carbendazim 50 WP @500 g/ha. Undertake spraying after current spells of rain.

### *Detailed Zonewise Agromet Advisories*

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

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala except Cannur, Kasargod, Kozhikode and Palakkad; in all districts of Tamil Nadu except Dharmapuri, Karur, Krishnagiri, Nammakal, Perambalur, Salem, Sivaganga and Toothukudi; in Nellore district of Coastal Andhra Pradesh and in Dakshin Kannada district of Coastal Karnataka during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rainfall is very likely at many places over Kerala from 4<sup>th</sup> to 6<sup>th</sup>, over Tamil Nadu & Puducherry on 3<sup>rd</sup> November, along with heavy rain at a few places with heavy to very heavy rain at isolated places very likely over Coastal Tamilnadu & Puducherry on 3<sup>rd</sup>, heavy rain at isolated places over Interior Tamilnadu on 3<sup>rd</sup>, over Rayalaseema on 3<sup>rd</sup> and 4<sup>th</sup>, over south Coastal Andhra Pradesh on 3<sup>rd</sup>, over Tamil Nadu & Puducherry on 4<sup>th</sup> and 5<sup>th</sup> and over Coastal Andhra Pradesh on 5<sup>th</sup> November, 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 accompanied with lightning very likely at isolated places over south Coastal Andhra Pradesh, Tamilnadu & Puducherry and Kerala on 3<sup>rd</sup> and 4<sup>th</sup> November, provide support to banana, 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.
    - **Kerala:**
      - In the Northern Zone, undertake transplanting of rice.
      - In the Problem Area Zone, continue land preparation for second rice crop. Ensure proper drainage in coconut, nutmeg and pepper fields and continue harvesting of Nendran bananas.
      - In the Southern Zone, continue tapping of rubber and planting of Nendran bananas.
      - In the High Altitude Zone, continue 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 Northern Zone, spray Flubendiamide @1 ml/ 10 litres of water) 2-3 times at weekly interval to prevent shoot borer incidence in turmeric.
      - In the Central Zone, there is chance of leaf folder, stem borer, brown spot and blast incidence in mundakan paddy (second crop) due to prevailing rains. Spray Fubendiamide (fame) @ 2ml/10 litre of water to control leaf folder and stem borer and Nativo @ 4 g/10 litre of water to control brown spot and blast after current spells of rain.
      - In the Southern Zone, farmers are advised to keep vigil against blast and sheath blight in rice (transplanting stage). To control, spray Carbendazim 50 WP @500 g/ha 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 this after current spells of rain.
    - **Karnataka:**
      - In Coastal Zone, continue harvesting of matured rice in clear weather.
      - In Southern Transition Zone, continue harvesting of matured groundnut maize cobs and coconut.
      - In North Transition Zone, continue sowing of chickpea (Annigeri-1, BG-1105, BGD-103, JG-11 and BGS-964). Continue harvesting of matured groundnut and soybean.
      - In Central Dry Zone, continue sowing of Bengal gram and harvesting of matured groundnut and matured cobs of maize.
      - In North East Dry Zone, continue sowing of *rabi* sorghum and Bengal gram (JG -11, Annegeri -1, ICCV-10) crops. Continue harvesting of matured bajra. To manage reddening of leaves in cotton, spray 19:19:19 NPK and MgSo4 both 10g dissolved in one liter of water.
      - 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, continue sowing of 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. Postpone the pruning method in grape orchard as rainfall and cloudy weather.

- In North East Dry Zone, infestation of pod borer is noticed in pigeon pea crop; if the crop is in 50 % flowering stage then spray Ovicidal insecticide like Profenophos @ 2 ml or Thiodicarb @ 0.6 g or Methomyl @ 0.6 g /litre 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, continue land preparation for sowing of Bengal gram.
- 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 as light rainfall is expected in next coming 5 days. Continue sowing of Bengal gram in black soil areas after seed treatment.
- In the Southern Zone, due to forecast of scattered rains, farmers are advised to safeguard the harvested groundnut produce on the threshing floors with plastic sheets and the farmers who are yet to harvest the crop are advised to take up the harvest in clear weather. As there is light rain forecast for the coming 5 days in Kadapa district, farmers are advised to take up Bengal gram in heavy soils and jowar, sunflower and fodder crops in paddy cultivated areas, if sufficient sowing moisture is available.
- In the Scarce Rainfall Zone, prevailing weather is congenial for spread of leaf spot diseases in chillies in Kurnool district. Farmers are advised to spray Copper oxy chloride @3g/litre of water along with of Streptocyclin @ 1g/10 litres of water for control.
- In the Krishna Godavari Zone, prevailing weather conditions are congenial for attack of flea beetles in rabi pulses ( 10- 15 days) crop. To control, spray Monochrotophos @ 1.6 ml/ litre of water.

▪ **Telangana:**

- In North Telangana Zone, undertake harvesting of kharif rice, land preparation for sowing of rabi rice and continue sowing of maize, groundnut and rabi sorghum.
- In South Telangana Zone, continue sowing of maize.
- In North Telangana Zone, spray Dinotefuran @ 100 g /200 litres of water for acre to control incidence of brown plant hopper observed in kharif rice.
- In South Telangana Zone, incidence of shoot borer is noticed in maize. To control, spray Chlorpyrifos @ 2.0 ml/ litre of water.

▪ **Tamil Nadu:**

- In the Cauvery Delta Zone, as moderate to heavy rainfall is expected in the coming days, provide adequate drainage in the paddy field in order to prevent water stagnation and postpone application of fertilizers. Continue nursery field preparation of thaladi rice crop after current spells of heavy rain.
- In the North Eastern Zone, due to expected heavy to moderate rainfall, farmers are advised to avoid application of fertilizer and pesticides to their crops. Excess water in the paddy field and other crops should be drained out. Safeguard the harvested food grains in damp proof areas to avoid spoilage.
- In the Western Zone, as moderate to heavy rainfall is expected, provide sufficient drainage in standing crop fields and store the excess rainwater in farm pond for reusing during water shortage periods. Considering the high cloud cover, rainfall and wind speed, top dressing of Nitrogen to samba rice may be postponed. Due to continuous rain, spray Paclobutrazol @10gm a. i / mango tree to prevent higher vegetative growth during non rainy days.
- In the Southern Zone, with the onset of northeast monsoon and widespread heavy rainfall expected for the next 3 days, farmers are advised to properly repair drainage facilities and postpone application of fertilizers. Since heavy rain with wind is forecasted, provide support to banana trees and protect livestock. Repair farm ponds for harvesting the rainwater properly.
- In the Western Zone, prevailing wet weather with frequent drizzling is congenial for downy mildew incidence in grapes. Monitor the crop carefully and spray 1% Bordeaux mixture if needed. Due to rain and high relative humidity rhizome rot would initiate infection in turmeric. Drench with Bordeaux mixture 1% or Copper oxy chloride 0.25%.
- In the South Zone, as heavy rainfall is expected in the coming days provide adequate drainage to rainfed crops in order to prevent water stagnation. Undertake cultivation of minor millets and sunflower in rainfed condition.
- In the High Altitude Hilly Zone, drainage facilities should be created in the field to drain off excess water. Mealy bug and scales insects are fast spreading in pepper plantations. Farmers are requested undertake foliar spray with systemic insecticide Dimethoate @ 2 ml/litre of water for control. 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 Central Zone of Kerala, if respiratory distress or fever is noticed in animals, consult a veterinary surgeon immediately. Mosquitoes and rat breeding near cattle shed premises should be avoided.
- In the Cauvery Delta Zone of Tamil Nadu, vaccinate goat and sheep against PPR. Common rock salt (100-150gm) and mineral mixture (30-50gm) must be mixed daily with concentrate feed for ruminants.

- In the North Eastern Zone of Tamil Nadu, heavy to very heavy rainfall is expected during the next five days. Protect the kids, lambs and calves from rain and chillness by covering the sides of the sheds with gunny bags. Also provide adequate bedding and lighting to keep them warmer. Sheep and goat should be housed in elevated area to avoid foot rot and apply neem oil to the foot. Avoid feeding of wet paddy straw/ other dry fodders to the animals to prevent the incidence of aflatoxin. Feed ingredients for the concentrate feed should be stored in rainproof areas to avoid development of aflatoxin. Wet bedding material from the poultry shed should be replaced with fresh bedding materials to avoid ammonia odour.
- 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 dysentery and diarrhea. Store the feeds in dry places. Against mosquito breeding, water stagnation must be avoided in cattle and poultry sheds.
- In Southern Dry Zone and Eastern 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 Chachar, Dhubri, Goalpara, Hailakandi, Karimganj, Kokrajhar and N.C. Hills districts of Assam, Ribhoi and West Garo Hills districts of Meghalaya, Aizwal and Serchhip districts of Mizoram, Imphal East, Imphal West, Senapati and Thoubal districts of Manipur, Dimapur, Kohima and Phek districts of Nagaland and Dhalai, North Tripura and South Tripura districts of Tripura during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
  - **Assam & Meghalaya, Arunachal Pradesh:**
    - In Arunachal Pradesh, undertake sowing of carrot and pineapple. Undertake preparation for sowing of potato. Continue nursery sowing of hybrid tomato, pea, cabbage and cauliflower. Undertake harvesting of soybean and mature cobs of maize. Maintain at least 5 mm water level in the rice field where crop is in grain filling stage or at tillering stage. Alternate drying and wetting of field is highly desirable in WRC field.
    - In Meghalaya, undertake sowing of seeds/transplanting of seedlings of cauliflower, broccoli and cabbage. Carry out harvesting of soybean crop when 95% of the pods become yellow. Harvest tender pods of French beans, rajmash and cow pea.
    - In the North Bank Plain Zone of Assam, undertake land preparation and sowing of rapeseed and mustard. Continue planting of early varieties of potato. Continue sowing of cabbage, cauliflower, brinjal, knolkhol and tomato.
    - In Barak Valley Zone of Assam, continue land preparation for sowing of rapeseed, potato and khesari.
    - In Lower Bramhaputra Valley Zone of Assam, postpone sowing of rapeseed and *rabi* vegetables until receipt of sufficient rainfall. Continue field preparation for potato.
    - In Upper Bramhaputra Valley Zone of Assam, undertake sowing of pea, linseed and lathyrus. Continue planting of potato and undertake land preparation for sowing of toria.
    - In Meghalaya, apply need based alternate foliar spray of Hexaconazole 5% EC(2ml/litre) & Carbendazim 12% WP+Mancozeb 63% WP(2g/litre) at 15days interval beginning from first appearance of blast/bacterial blight disease.
    - 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 Hill Zone of Assam, undertake planting of potato as weather is favourable. Apply fertilizer to citrus plants and coconut.
    - 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 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 against rice skipper & leaf folder using sticker.
    - In Lower Bramhaputra Valley Zone of Assam, spray Malathion 5% dust @ 3Kg per bigha against Gundhi Bug in Sali paddy. Spray Quinolphos 25% EC with recommended dose of 2 liter per 750 liter of water per hectare area of land Leaf webber or roller & capsule borer in sesame crop.
    - 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. Clean and sun-dry seeds to properly attain optimum moisture content before storage. Continue sowing of rapeseed/mustard, field pea and lentil after harvesting rice/ soybean/groundnut/blackgram/rice bean to make full utilization of the residual moisture. Continue 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. Block drain channels in coffee and rubber plantations to maintain soil moisture, provide support to plants and replace dead plants with new seedlings.

- 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 Arunachal Pradesh, protect new born calves from cold. Protect them against FMD with 1st injection at 6-8 weeks of age, 2nd injection after 6 months of 1st injection followed by annual vaccination under vet supervision.
  - In Hill Zone of Assam, provide vitamin B complex @ 7 ml per litre of drinking water daily to the broilers. Vaccinate pigs against swine fever. In the Barak Valley Zone of Assam, 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**
  - In Arunachal Pradesh, apply fresh lime to maintain pH of pond water and apply fish feed (mustard oil cake) for higher yield.

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

- **Realised Rainfall:** Rainfall occurred in North Goa district of Konkan & Goa during the week and weather remained dry over rest of the region.
- **Advisories:**
  - **Maharashtra:**
    - In South Konkan, continue harvesting of matured rice, finger millet and groundnut. Undertake sowing of watermelon variety 'Sugar baby' on one side of the ridge with a spacing of 4 x 1 m. Before sowing treat seeds with Thiram @ 3 g/kg seed. Undertake sowing of short duration crops like cowpea, *wal* and *kulthi* on residual moisture in the harvested rice field. 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.
    - In North Konkan, continue harvesting of rice crop in morning hours followed by immediate threshing of rice. There is a possibility for incidence of mango hopper, if noticed spray Deltamethrin 2.8% E.C. @ 9 ml per 10 liter of water. Undertake nursery sowing of tomato, brinjal and chilli for rabi season. For controlling of bud rot in coconut palm, clean infected bud and drench with 1% Bordo mixture or Copperoxychloride @ 25 g per 10 lit of water.
    - In Madhya Maharashtra, complete the sowing of wheat before first fortnights of November. Use varieties like Panchwati, Netravati, Tapowan, Trimbak, Phule Samadhan for sowing. Complete the planting of preseasonal sugarcane upto the 15th November. Select Improved varieties like Co 86032 (Nira), salinity and alkalinity tolerant varieties like CoM 0265 (Phule 265), Phule 10001. For jaggery Co 92005 may be selected. Complete sowing of gram by selecting improved varieties such as Vikas, Vijay, Vishal, Vishwas, Virat, Phule G-12 for sowing. Continue harvesting of matured rice and *nagli*. Start transplanting of tomato, brinjal, chilli & apply irrigation. Irrigate newly transplanted vegetable crops with drip irrigation. Undertake land preparation and sowing of wheat with assured irrigation. Undertake sowing of wheat upto 15<sup>th</sup> November. Select varieties like NIAW-301 (Trimbak), NIAW-917 (Tapowan), NIDW-295 (Godavari). For late sowing select NIDW-15 (Panchavati) variety. If incidence of early shoot borer is noticed in sugarcane, release *Trichogramma chilonis* @ 2 Phule Trichocards per acre at 10-15 days interval for 2-3 times. For the management of pod borer in red gram, spray Indoxacarb 14.5% @ 7 ml or Imamectin Benzoate 5% granules @ 4 g per 10 liters of water. Take alternate sprays at interval of 10-12 days.
    - In Marathwada, continue sowing of irrigated gram and safflower up to 10<sup>th</sup> November. Undertake sowing of wheat up to 20<sup>th</sup> November. Planting of Pre-seasonal sugarcane may be completed up to 15<sup>th</sup> November. Undertake sowing of fodder sorghum by selecting improved varieties like Ruchira R-4-11, Maldandi 35-1, Nilva, MP Chari, Pusa Chari, IS – 4776, ASG - 14, MKV Chari etc. In view of prevailing dry weather, apply irrigation to citrus orchard.
    - In Vidarbha, undertake harvesting of early matured rice varieties. In late maturing rice varieties maintain 5-7 cm water level in rice field. Continue sowing of gram (varieties: Chaffa and Vijay, Jaki 9218 and Kabuli). Undertake sowing of wheat (Varieties: NI-5439, AKDW2997-16 (Sharad) and MACS-1967) and sowing of linseed (Varieties: PKV NL-260 and NL-97). Sucking pest is observed in cotton, spray Dimethoate 30% @ 10 ml or Methyl Dimeton 25% @ 8 ml/10 liter of water. Complete sowing of irrigated safflower and gram. For sowing of gram use DigVijay, Vijay, Jacki 9218 variety. Undertake land preparation for sowing of wheat. For control of shoot fly in *rabi* jowar, spray Carbaryl 50 % @ 20 ml per 10 litres water. For control of pod borer in red gram, spray Spinosad 45 SC @ 2.5 ml/10 litres water.
  - **Gujarat:**
    - In Middle Gujarat Zone, complete harvesting of rice, groundnut, sesame, pearl millet and green gram crops. Undertake sowing of maize (variety Ganga safed -2, GM -6). Continue land preparation for sowing of *rabi* crops;



- keep inputs ready for sowing. Plan for sowing of crops according to availability of irrigation water.
- In South Gujarat Zone, undertake planting of sugarcane. Continue sowing of sweet corn crop.
- In Bhal and Coastal Zone, continue sowing of *rabi* crops like wheat, chickpea and mustard and nursery preparation of brinjal.
- In North Gujarat Zone and North West Zone, complete harvesting of matured groundnut, sesame, bajra, maize, green gram and cowpea. Undertake sowing of mustard, gram, lucerne, cabbage, brinjal and tomato, carrot and *rabi* fennel crops in North Gujarat Zone and for mustard crop in North West Zone.
- In South Gujarat Heavy Rainfall Zone, undertake sowing of *rabi* pulses like Indian bean, gram, green gram crops; continue planting of sugarcane crop and nursery preparation of chilli and brinjal and sowing of offseason okra. Complete harvesting/threshing of rice crop.
- In South Saurashtra Zone, Complete harvesting of matured groundnut, pulse crops (black gram, green gram), sesame and soybean. Continue sowing of chickpea, vegetable crops and land preparation for sowing of wheat crop.
- 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 with irrigation. Complete harvesting of groundnut and keep harvested produce in safe place.
- In North West Zone of Gujarat, present high temperature and low humidity favors infestation of thrips and jassids in cluster bean; to control, spray Imidacloprid 17.8 % @ 5 ml or Thiomethoxam @ 6 g in 10 liters of water.
- 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. Protect animals from cold wind.

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

- **Realised Rainfall:** Rainfall occurred in South Andaman and Nicobar districts of Andaman & Nicobar Islands and Cooch Behar district of Sub-Himalayan West Bengal & Sikkim. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rain/thundershowers very likely at most places over Andaman & Nicobar Islands on 6<sup>th</sup> and 7<sup>th</sup> November, along with heavy rain at isolated places on 7<sup>th</sup> November, 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, drain out excess water through irrigation channel prevent rotting in winter vegetables. Use staking to keep seedlings standing. 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. Continue 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, to control the rice bug, spray Dichlorovos 76% E.C @ 0.75 ml per liter water or take snail rotten 100 gram and 10 ml. Dichlorovos 76%, mix it well, divide in three to four part in small cloth packets and hang them at proper distance in the field just above the panicle level. To control blast in rice, spray Tricyclazole @ 0.5 gm/liter of water. As preventive measures in early transplanted vegetables like Cabbage, Cauliflower, Brinjal etc. spray Neem oil 1% @ 3 ml/liter of water in the evening hours.
- 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 Quinalphos dust or Chlorpyrifos dust @ 3.3kg/bigha against Gundhi bug attack in Aman rice and use light trap during night. For bacterial wilt spray in cauliflower, cabbage and tomato spray Streptocycline @ 0.5g/liter of water.

- **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 Deltamathrin 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.
- In the Old Alluvial Zone, protect the animals from parasites. Feed clean and hygienic water to dairy animals. Apply Rice bran & Mustered oil cake (1:1) @ 3-2% of the total body weight of fish finger stocked in the pond as a supplementary feed.

- **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:** Weather remained dry over the region during the week.

- **Advisories:**

- **Madhya Pradesh:**

- In Kymore Plateau and Satpura Hill Zone, undertake transplanting of vegetables and continue sowing of mustard, lentil and garden pea.
- In Malwa Plateau Zone, continue transplanting of vegetables and sowing of chickpea, potato, pea and garlic. Undertake field preparation for sowing of wheat and planting of potato.
- In Jhabua Hill Zone, complete sowing of mustard and chickpea. Undertake sowing of early maturing varieties (HI-1500, HI-1531, HW-2004, JWS-17) of wheat. Undertake sowing of vegetable pea, fenugreek, spinach, radish and nursery sowing of onion.
- In Nimar Valley Zone, undertake nursery bed preparation for onion.
- In Gird Zone, continue sowing of mustard, chickpea, pea, lentil and planting of potato.
- In Central Narmada Valley Zone, continue sowing of mustard, lentil, chickpea and garden pea. Undertake sowing of wheat and barley under optimum soil moisture condition. Undertake planting of potato and garlic. Undertake harvesting of matured rice.
- In Bundelkhand Zone, continue sowing of linseed, chickpea, lentil, pea and mustard. Continue planting of potato and seed bed preparation for onion. Undertake sowing of fenugreek, spinach, coriander and turnip.

- **Chhattisgarh:**

- In North Hill Zone, continue 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 garlic 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 gram, pea, linseed and lentil crops.
- In Chhattisgarh Plain Zone, continue nursery sowing of vegetables. Continue sowing of *rabi* crops like chickpea, linseed etc. Undertake harvesting of matured rice.
- 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 dry over the region during the week.
- **Advisories:**
  - As moderate to dense fog very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh on 3<sup>rd</sup> and 4<sup>th</sup> November, monitor potato, tomato and onion crops for early/late blight disease. If symptoms are noticed undertake plant protection measures.
  - **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. Those farmers which prepared their crop fields and ready for sowing of wheat crop are advised to undertake sowing (var. VL 907, HS 507 and HPW 349) under irrigated/rainfed conditions up to 800 -1000 m amsl, variety PBW-175 up to 1000 m amsl under rainfed condition only and VL 804, HS 507 and HPW 349 under irrigated/rainfed conditions up to 1000 -1350 m amsl in Intermediate (mid to high altitude) areas of the district. Farmers are also advised to continue sowing of mustard (var. Kranti, RLM 619, Varuna and RH 30) and oats crop (var. Kent and Sabzar), sowing of gram (C-235, Gaurav, K-468, SCS-3 and PBG-1) and pea (var. T-163, PG-2 and Rachna) where adequate moisture is available for sowing. - Treat the seed with captan or thiram or Bavistin (2g/kg seed) for the management of collar/root rot, rust and wilt in chick pea. Inoculate with Rhizobium culture (200-250g/acre) before sowing. Undertake intercultural operations in toria.
  - **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:**
  - 1. In Delhi, farmers are advised to procure good quality seeds of wheat. Seed rate: - 100 kg seed per hectare. Recommended cultivars: - H.D. 2687, H.D. 2851, H.D. 2894, H.D. 2967, D.B.W.-17. Application of Chlorpyrifos (20 EC) @ 5 litres per hectare with pre-irrigation water is recommended before sowing in the fields having perennial problem of termite infestation. Before sowing seeds should be treated with Bavistin or Thiram @ 2-2.5 g per kilogram of seed. Undertake sowing of gram in this week. Seed rate: - 60-80 kilogram for small and medium sized varieties and 80-100 kilograms for big sized varieties. R x R spacing to be maintained 30-35 cm. Varieties:- Kabuli type - Pusa 267, Pusa 1003, Pusa Chamatkar; local type - C235, Pusa 246, P.B.G. 1, Pusa 372 after seed treatment. Sowing of lentil can be done in this weather conditions. Cultivar: - Pusa Masoor -5 (L-4594). Seed treatment with Rhizobium and Phosphorus solubilising bacteria is advised. Keeping in view of suitable weather, sowing of pea should not be delayed as late sowing reduces the seed yield and exposes the crop to insect damage. Recommended cultivars: - Pusa Pragati, Arkel, Azad Matar-3, Pant Matar-3 and Bournville. Seed should be treated with fungicides, Captan or Thiram @ 2.0 gm/ kg and after that with crop-specific *Rhizobium* culture. It is highly recommended that the treated seeds should be sown after 24 hours of treatment. Sowing of potato should be done as soon as possible. Selection of cultivars can be done on the basis of need. Cultivars: -Kufri Badshah (Late blight tolerant), Kufri Jyoti (Short duration), Kufri Alankar, Kufri Chandramukhi. Row to row × plant to plant spacing of

45cm×20cm or 60cm × 15 cm is advised. Seed treatment with 2 gm Mancozeb and 1 gm Carbendazim mixed per litre of water per kilogram of seed for five minute should be done. Thereafter, seeds should be dried in shade before planting in the field. Keeping in view of prevailing dry weather, arrangements should be done for harvesting mature rice crop. After harvesting, crop should be dried in the field for 2-3 days and thereafter threshing should be done.

- 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 Western Plain Zone of Punjab, harvesting of paddy/basmati should be harvested as soon as they mature. Delayed harvesting may cause over-ripening and shattering. The harvested crop should be threshed on the same or next day of harvesting. Continue picking of cotton and harvesting of pulses. Undertake land preparation for sowing of wheat. Farmers are advised to procure the wheat varieties, namely, Unnat PBW 343, PBW 1 Zn (variety with high Zinc content), PBW 725, PBW 677, HD 3086, WH 1105, PBW 621, HD 2967 and durum wheat WHD 943 and PDW 291 for irrigated conditions and PBW 660 and PBW 644 for rainfed conditions. Complete sowing of root crop varieties of Punjab Pasand and Japanese white of radish, L-1 of turnip and Punjab Black Beauty, Punjab Carrot Red and PC-34 of carrot. Use 2 kg seed for turnip and 4 kg seed for carrot and radish per acre.
- 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, continue harvesting of matured vegetables and apply irrigation in oat and continue 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, continue harvesting of matured rice. Continue sowing of pea, mustard, chickpea and linseed. Continue sowing of wheat, barely and planting of garlic and potato.
  - In Kanpur district of Central Plain Zone, continue harvesting of matured rice. Continue sowing of winter vegetable like spinach, fenugreek, coriander, carrot, radish etc. continue sowing of mustard, gram, pea and planting of potato.
- **Rajasthan:**
  - In Irrigated North Western Plain Zone, undertake sowing of wheat and continue sowing of gram and barley.
  - In Arid Western Plain Zone, undertake sowing of gram, isabgol and fenugreek.
  - 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. Continue 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 Barley. Continue land preparation for sowing of wheat and sowing of pea. Continue seed bed preparation for raising nursery of onion, chilli, brinjal, cauliflower, cabbage and tomato for *rabi* season.
  - In Arid Western Plain Zone, early sown mustard may be infested by saw fly or painted bug. Apply methyl Parathion 2% or Malathion 5% dust @ 24 kg/ha during morning or evening time and repeat after 15 days if required.
- **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.