

# National Agromet Advisory Service Bulletin

**Friday 28<sup>th</sup> November 2014**

**(For the period 28<sup>th</sup> November to 2<sup>nd</sup> December 2014)**

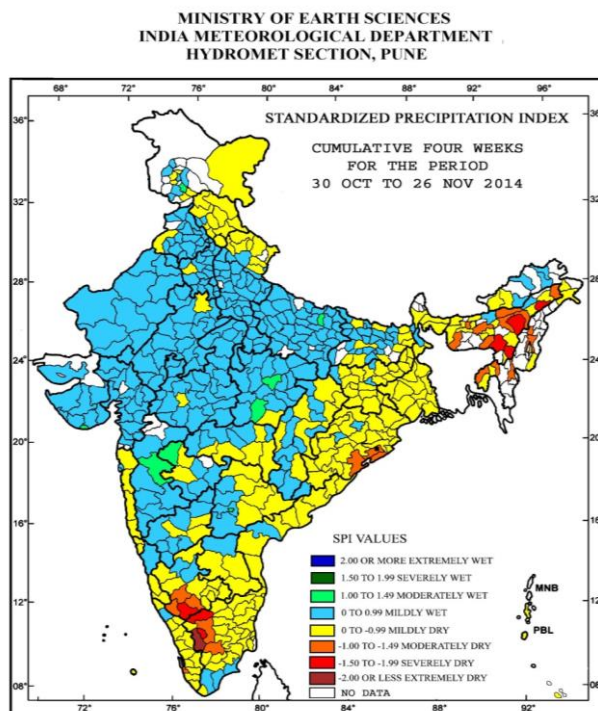


**Issued by**

**National Agrometeorological Advisory Service Centre,  
Agricultural Meteorology Division,  
India Meteorological Department, Shivajinagar, Pune.**



**Standardised Precipitation Index**  
**Four Weekly**  
**for the Period 30<sup>th</sup> October to 26<sup>th</sup> November 2014**

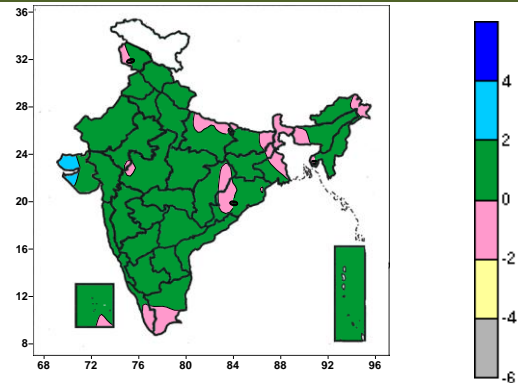
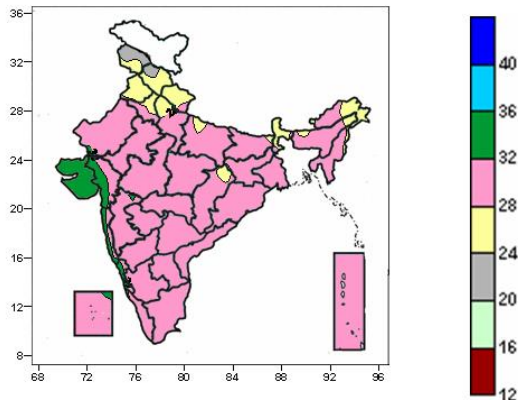


- Extremely/severely wet conditions Nil.
- Extremely/ moderately/ severely dry conditions experienced in few districts of Assam and Meghalaya; Senapati district of Manipur, Aizwal district of Mizoram, Kohima district of Nagaland, North Tripura, West Tripura district of Tripura, South 24 paraganas district of West Bengal, Ganjam, Khurda, Puri district of Odisha, Coimbatore, Dindigul, Erode, Tirupur districts of Tamilnadu; Chamarajanagar, Hassan, Kodagu, Mandya, Mysore districts of Karnataka, Alapuzha district of Kerala.
- Rest of the country experienced moderately wet, mild wet/dry conditions.

**Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 26.11.2014**

**Actual Mean Maximum Temperature ( $^{\circ}\text{C}$ ) in India for the week ending 26.11.2014**

**Mean Maximum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 26.11.2014**

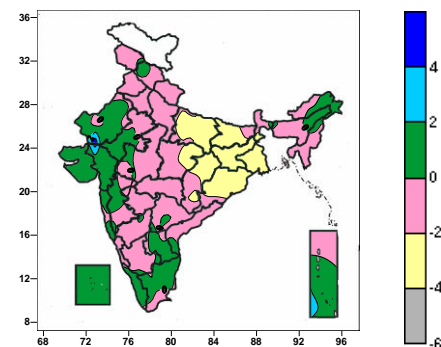
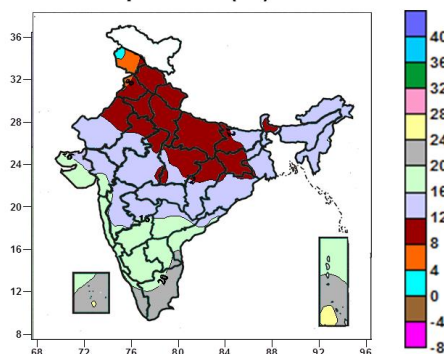


- 32 to 36 $^{\circ}\text{C}$  over many parts of Saurashtra & Kutch, Konkan & Goa, Coastal Karnataka, some parts of Gujarat and Lakshadweep Islands.
- 28 to 32 $^{\circ}\text{C}$  over entire country except many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Sub-Himalayan West Bengal & Sikkim, Saurashtra & Kutch, Konkan & Goa, Coastal Karnataka, some parts of Uttar Pradesh, Bihar, Assam, Arunachal Pradesh, Nagaland, Chhattisgarh, Gujarat and Lakshadweep Islands.
- 24 to 28 $^{\circ}\text{C}$  over many parts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Sub-Himalayan West Bengal & Sikkim, some parts of Jammu & Kashmir, Uttar Pradesh, Bihar, Assam, Arunachal Pradesh, Nagaland and Chhattisgarh.
- 20 to 24 $^{\circ}\text{C}$  over many parts of Jammu & Kashmir, some parts of Himachal Pradesh.

- 2 to 4 $^{\circ}\text{C}$  over some parts of Saurashtra & Kutch.
- 0 to 2 $^{\circ}\text{C}$  over entire country except many parts of Sub-Himalayan West Bengal & Sikkim, some parts of Jammu & Kashmir, East Uttar Pradesh, Bihar, Jharkhand, Assam & Meghalaya, Arunachal Pradesh, Tripura, East Rajasthan, Saurashtra & Kutch, West Madhya Pradesh, Chhattisgarh, Odisha, Tamil Nadu, Kerala and Lakshadweep Islands
- -2 to 0 $^{\circ}\text{C}$  over many parts of Sub-Himalayan West Bengal & Sikkim, some parts of Jammu & Kashmir, East Uttar Pradesh, Bihar, Jharkhand, Assam & Meghalaya, Arunachal Pradesh, Tripura, East Rajasthan, West Madhya Pradesh, Chhattisgarh, Odisha, Tamil Nadu, Kerala and Lakshadweep Islands.

**Actual Mean Minimum Temperature ( $^{\circ}\text{C}$ ) in India for the week ending 26.11.2014**

**Mean Minimum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 26.11.2014**



- 0 to 4 $^{\circ}\text{C}$  over some parts of Jammu & Kashmir.
- 4 to 8 $^{\circ}\text{C}$  over many parts of Jammu & Kashmir.
- 8 to 12 $^{\circ}\text{C}$  over many parts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Jharkhand, Sikkim, some parts of Jammu & Kashmir, Bihar, Manipur, Central India and Rajasthan.
- 12 to 16 $^{\circ}\text{C}$  over many parts of Rajasthan, Central India, West Bengal, North East India, Odisha, Madhya Maharashtra, Marathwada, Vidarbha, some parts of Gujrat, Bihar, Jharkhand and Telangana.
- 16 to 20 $^{\circ}\text{C}$  many parts of Saurashtra & Kutch, Konkan &

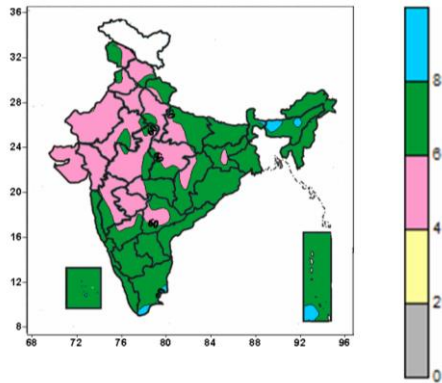
- -4 to -2 $^{\circ}\text{C}$  over many parts of East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Odisha, Chhattisgarh, some parts of Sub-Himalayan West Bengal, West Madhya Pradesh.
- -2 to 2 $^{\circ}\text{C}$  over entire country except over many parts of East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Odisha, Chhattisgarh, some parts of Sub-Himalayan West Bengal, West Rajasthan, Gujarat region and Andaman & Nicobar Islands.
- 2 to 4 $^{\circ}\text{C}$  over some parts of West Rajasthan, Gujarat region and Andaman & Nicobar Islands.

Goa, Andhra Pradesh, Karnataka, Andaman & Nicobar Islands, some parts of Gujarat region, Madhya Maharashtra, Marathwada, Odisha, Kerala, Tamil Nadu and Lakshadweep Islands.

- 20 to 24°C over many parts of Tamil Nadu, Kerala, Lakshadweep Islands, some parts of Coastal Andhra Pradesh, Rayalaseema and Andaman & Nicobar Islands.

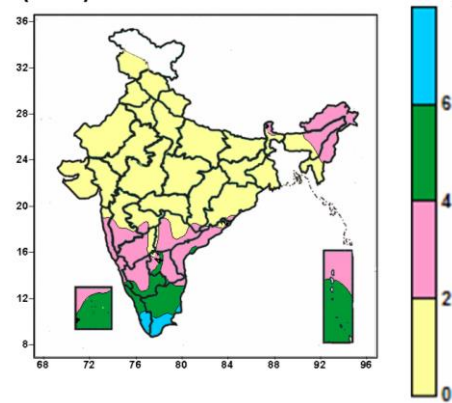
**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 26.11.2014**

**Relative Humidity (%) over India for the week ending 26.11.2014**



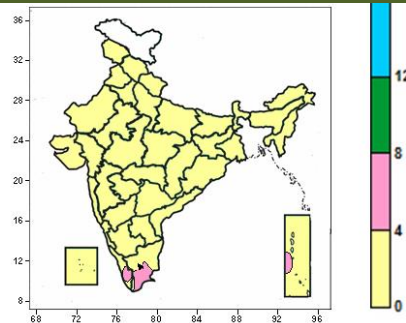
- 80 to 100% over some parts of Assam & Meghalaya, Tamil Nadu and Andaman & Nicobar Islands.
- 60 to 80% over entire country except many parts of Himachal Pradesh, Punjab, Haryana, Delhi, West Uttar Pradesh, Rajasthan, Gujarat, Madhya Pradesh, Madhya Maharashtra, Marathwada, some parts of Jammu & Kashmir, Uttarakhand, East Uttar Pradesh, Jharkhand, Chhattisgarh, Telangana, Assam & Meghalaya, Tamil Nadu and Andaman & Nicobar Islands.
- 40 to 60% over many parts of Himachal Pradesh, Punjab, Haryana, Delhi, West Uttar Pradesh, Rajasthan, Gujarat, Madhya Pradesh, Madhya Maharashtra, Marathwada, some parts of Jammu & Kashmir, Uttarakhand, East Uttar Pradesh, Jharkhand, Chhattisgarh, Vidarbha, North Interior Karnataka and Telangana.

**Cloud amount (okta) over India for the week ending 26.11.2014**



- 6 to 8 okta over some parts of Kerala and Tamil Nadu.
- 4 to 6 okta over many parts of Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Rayalaseema, Coastal & North Interior Karnataka and Kerala.
- 2 to 4 okta over many parts of Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Andhra Pradesh, Karnataka, Konkan & Goa, Madhya Maharashtra some parts of Mizoram, Marathwada, Chhattisgarh, Odisha, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands.
- 0 to 4 okta over entire country except Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Andhra Pradesh, Karnataka, Konkan & Goa, Madhya Maharashtra, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Mizoram, Marathwada, Chhattisgarh, Odisha, Coastal & North Interior Karnataka and Kerala.

**Wind speed (knots) over India for the week ending 26.11.2014**



- 4 to 8 knots over some parts of Tamil Nadu and Kerala.
- 0 to 4 knots over entire country except some parts of Tamil Nadu and Kerala.

## Weather Forecast

### Weather Forecast for next 3 days (upto 0830 hours IST of 1<sup>st</sup> December, 2014)

- Rain/thundershowers would occur at many places over Tamil Nadu & Puducherry on 28<sup>th</sup>; at most places on 29<sup>th</sup> and at many places thereafter.
- Rain/thundershowers would occur at many places over Kerala during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at isolated places over South Interior Karnataka and Andaman & Nicobar Islands during the period.
- Rain/thundershowers would occur at a few places over Jammu & Kashmir and Lakshadweep during next 24 hours and at isolated places thereafter.
- Rain/thundershowers would occur at isolated places over Himachal Pradesh, Arunachal Pradesh, Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim during next 24 hours and dry weather would prevail thereafter.
- Rain/thundershowers would occur at isolated places over Rayalaseema during next 24 hours and at a few places thereafter.
- Dry weather would prevail over Coastal Andhra Pradesh during next 24 hours and rain/thundershowers would occur at isolated places on 29<sup>th</sup> and at a few places thereafter.
- Dry weather would prevail over Coastal Karnataka during next 48 hours and rain/thundershowers would occur at isolated places thereafter.
- Dry weather would prevail over rest parts of the country.
- No significant change in minimum temperatures over plains of northwest India during next 2-3days.
- Shallow fog would occur over some pockets of Punjab, Haryana, Uttar Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during next 48 hours.

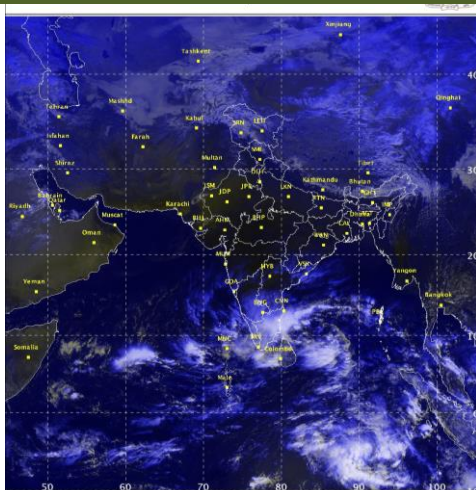
### Weather Warning during next 3 days

- **28 November (Day 1):** Heavy to very heavy rainfall would occur at isolated places over coastal Tamilnadu and isolated heavy over Kerala.
- **29 November (Day 2):** Heavy to very heavy rainfall would occur at isolated places over Tamilnadu and isolated heavy over Kerala.
- **30 November (Day 3):** No weather warning.

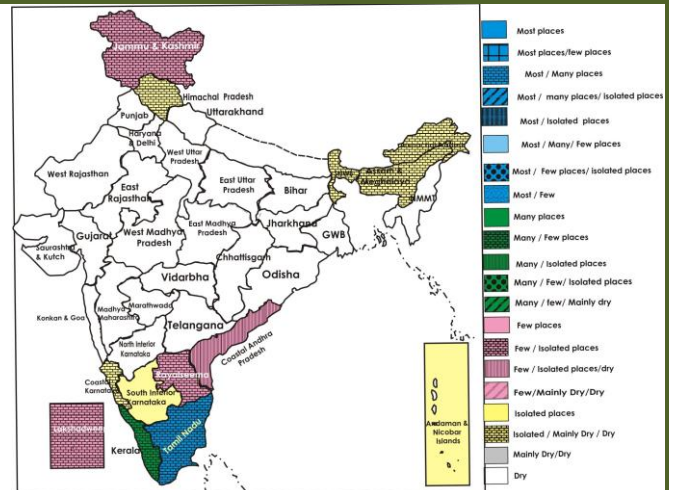
### Weather Outlook for subsequent 4 days from 01<sup>st</sup> December 2014 to 04<sup>th</sup> December 2014.

- Rain/thundershowers would occur at many places over south peninsular India.
- Rain/thundershowers would occur at a few places over Konkan & Goa, Madhya Maharashtra, south Gujarat Region and Saurashtra and at isolated places over Arunachal Pradesh, Assam & Meghalaya and Andaman & Nicobar Islands.
- The fresh western disturbance would affect western Himalayan region from 30th November.
- Weather would be dry over rest of the country.

**Satellite image dated, 28.11.2014, 0600 UTC**



**Weather Forecast Map (Valid upto 0830 hours of 1<sup>st</sup> December 2014)**



## Detailed Zonewise Agromet Advisories

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



Land preparation

Sugarcane

Cotton

Rice Transplanting

- **Realised Rainfall:** Rainfall occurred in Kanyakumari, Karaikal, Nagapattinam, Ramanathapuram, Sivaganga, Tirunelveli, Tiruvarur and Toothukudi districts of Tamil Nadu; Kannur, Ernakulam and Thiruvananthapuram districts of Kerala. Weather remained dry over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Tamil Nadu & Puducherry on 28<sup>th</sup>, at most places on 29<sup>th</sup> and at many places thereafter. Rain/thundershowers would occur at many places over Kerala during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at isolated places over South Interior Karnataka during the period. Rain/thundershowers would occur at isolated places over Rayalaseema during next 24 hours and at a few places thereafter. Dry weather would prevail over Coastal Andhra Pradesh during next 24 hours and rain/thundershowers would occur at isolated places on 29<sup>th</sup> and at a few places thereafter. Dry weather would prevail over Coastal Karnataka during next 48 hours and rain/thundershowers would occur at isolated places thereafter. Dry weather would prevail over rest parts of the region.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over coastal Tamilnadu on 28<sup>th</sup> November and over Tamilnadu on 29<sup>th</sup> November and isolated heavy over Kerala on 28<sup>th</sup> and 29<sup>th</sup> November.
- **Weather Outlook:** Rain/thundershowers would occur at many places over south peninsular India. Weather would be dry over rest of the region.
- **Advisories:**
  - **Andhra Pradesh:**
    - Utilizing the expected rainfall complete sowing of *rabi* groundnut and Bengal gram in Scarce Rainfall Zone. Iron deficiency is observed in few parts of Anantapur under excessive irrigation. For control, spray Ferrous Sulphate @ 5g/litre of water on a non-rainy day.
    - Utilizing the expected rainfall for the next three days continue sowing of *rabi* pulses in the Krishna Godavari Zone. Present low temperature during morning hours causes Magnesium deficiency and high temperatures during day time is congenial for incidence of sucking pests in cotton in the Krishna Godavari Zone. For management of Mg deficiency, spray MgSo<sub>4</sub> @ 10 g per litre of water and for management of sucking complex undertake stem application of Monochrotophos based on the intensity of pests on a non-rainy day.
    - Continue sowing of Bengal gram in High Altitude Tribal Zone with desi varieties like JG-11, NBeg-3 and kabuli varieties like KAK-2 and Vihar.
    - Continue sowing of *rabi* groundnut in Southern Zone after treating the seed with Imidachloprid 2ml/ kg seed followed by Tebuconazole @ 1g or Mancozeb @ 3g/kg seed. Temperature of 31-32<sup>o</sup>c with high relative humidity and dew is congenial for incidence of blast in *kharif* rice in the. To control spray Tricyclozole 75 wp @ 0.6g/ml on a non-rainy day.
  - **Telangana:**
    - Complete sowing of maize and black gram in the Northern Telangana region.
    - Prevailing cool and dry weather conditions are congenial for incidence of sucking pests in vegetables in the Southern Zone. To control, spray Dimethoate @ 2 ml/litre or Acephate @ 1.5g/litre of water.
  - **Karnataka:**
    - Complete sowing of chickpea in the North Dry Zone of Karnataka.
    - Undertake harvesting of groundnut and chilly in North Transition Zone of Karnataka.
    - Undertake harvesting of groundnut and ragi in the Eastern Dry Zone of Karnataka.
    - Continue planting of sugarcane in the North East Dry Zone of Karnataka.
    - As dry weather would prevail, undertake harvesting of rice, maize and groundnut in the Southern Transition Zone of Karnataka.
    - Continue sowing of wheat and planting of sugarcane; undertake cotton picking and harvesting of rice in the North East Dry Zone of Karnataka.
    - Continue harvesting of rice and picking of cotton in the Hill Zone of Karnataka.

- **Kerala:**

- As rainfall is expected at many places along with isolated heavy rainfall on 28<sup>th</sup> and 29<sup>th</sup> November, postpone irrigation intercultural operations, application of fertilizer and plant protection measures in standing crops. Provide adequate drainage in crop fields to remove excess water.
- Continue sowing of *puncha* rice in the Problem Area Zone.
- Complete transplanting of rice crop in Northern Zone.

- **Tamil Nadu:**

- As rainfall is expected at most places on 29<sup>th</sup> November and many places on 28<sup>th</sup> and 29<sup>th</sup> November along with heavy to very heavy rainfall at isolated places over coastal Tamilnadu on 28<sup>th</sup> and over Tamilnadu on 29<sup>th</sup> November, postpone irrigation, intercultural operations, application of fertilizer and plant protection measures in standing crops. Provide adequate drainage in crop fields to remove excess water.
- Continue transplanting of *thaladi* rice in the Cauvery Delta Zone.
- Since rainfall with wind is expected in the Western Zone detrashing and double line propping may be done to the late season sugarcane crop to avoid lodging due to wind.
- Undertake sowing of green gram and black gram in the North Western Zone.
- Continuous cloudiness with high relative humidity is favourable for the multiplication of brown plant hopper in rice in the Western Zone. Monitor the crop and provide sufficient drainage and ventilation for more aeration. Spray any one of the following chemicals at the basal portion of the stem -Phasalone @ 1500 ml /ha or Chloropyriphos @ 1250ml/ha or Imidacloprid @ 100 to 125ml/ha or Dichlorvos @ 400ml/ha after current spells of rain.
- Prevailing weather with high cloud cover and humidity is congenial for the incidence of thrips in onion the South Zone. The ETL is 1 maggot/ hill. Spray Dimethoate 30% EC 0.7 ml/ litre of water or Quinalphos 25% EC 1.2 ml/ litre of water after current spells of rain.
- Suitable varieties are given in Annexure II.

- **Animal Husbandry**

- Prevailing weather conditions are congenial for Pneumonia & Blue Tongue disease in sheep and goat in the Scarce Rainfall Zone of Andhra Pradesh. Vaccinate the animals to prevent the disease.

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



*Rice*



*Okra*



*Cole Crops (Nursery)*



*Green Gram*

- **Realised Rainfall:** Rainfall occurred in East Siang and West Siand districts of Arunachal Pradesh. Weather remained dry over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Arunachal Pradesh, Assam & Meghalaya during next 24 hours and dry weather would prevail thereafter. Dry weather would prevail over rest parts of the region. Shallow fog would occur over some pockets of Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during next 48 hours.
- **Weather Warning:** Nil
- **Weather Outlook:** Rain/thundershowers would occur at isolated places over Arunachal Pradesh, Assam & Meghalaya. Weather would be dry over rest of the region.
- **Advisories:**
  - **Assam & Meghalaya, Arunachal Pradesh:**
    - In Upper Bramhaputra Valley Zone, Central Bramhaputra Valley Zone and Lower Bramhaputra Valley Zone of Assam, continue sowing of maize, wheat, nursery sowing of winter tomato and transplanting of cole crops to main field. Complete sowing of rapeseed/ mustard and planting of potato.
    - In Hill Zone, Central Bramhaputra Valley Zone, North Bank Plain Zone and Lower Bramhaputra Valley Zone of Assam, continue nursery raising and sowing of direct seeded *boro* rice.
    - In Upper Bramhaputra Valley Zone, North Bank Plain Zone, Barak Valley Zone, Lower Bramhaputra Valley Zone and Central Bramhaputra Valley Zone of Assam, continue harvesting of matured *sali* rice.
    - In Central Bramhaputra Valley Zone and North Bank Plain Zone of Assam, continue transplanting of cole crop, sowing of *rabi* pulses like lentil, rajmah, pea, lathyrus and oilseeds, wheat and planting of potato.
    - In Meghalaya, complete harvesting of *Kharif* rice. Apply mulching in ginger/ turmeric and potato with locally

available weed biomass, maize stalk, etc. for conservation of moisture.

- In Barak Valley Zone of Assam, due to prevailing weather condition there is chance of attack of aphids and saw fly in rapeseed and mustard. Spray Dimethoate (Rogar) @ 1 ml/litre of water. Also spray Malathion 50 EC @ 1.5 ml /litre of water for caterpillar and other leaf eaters in cole crops like mid cauliflower/ early cabbage/khol khol.
- Due to low temperature in Arunachal Pradesh, late blight disease in potato & tomato. Foliar spray of Dithane M-45@2.5g/litre of water for management of potato & tomato late blight.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Manipur, continue planting of potato, transplanting of onion and cauliflower, harvesting of ginger/turmeric. Complete sowing of rapeseed/ mustard. In fruit crops and perennial vegetables like sweet potato, apply organic mulches after earthing up and weeding to conserve residual soil moisture as well as to maintain the soil temperature.
- In Mizoram, continue sowing of pea, mustard and toria, nursery sowing of tomato.
- In Nagaland, continue nursery sowing of winter vegetables. Continue sowing of toria, pea and harvesting of matured lowland rice.
- In Mild Tropical Plain Zone of Tripura, complete planting of potato and undertake transplanting of toria, sesame, lentil etc. Apply light irrigation on every alternate day in cole crops and tomato. Mulching must be done after irrigation to reduce evaporative losses.
- In Mizoram, weather is congenial for attack of stem borer, gundhi bug and leaf blast in rice, spray Monocrotophos @ 20 ml/10 litres water or Imidacloprid @ 20 ml/10 litres of water against stem borer. Spray Monocrotophos 36 WSC @ 1.5 ml/litre of water against gundhi bug. Spray Triclozole (Beam) @ 0.5 g/litre against leaf blast.
- Suitable varieties are given in Annexure II.
- **Animal Husbandry**
- In Meghalaya, provide poultry birds (day old to 25 days old) artificial heating through lighting of electric bulb to protect from low temperature.

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



*Sugarcane*

*Groundnut*

*Onion*

*Rice*

- **Realised Rainfall:** Rainfall occurred in Nicobar and South Andaman district of Andaman & Nicobar Islands. Weather remained dry over Jharkhand, Bihar, Odisha and West Bengal.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Andaman & Nicobar Islands during the period. Rain/thundershowers would occur at isolated places over Sub-Himalayan West Bengal & Sikkim during next 24 hours and dry weather would prevail thereafter. Dry weather would prevail over rest parts of the region.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain/thundershowers would occur at isolated places over Andaman & Nicobar Islands. Weather would be dry over rest of the region.
- **Advisories:**
  - **West Bengal:**
  - Continue field preparation and sowing of wheat, mustard, winter vegetables like broccoli, tomato chilli and planting of potato in Laterite and Red Soil Zone. Also continue seed bed preparation for nursery sowing of *boro* rice.
  - In New Alluvial Zone, continue land preparation for sowing of wheat for planting of potato and continue harvesting of *aman* rice.
  - In Coastal Saline Zone, complete harvesting of *aman* rice at the earliest. Undertake nursery bed preparation of *boro* rice. Continue planting of potato and sowing of lentil.
  - In Old Alluvial Zone, continue land preparation and sowing of wheat, pea and planting of potato.
  - In Terai Zone, continue planting of potato and sowing of wheat. As temperature is decreasing, thatching of betel vine should be renovated with new straw or kuch grass to make it dense to protect from cold.
  - Due to light foggy weather during early morning hours, there is chance of root rot in winter vegetables like cabbage, cauliflower, tomato etc. in Coastal Saline Zone. Spray Diethane M-45 @ 2.5 g/litre of water.



▪ **Andaman and Nicobar:**

- Continue sowing of vegetables, pulses and raised nursery beds for sowing of brinjal, chilli and tomato in North and Middle Andaman.

▪ **Odisha:**

- In Western Undulating Zone continue land preparation and sowing of groundnut. Prepare the land for sowing of mustard in residual moisture immediately after harvesting of rice. Apply irrigation to transplanted cabbage, cauliflower and tomato which are at two to three week stage.
- In North Central Plateau Zone, undertake sowing of green pea, sunflower, mustard, groundnut, sesam and planting of potato.
- In North Eastern Ghat Zone, go for banana planting as dry weather and prevailing temperatures of the November month are favourable for Banana planting.
- In East and South Eastern Coastal Plain Zone, present weather is optimum for sowing of rainfed groundnut, green pea and mustard. Also continue nursery raising of onion. Medium duration rice is at maturity stage. Harvest at 85% maturity of the panicles. Undertake planting of banana and cole crops. Undertake sowing of garlic in irrigated upland and medium land. Complete sowing of sunflower. Undertake sowing of sesame.
- In North Eastern Plateau Zone, continue sowing of wheat, groundnut, gram, peas and onion. Continue harvesting of rice. As dry weather is prevailing apply irrigation to potato. Undertake transplanting of chilli.
- In North Eastern Coastal Plain Zone of Odisha, undertake sowing of rapeseed and mustard.
- In Mid Central Table Land Zone of Odisha, undertake harvesting of rice.
- In East and South Eastern Coastal Plain Zone of Odisha, the cloudy weather may aggravate the infestation of BPH in rice. To control BPH, drain out excess water and spray Chloropyriphos @ 2 ml per litre water to the root zone.

▪ **Bihar:**

- In North West Alluvial Plain Zone of Bihar, continue sowing of wheat and gram. Complete sowing of maize. Carry Out intercultural operations like thinning and weeding in timely sown mustard. Apply light irrigation to mustard crop and early sown potato. Carry Out intercultural operations like weeding in early sown garlic and vegetables also apply light irrigation.
- In North East Alluvial Zone of Bihar, continue sowing of wheat, and mustard. Continue harvesting of matured sugarcane and continue planting of autumn sugarcane. Apply light irrigation in early sown vegetable crops such as brinjal, cauliflower, tomato, pea and cabbage. Complete sowing of maize.
- In South Bihar Alluvial Zone, continue sowing of maize. Complete sowing of rai, lentil, peas and gram. Continue sowing of fodder crop berseem. Continue sowing of wheat.

▪ **Jharkhand:**

- In Western Plateau Zone of Jharkhand, continue sowing of gram, lentil and linseed. Also continue sowing of wheat. Continue sowing of barley and planting of potato.
- In South Eastern Plateau Zone of Jharkhand, continue sowing of chick pea, wheat, linseed and lentil. Continue nursery raising of onion. Continue transplanting of cole crops.
- In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of mustard, wheat, lentil, linseed. Continue harvesting of rice. Prepare nursery bed for onion.
- In South Eastern Plateau Zone of Jharkhand, low temperature and foggy weather is favourable for the attack of early and late blight disease in potato crop; spray Krilaksil or Ridomil MZ chemical @ 1.5 g per litre of water to control the disease.
- Suitable varieties are given in Annexure II.

• **Animal Husbandry**

- In Central & North Eastern Plateau Zone of Jharkhand, to prevent from cold, dairy animal should be covered with blanket gunny sack/ sheet in the evening.
- In Terai Zone of West Bengal, newly hatched chicken must be provided with artificially arranged heating system upto 1.5 months old chicks.
- In Coastal Saline Zone of West Bengal there is chance of worm attack due to cold in cattle. Feed Albomer@1.5g bolus per 150kg weight and keep them under proper shade.

• **Fishery**

- In Terai Zone of West Bengal, due to prevailing weather conditions and as temperature is decreasing do not apply cow dung or any other organic manure and lesser quantity application of supplementary feed should be done in pond. Apply lime @ 60kg/bigha with 2.5 m water level.

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



*Sugarcane*

*Land preparation*

*Okra*

*Onion*

- **Realised Rainfall:** Weather remained dry over the region.
- **Weather Forecast:** Dry weather would prevail over the region during the period.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be dry over the region.
- **Advisories:**
  - **Madhya Pradesh:**
    - Continue sowing of wheat in Bundelkhand Zone. Also continue transplanting of tomato, chilli, brinjal, cauliflower and cabbage on raised beds. Complete sowing of chickpea and linseed. As dry weather is prevailing, apply irrigation in mustard crop. Undertake transplanting of onion in the main fields.
    - Undertake sowing of wheat and gram in Grid Zone.
    - Continue sowing of wheat, green pea and nursery sowing of tomato, chilli, brinjal, cauliflower, cabbage, capsicum, onion, early planting of potato and ginger in Vindhya Plateau Zone of Madhya Pradesh.
    - Continue sowing of vegetable pea, mustard, toria and planting of potato, undertake transplanting of cabbage, cauliflower, onion in main field and continue sowing of carrot, garlic and radish in Kymore Plateau and Satpura Hill Zone.
    - Continue sowing of pea and planting of potato in Malwa Plateau Zone. Also continue transplanting of onion, tomato, brinjal, chilli, cabbage and cauliflower on the prepared beds. Continue sowing of wheat. Irrigate newly planted fruit plants.
    - Irrigate early winter vegetables i.e. tomato, chilli, brinjal, cauliflower, cabbage, capsicum etc. and early potato & early green pea crop under moisture stress condition in Jhabua Hill Zone. Undertake sowing of garlic and transplanting of onion.
    - Complete harvesting of matured soybean and undertake sowing of wheat, gram in Nimar Valley Zone.
    - Due to cloudy weather there are chances of attack of sucking pest in vegetables in Vindhya Plateau Zone of Madhya Pradesh, spray Imidacloprid or Thiamethoxam @ 0.35 g per litre of water.
    - Due to cloudy weather there are chances of attack of semi looper in cauliflower crop in Bundelkhand Zone, for control spray Malathion 50 E.C. @ 2ml/L of water.
  - **Chhattisgarh:**
    - Continue harvesting of matured rice in North Hill Zone. Continue transplanting of vegetables like cauliflower, tomato, brinjal, chilli etc. Continue planting of potato, garlic and raising seedlings of onion. Continue sowing of wheat and land preparation of other *rabi* crops.
    - Continue sowing of gram, wheat, peas, lentil, chickpea and linseed, transplanting of cauliflower, tomato, brinjal, chilli etc. in Chhattisgarh Plain Zone. Undertake sowing of garlic, planting of potato and raising seedlings of onion. Continue harvesting of matured rice.
    - Undertake sowing of toria, green pea, linseed, gram, wheat and nursery sowing of vegetables like, chilli, cauliflower, tomato etc. in Bastar Plateau Zone.
    - Suitable varieties are given in Annexure II.
- **Animal Husbandry**
  - Due to humid weather condition keep cattle's in dry and clean place. Create neem leaves smoke in night to save the cattle's from mosquitoes and bees in Madhya Pradesh.

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



**Land preparation**

**Sugarcane**

**Bottle Gourd**

**Onion**

- **Realised Rainfall:** Weather remained dry over the region.
- **Weather Forecast:** Rain/thundershowers would occur at a few places over Jammu & Kashmir during next 24 hours and at isolated places thereafter. Rain/thundershowers would occur at isolated places over Himachal Pradesh during next 24 hours and dry weather would prevail thereafter. Dry weather would prevail over rest parts of the region. No significant change in minimum temperatures over plains of northwest India during next 2-3 days. Shallow fog would occur over some pockets of Punjab, Haryana and Uttar Pradesh during next 48 hours.
- **Weather Warning:** Nil.
- **Weather Outlook:** A fresh western disturbance would affect western Himalayan region from 30<sup>th</sup> November.
- **Advisories:**
  - **Jammu & Kashmir:**
    - As temperatures are conducive, continue sowing of wheat. Continue sowing of barley, pulses (gram, lentil, pea) in Intermediate Zone of Jammu & Kashmir. Undertake weed control in mustard crops, apply Fluchloralin @ 0.70 kg a.i./ha as Pre plant incorporation (PPI) or Pendimethalin @ 1.0 kg/ha (pre-emergence) dissolved in 500-600 litre of water on non rainy day for effective control on annual grasses and broad leaved weeds.
    - In Sub-Tropical Zone of Jammu & Kashmir, as temperatures are conducive, continue sowing of wheat. Continue sowing of barley, oilseed crops (toria, mustard), *rabi* pulses (chickpea, peas, gram, lentil), nursery sowing of onion and planting of potato and garlic.
    - In Cold and Arid zone of Jammu & Kashmir, continue field preparation for sowing of cereal crops and direct sowing of spinach, turnip and radish in greenhouses.
    - Continue sowing of peas and planting of garlic in Valley Temperate Zone of Jammu & Kashmir.
    - Due to decrease in temperature, there may be aphid infestation in toria, to control spray Chlorpyrifos 20 EC @ 0.05% or Monocrotophos 36 SL @ 0.04 % in Sub-Tropical Zone.
  - **Himachal Pradesh:**
    - As temperatures are conducive, continue sowing of wheat. Continue planting of potato and sowing of early varieties of pea and onion in Lower and Mid Hills regions of Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Seed treatment with Bavistin @ 2.5g per kg of seed before sowing for control of seed boom diseases of wheat. Continue direct sowing of radish, turnip, carrot and fenugreek in lower regions. Complete transplanting of cabbage, cauliflower and broccoli. Also undertake sowing of berseem, lucerne and oats as fodder crops. Continue sowing of barley in high altitude areas.
    - Undertake intercultural operation in already sown wheat and ghobhi sarson by spraying Isoproturon 75 WP @ 70 g per 30 litres of water in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Undertake application of nitrogen fertilizer in cole crops after 20-25 days of sowing.
    - In Mid Hills Sub-Humid Zone of Himachal Pradesh, continue transplanting of late season cauliflower (Pusa-snowball) and cabbage and planting of onion at a distance of 15X10cm. Complete sowing of pea.
    - Continue harvesting of apple and sowing of Chinese cabbage, cabbage and coriander in High Hill Dry Temperate Zone of Himachal Pradesh.
    - Due to humid weather condition, there are chances of incidence of Powdery mildew in tomato and shimla mirch in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. For control, spray Hexaconazol @ 1ml per litre of water at 10 days interval.
    - Under prevailing humid weather condition, there are chances of damping off disease in vegetable crops. For control, mix thoroughly Dithane M 45 dust 10-15 g in 1X3 metre beds in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh.
    - Under prevailing low temperature condition, there are chances of attack of cut worm in cauliflower in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Chloropyrifos 20 EC @ 80ml mixed in 1kg of sand can be spread in the fields.
    - Under prevailing dry weather condition, there are chances of aphids attack in vegetables in Mid Hills Sub-Humid Zone of Himachal Pradesh. Spray Methyl Demeton (Metasystox) @10ml per 10 litres of water. For control of attack of woolly apple aphid in apple orchards, apply Thiamethoxam (Ektara) @ 100g or Carbosulfan (Marshal) @ 100 ml or Chlorpyrifos (Durmet) @ 200 ml in 100 litres of water.

▪ **Uttarakhand:**

- Continue land preparation for sowing of wheat and planting of potato in Hill Zone. Also undertake planting of potato.
- As dry weather would prevail apply light irrigation in early sown mustard crops of 30 days duration, and top dress half kg Urea per Nali & do weeding & thinning operations for better crop growth. Also continue sowing of wheat, mustard and planting of autumn sugarcane in Bhabar and Tarai Zone of Uttarakhand.
- As dry weather would prevail, apply a light irrigation in mustard, chickpea and pea. Continue planting of potato and planting of winter sugarcane in Sub Humid Sub Tropical Zone of Uttarakhand.
- Due to heavy dew, moderate fog and high relative humidity, there are chances of Aphid incidence at flowering & pod formation stage of the crops. To control spray Neem oil @2 ml/liter of water.

▪ **Punjab, Haryana and Delhi:**

- In Western Undulating Zone of Punjab, continue nursery sowing of mid-season cauliflower, desi varieties of radish, carrot under irrigation and turnip and planting of mango, litchi and apply irrigation in rice, cotton and maize.
- In Central Plain Zone of Punjab, continue sowing of desi varieties of carrot, radish and turnip crops and undertake transplanting of tomato under irrigation. Complete planting of potato, sowing of peas, leafy vegetables and nursery sowing of cauliflower. Continue harvesting of matured maize and groundnut in Ludhiana district. Continue planting of early maturing autumn sugarcane. Undertake sowing of early wheat under irrigated condition, African sarson, raya, gobhi sarson, nursery of chilli, capsicum, brinjal, tomato and onion.
- In Undulating Plain Zone of Punjab, as temperatures are conducive, continue sowing of wheat. Continue sowing of lentil and complete sowing of gram. Undertake sowing of mustard.
- In Western Plain Zone of Punjab, undertake nursery sowing of tomato and onion. Apply light irrigation to early sown wheat and weather is favourable for sowing of wheat under delayed and late conditions. Complete sowing of pea. Also apply irrigation to sugarcane at monthly interval.
- Present foggy weather is favourable for incidence of late blight in potato in Western Zone of Punjab, spray Indofil-M-45/Kavach/Antracol @ 500-700g/acre or Blitox @ 750-1000g/ 250-350 litre of water/acre at weekly interval.
- In Western Zone of Punjab, continue sowing of raya, gobhi sarson, rabi onion, carrot, tomato. Undertake sowing of wheat. Complete the sowing of gram under rainfed conditions by this week.
- In Western Zone of Haryana, continue sowing of mustard and gram. As dry weather would prevail, harvest rice crop and continue the picking of matured cotton bolls of early sown cotton. In Eastern Zone of Haryana undertake sowing of wheat.
- Present weather is favourable for attack of top borer in sugarcane in Western Zone of Haryana, apply Carbofuran 3G @13 kg or Phorate 10G @ 8 kg in furrows and apply light irrigation.
- In Delhi, continue transplanting of onion seedlings and planting of early potato, winter sugarcane. Continue land preparation for sowing of early mustard, pea and early toria and sowing of radish, spinach, sarson, rabi onion, carrot and coriander. Undertake sowing of wheat in the prepared fields having optimum moisture and apply irrigation to wheat crop which is in CRI stage.

▪ **Uttar Pradesh:**

- Undertake sowing of late varieties of gram in Bundelkhand Zone of Uttar Pradesh. Continue sowing of gram, rajma, vegetables like spinach, coriander, fenugreek and carrot; transplanting of cauliflower, cabbage, tomato, chilli and brinjal. Complete sowing of pea, lentil, mustard and rapeseed.
- Continue sowing of wheat, rapeseed, gram, peas, matar and maize and planting of potato in Central Plain Zone of Uttar Pradesh with available soil moisture. Complete transplanting of cauliflower, cabbage, chilli, brinjal and tomato and continue sowing of spinach, fenugreek, radish, carrot and garlic.
- Complete sowing of normal wheat and undertake sowing of late varieties of wheat in Eastern Plain Zone of Uttar Pradesh. Also undertake sowing of gram and lentil.
- Apply irrigation to sugarcane crops at 20 days interval in Western Plain Zone of Uttar Pradesh. Undertake application of Nitrogen in sarson, toria and taramira after irrigation.
- Under prevailing hot and humid weather condition, there are chances of attack of fruit borer in brinjal and tomato in Eastern Plain Zone of Uttar Pradesh. For control, spray DDVP-76 EC @ 750 ml or Malathin 50 EC @ 2 litre per 600-800 litres of water per hectare.

▪ **Rajasthan:**

- In Southern Humid Plain Zone continue sowing of wheat, gram and *rabi* maize. In Flood Prone Eastern Plain Zone of Rajasthan, undertake weeding and thinning in gram and lentil crops. Also continue sowing of cluster bean, wheat, gram, carrot, lucerne and irrigate potato crop within 15 days interval. Also continue sowing of wheat and barley in Semi Arid Eastern Plain Zone.
- Continue field preparation for the sowing of wheat, barley in (Bikaner) and wheat, cumin in (Jodhpur) Arid Western Plain Zone of Rajasthan. Also continue land preparation for sowing of wheat, barley, fenugreek, lucerne in Transitional Plain Zone of Inland Drainage of Rajasthan.
- In Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan, continue sowing of wheat gram and mustard.

- Continue seed bed preparation for nursery sowing of chilli, brinjal and tomato.
- Due to low temperature condition, there is chance of attack of leaf minor in mustard in Flood Prone Eastern Plain Zone of Rajasthan. To control spray Dimethoate 30 EC or Monocrotophos @ 1 litre in 600- 800 ml of water. Also apply @ 0.1% solution of Malathion 50EC to manage fruit fly in guava.
- Mango, guava and pomegranate may be attacked by mealbug insect in Semi Arid Eastern Plain Zone of Rajasthan. To control this mix Qinalphos 1.5 % @ 50-100 grams per tree in soil at a depth of 10-25 cm.
- Due to humid weather condition there may be attack of saw fly and painted bug in mustard in Arid Western Plain Zone of Rajasthan. To control, dusting the crop with Methyl Parathion dust @ 25 kg/ha.
- Suitable varieties are given in Annexure II.
- **Floriculture**
- Continue nursery raising of winter flowers in poly houses in Sub Montane and Low Hills Sub-Tropical; Zone of Himachal Pradesh. For the control of blue beetle in roses and balsam, spray Cypermythrin @0.05%. Present weather is conducive for attack of mites in carnation. For control, spray Cypermythrin @0.05% at 15 days interval.
- **Animal Husbandry:**
- Due to fall in night temperature, keep cows in their cowshed to protect them from cold in High Hill Temperate Dry Zone of Himachal Pradesh. Also give 40-50g minerals mixture with the daily. Due to fall in temperature, make the arrangements for protection of cold in the poultry houses in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Undertake vaccination for IBD and Ranikhet disease as there are chances of spread of these diseases.
- Due to fall in temperature, keep cows in their cowshed to protect them from cold in Jammu & Kashmir.

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



**Onion**

**Sugarcane**

**Cotton**

**Mango**

- **Realised Rainfall:** Weather remained dry over the region.
- **Weather Forecast:** Dry weather would prevail over the region during the period.
- **Weather Warning:** Nil
- **Weather Outlook:** Rain/ thundershower would occur at few places over Konkan & Goa, Madhya Maharashtra, South Gujarat Region and Saurashtra. Weather would be dry over rest of the region.
- **Advisories:**
  - **Maharashtra:**
    - In Konkan, apply irrigation, fertilizers and intercultural operations in vegetable crops and mango and cashew orchards. Utilizing the residual moisture in the harvested rice field, complete sowing of *wal*, *kulthi* and cow pea. Prepare the field for the sowing of *rabi* groundnut. Prepare raised bed for nursery sowing of *rabi* rice.
    - In Madhya Maharashtra, continue intercultural operations like weeding and fertilizer application in sugarcane, vegetables, *rabi* jowar, gram, wheat and safflower. Complete sowing of irrigated wheat and gram. Continue picking of fully opened cotton bolls during morning hours. Apply irrigation to vegetables, sugarcane, safflower, *rabi* jowar, gram, wheat and grapes, banana and pomegranate orchards.
    - In Marathwada, as dry weather would prevail, apply irrigation to sugarcane, red gram, safflower, *rabi* jowar, early sown wheat and vegetables. Considering the water stress condition, apply micro irrigation like drip and sprinkler irrigation in sugarcane and orchards like banana, pomegranate, sweet lime and orange. Also apply mulch of crop residue. Continue intercultural operation like weeding and fertilizer application to sugarcane, *rabi* jowar, early sown wheat, gram and vegetables to preserve the soil moisture in the fields. Complete sowing of irrigated gram and wheat. Continue picking of fully opened cotton bolls during morning hours.
    - In Vidarbha, as dry weather is prevailing, apply irrigation to vegetables and orange, sweet lime orchards. Apply fertilizers and continue intercultural operations in vegetables and orchards. Continue picking fully opened cotton bolls. Complete sowing of irrigated wheat. Continue sowing of linseed in east Vidarbha & complete sowing of irrigated gram. Prepare raised bed for nursery sowing of *rabi* rice.
    - Due to cloudy weather during last week in Marathwada region, there may be attack of pod borer in red gram; spray Propanofos 40 %+ Cypermethrin 40 % @ 25 ml per 10 litres of water.
    - Cloudy weather in Pune region is favourable for the incidence of downy mildew in grapes; spray Metalaxyl - Mancozeb 0.2 % at 12 days interval.

▪ **Gujarat:**

- In North Gujarat Zone, undertake sowing of wheat and cumin. Complete sowing of gram and planting of potato. As dry weather is prevailing undertake harvesting of matured sorghum. Apply irrigation to castor.
- Continue sowing of wheat, green gram, chick pea, castor and planting of sugarcane in Bhal and Coastal Zone. Complete picking of matured bolls of cotton. As dry weather is prevailing apply irrigation to castor. Undertake sowing of cumin.
- Undertake land preparation and sowing of wheat and chickpea in South Saurashtra Zone. Complete picking of matured bolls of cotton.
- In South Gujarat Zone, undertake sowing of wheat.
- Continue sowing of wheat, peas and carrot in North Saurashtra Zone.
- Continue sowing of wheat and cumin in North West Zone.
- Continue sowing of wheat, green gram, chick pea, castor, maize, lucerne and planting of sugarcane in South Gujarat Heavy Rainfall Zone.
- Suitable varieties are given in Annexure II.

**Districtwise realised rainfall and % departure for past three weeks is given below in Annexure I.**

**Annexure I**  
**Week by week Rainfall Distribution**

Sub-Divisions	12.11.14		19.11.14		26.11.14	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Karnataka</b>						
<b>Coastal Karnataka</b>						
Dakshin Kannada	5.9	-78	33.4	67	6.5	-58
Udupi	0.6	-98	31.4	114	0.8	-94
Uttar Kannada	0.0	-100	27.3	122	0.0	-100
<b>N I Karnataka</b>						
Bagalkote	0.0	-100	11.9	147	0.0	-100
Belgaum	0.1	-99	42.1	510	0.0	-100
Bidar	3.1	-51	17.0	295	0.0	-100
Bijapur	0.0	-100	18.7	223	0.0	-100
Dharwad	0.0	-100	40.8	410	0.0	-100
Gadag	0.0	-100	30.5	228	0.0	-100
Gulbarga	4.0	-4	27.8	355	0.0	-100
Haveri	0.0	-100	45.8	214	0.0	-100
Koppal	0.0	-100	14.8	79	0.0	-100
Raichur	0.8	-79	3.1	-53	0.0	-100
Yadgir	1.2	-74	8.2	15	0.0	-100
<b>S I Karnataka</b>						
Bangalore Rural	0.0	-100	32.5	206	0.0	-100
Bangalore Urban	2.4	-83	22.9	112	0.0	-100
Bellary	0.0	-100	15.0	75	0.0	-100
Chamarajnagar	1.2	-93	7.7	-38	0.0	-100
Chichballapur	0.0	-100	19.4	96	0.0	-100
Chickmagalur	1.2	-93	22.1	49	0.0	-100
Chitradurga	0.0	-100	35.6	245	0.0	-100
Davangere	0.0	-100	34.2	124	0.0	-100
Hassan	1.0	-95	8.7	-19	0.0	-100
Kodagu	8.0	-66	11.6	-13	0.0	-100

Kolar	0.0	-100	29.9	141	0.0	-100
Mandya	0.0	-100	5.0	-41	0.0	-100
Mysore	0.0	-100	2.8	-72	0.0	-100
Ramnagara	7.0	-53	19.9	105	0.0	-100
Shimoga	0.1	-99	20.9	52	0.0	-100
Tumkur	1.9	-85	17.0	83	0.0	-100
<b>Kerala</b>						
Alappuzha	9.3	-82	43.4	14	12.0	-66
Kannur	9.5	-62	27.1	48	22.6	31
Ernakulam	16.1	-62	54.7	95	23.6	-23
Idukki	19.4	-62	28.1	-10	7.9	-72
Kasaragod	11.2	-57	15.2	-22	0.0	-100
Kollam	39.5	-38	27.5	-44	18.6	-44
Kottayam	44.4	-17	59.5	80	6.3	-78
Kozhikode	0.3	-99	24.8	-12	6.2	-71
Malappuram	34.4	-1	28.1	-5	3.1	-88
Palakkad	16.1	-58	7.7	-69	1.0	-96
Pathanamthitta	16.9	-71	57.3	12	7.7	-79
Thiruvananthapuram	5.7	-89	30.8	-21	29.0	0
Thrissur	11.3	-75	49.7	110	10.8	-58
Wynad	11.2	-64	11.3	-40	5.1	-76
<b>Tamil Nadu</b>						
Ariyalur	2.8	-96	54.4	9	2.5	-94
Chennai	18.2	-81	100.4	9	0.0	-100
Coimbatore	7.2	-81	6.9	-72	0.6	-97
Cuddalore	6.6	-92	139.7	95	1.2	-98
Dharmapuri	2.9	-90	39.8	98	0.0	-100
Dindigul	2.4	-95	25.7	-25	4.5	-84
Erode	16.1	-49	30.8	44	0.5	-98
Kanchipuram	10.6	-86	92.5	67	0.0	-100
Kanyakumari	11.4	-81	39.1	-13	85.7	167
Karikal	21.3	-85	154.1	73	33.8	-68
Karur	0.4	-99	34.9	36	0.1	-99
Krishnagiri	1.7	-91	29.5	80	0.0	-100
Madurai	1.8	-96	11.1	-58	13.5	-45
Nagapattinam	14.9	-87	152.8	70	40.2	-55
Namakkal	3.6	-86	35.8	71	0.3	-98
Nilgiris	41.5	-26	82.6	116	12.7	-62
Perambalur	14.3	-61	32.3	-10	0.0	-100
Puducherry	2.1	-98	121.8	98	0.0	-100
Pudukottai	5.0	-87	60.3	78	17.2	-50
Ramanathapuram	1.7	-97	71.2	100	81.1	148
Salem	4.6	-85	39.4	39	1.1	-95
Sivaganga	1.5	-97	21.9	-25	36.2	54
Thanjavur	8.2	-86	93.5	119	14.5	-71
Theni	12.3	-70	13.5	-53	11.7	-49
Tirunelveli	25.5	-58	65.0	45	122.5	234
Tirupur	13.5	-63	13.2	-43	0.2	-99
Tiruvallur	14.5	-79	104.9	68	0.0	-100

Tiruvannamalai	0.9	-98	56.1	39	0.0	-100
Tiruvarur	5.2	-94	134.7	98	35.2	-50
Toothukudi	6.0	-88	23.9	-36	103.9	201
Trichy	13.1	-66	40.3	31	2.4	-92
Vellore	1.3	-97	43.6	54	0.0	-100
Villupuram	3.6	-93	84.5	92	0.7	-98
Virudhunagar	7.9	-84	6.6	-82	15.5	-49
<b>Andhra Pradesh</b>						
<b>Coastal Andhra Pradesh</b>						
East Godavari	19.4	43	4.6	-63	0.0	-100
Guntur	17.1	-12	34.0	131	0.5	-97
Krishna	3.4	-79	24.9	135	2.7	-80
Nellore	16.8	-76	98.9	52	0.0	-100
Prakasam	17.4	-40	62.8	140	3.0	-86
Sirkakulam	0.3	-98	6.6	-34	0.0	-100
Visakhapatnam	1.7	-86	7.5	-37	0.0	-100
Vizianagram	0.0	-100	9.6	19	0.0	-100
West Godavari	0.8	-95	9.2	-27	0.7	-95
<b>Rayalaseema</b>						
Anantapur	0.1	-99	13.5	78	0.0	-100
Chittoor	1.1	-97	43.5	30	0.0	-100
Cuddapah	0.0	-100	26.7	78	0.0	-100
Kurnool	17.2	132	6.1	-5	0.0	-100
<b>Telangana</b>						
Adilabad	1.1	-60	5.5	73	0.0	-100
Hyderabad	0.0	-100	53.3	759	0.0	-100
Karimnagar	1.0	-79	3.1	-38	0.0	-100
Khammam	4.2	-21	7.5	176	2.8	-55
Mehabubnagar	7.6	91	6.0	14	0.0	-100
Medak	4.4	-15	12.7	211	0.0	-100
Nalgonda	7.3	0	6.6	1	1.0	-77
Nizamabad	7.0	79	5.6	43	0.0	-100
Rangareddy	2.4	-50	13.7	141	0.0	-100
Warangal	1.3	-72	9.6	135	0.0	-100
<b>Arunachal Pradesh</b>						
Anjaw	**	**	**	**	**	**
Changlang	0.0	-100	0.3	-95	0.0	-100
Dibang Valley	**	**	**	**	**	**
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	0.0	-100	0.3	-91	23.3	442
Kurung Kumey	**	**	**	**	**	**
Lohit	0.0	-100	3.3	-54	6.1	-22
Lower Dibang Valley	0.0	-100	0.7	-92	14.8	-11
Lower Subansari	**	**	**	**	**	**
Papumpara	6.4	-17	14.6	508	7.1	36
Tawang	0.0	-100	16.0	98	3.0	-63
Tirap	0.0	-100	0.0	-100	0.0	-100
Upper Siang	4.3	-83	0.0	-100	0.0	-100
Upper Subansari	3.0	-47	2.8	-49	16.4	193



West Kameng	0.0	-100	0.0	-100	0.0	-100
West Siang	4.0	-56	3.0	-9	24.5	188
<b>Assam&amp;Meghalaya</b>						
<b>Assam</b>						
Baksa	0.0	-100	0.0	-100	0.0	-100
Barpeta	0.0	-100	0.1	-97	0.0	-100
Bongaigaon	0.0	-100	0.0	-100	0.0	-100
Cachar	0.1	-99	0.0	-100	0.0	-100
Chirang	0.0	-100	0.0	-100	0.0	-100
Darrang	0.0	-100	0.0	-100	0.0	-100
Dhemaji	6.0	2	12.0	150	13.0	210
Dhubri	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	0.1	-98	0.5	-88	2.1	-66
Goalpara	0.0	-100	0.0	-100	0.0	-100
Golghat	0.0	-100	0.0	-100	2.6	-47
Hailakandi	2.7	-83	0.0	-100	0.0	-100
Jorhat	0.0	-100	2.7	-40	2.9	-59
Kamrup(Rural)	0.0	-100	0.0	-100	0.0	-100
Kamrup(Metro)	0.0	-100	0.0	-100	0.3	-81
Karbi Anglong	0.0	-100	0.0	-100	0.0	-100
Karimganj	0.0	-100	0.0	-100	0.0	-100
Kokrajhar	0.0	-100	4.4	47	0.0	-100
Lakhimpur	1.7	-71	13.3	178	5.7	36
Morigaon	0.0	-100	0.4	-87	3.2	10
N.C.Hills	0.0	-100	0.0	-100	0.0	-100
Nowgong	0.0	-100	0.0	-100	0.0	-100
Nalbari	0.0	-100	0.0	-100	0.0	-100
Sonitpur	0.0	-100	0.0	-100	0.0	-100
Sibsagar	0.0	-100	0.0	-100	1.6	-79
Tinsukia	1.0	-85	0.2	-90	0.0	-100
Udalgiri	0.0	-100	0.0	-100	12.1	317
<b>Meghalaya</b>						
East Garo Hills	0.0	-100	0.0	-100	15.7	3040
East Khasi Hills	0.0	-100	0.0	-100	0.1	-99
Jaintia Hills	0.0	-100	1.0	-84	0.0	-100
Ribhoi	4.8	-9	0.4	-89	0.0	-100
South Garo Hills	0.0	-100	0.0	-100	0.0	-100
West Garo Hills	0.0	-100	0.0	-100	0.0	-100
West Khasi Hills	0.0	-100	0.0	-100	0.0	-100
<b>NMMT</b>						
<b>Mizoram</b>						
Aizwal	0.9	-97	0.0	-100	0.0	-100
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	20.0	-25	0.0	-100	0.0	-100
Mamit	**	**	**	**	**	**
Saiha	2.0	-92	0.0	-100	0.0	-100
Serchhip	3.8	-87	0.0	-100	0.0	-100

<b>Manipur</b>						
Bishnupur	**	**	**	**	**	**
Chandel	0.0	-100	0.0	-100	0.0	-100
Churachandpur	**	**	**	**	**	**
Imphal east	0.0	-100	0.0	-100	0.0	-100
Imphal west	0.0	-100	0.0	-100	0.0	-100
Senapati	0.0	-100	0.0	-100	0.0	-100
Tamenglong	**	**	**	**	**	**
Thoubal	0.0	-100	0.0	-100	0.0	-100
Ukhrul	**	**	**	**	**	**
<b>Nagaland</b>						
Dimapur	0.0	-100	0.0	-100	0.0	-100
Kephire	**	**	**	**	**	**
Kohima	0.0	-100	0.0	-100	0.0	-100
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Parent	**	**	**	**	**	**
Phek	0	-100	0	-100	0	-100
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
<b>Tripura</b>						
Dhalai	2.0	-89	0.0	-100	0.0	-100
North tripura	0.0	-100	0.0	-100	0.0	-100
South tripura	6.1	-70	0.0	-100	0.0	-100
West tripura	0.7	-96	0.0	-100	0.0	-100
<b>Himachal Pradesh</b>						
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Chamba	10.7	347	0.0	-100	0.0	-100
Hamirpur	0.1	-92	0.0	-100	0.0	-100
Kangra	0.7	-62	0.0	-100	0.0	-100
Kinnaur	0.2	-94	0.0	-100	0.0	-100
Kullu	4.8	17	0.0	-100	0.0	-100
Lahaul and Spiti	5.3	-2	0.0	-100	0.0	-100
Mandi	2.3	-27	0.0	-100	0.0	-100
Shimla	0.6	-83	0.0	-100	0.0	-100
Sirmaur	0.0	-100	0.0	-100	0.0	-100
Solan	0.0	-100	0.0	-100	0.0	-100
Una	0.0	-100	0.0	-100	0.0	-100
<b>Punjab</b>						
Amritsar	0.5	-79	0.0	-100	0.0	-100
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	4.8	4733	0.0	-100	0.0	-100
Faridkot	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	0.0	-100	0.0	-100	0.0	-100
Ferozpur	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	0.7	-68	0.0	-100	0.0	-100
Hoshiarpur	0.0	-100	0.0	-100	0.0	-100

Jalandhar	0.0	-100	0.0	-100	0.0	-100
Kapurthala	0.2	-88	0.0	-100	0.0	-100
Ludhiana	0.0	-100	0.0	-100	0.0	-100
Mansa	2.0	233	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	0.0	-100	0.0	-100	0.0	-100
Patiala	1.0	138	0.0	-100	0.0	-100
Ropar	1.0	-60	0.0	-100	0.0	-100
Sangrur	1.7	109	0.0	-100	0.0	-100
Mohali	0.0	-100	0.0	-100	0.0	-100
TarnTaran	0.0	-100	0.0	-100	0.0	-100
<b>Haryana,Chd,Delhi</b>						
<b>Haryana</b>						
Ambala	0.2	-82	0.0	-100	0.0	-100
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.1	-95	0.0	-100	0.0	-100
Faridabad	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	0.0	-100
Gurgaon	0.0	-100	0.0	-100	0.0	-100
Hissar	0.0	-100	0.0	-100	0.0	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	0.0	-100
Katihah	1.2	200	0.0	-100	0.0	-100
Karnal	0.0	-100	0.0	-100	0.0	-100
Kurukshetra	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	0.0	-100	0.0	-100	0.0	-100
Mewat	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	0.0	-100	0.0	-100
Panchkkula	0.0	-100	0.0	-100	0.0	-100
Panipat	0.0	-100	0.0	-100	0.0	-100
Rewari	0.0	-100	0.0	-100	0.0	-100
Rohtak	0.0	-100	0.0	-100	0.0	-100
Sirsa	1.5	150	0.0	-100	0.0	-100
Sonepat	0.0	-100	0.0	-100	0.0	-100
Yamunanagar	0.0	-100	0.0	-100	0.0	-100
<b>Delhi</b>						
Central Delhi	0.0	-100	0.0	-100	0.0	-100
East Delhi	0.0	-100	0.0	-100	0.0	-100
New Delhi	0.0	-100	0.0	-100	0.0	-100
North Delhi	0.0	-100	0.0	-100	0.0	-100
North East Delhi	0.0	-100	0.0	-100	0.0	-100
North West Delhi	0.0	-100	0.0	-100	0.0	-100
South Delhi	0.0	-100	0.0	-100	0.0	-100
South West Delhi	0.0	-100	0.0	-100	0.0	-100
West Delhi	0.0	-100	0.0	-100	0.0	-100
<b>Jammu &amp; Kashmir</b>						
Anantnag	20.6	164	0.0	-100	0.0	-100
Badgam	13.4	179	0.0	-100	0.0	-100

Bandipore	**	**	**	**	**	**
Baramula	25.8	387	0.0	-100	0.0	-100
Doda	13.6	123	0.0	-100	0.0	-100
Ganderbal	20.8	230	0.0	-100	0.0	-100
Jammu	7.1	542	0.0	-100	0.0	-100
Kargil	**	**	**	**	0.0	-100
Kathua	0.5	-72	0.0	-100	0.0	-100
Kistwar	**	**	**	**	**	**
Kulgam	14.9	91	0.0	-100	0.0	-100
Kupwara	37.5	213	0.0	-100	0.0	-100
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	16.3	200	0.0	-100	**	**
Pulwama	11.8	211	0.0	-100	0.0	-100
Rajouri	10.8	200	0.0	-100	**	**
Ramban	40.8	568	0.0	-100	0.0	-100
Reasi	9.5	171	0.0	-100	0.0	-100
Samba	2.6	136	0.0	-100	0.0	-100
Shopian	7.0	84	0.0	-100	0.0	-100
Srinagar	12.8	102	0.0	-100	0.0	-100
Udhampur	4.2	20	0.0	-100	0.0	-100
<b>East Madhya Pradesh</b>						
Anuppur	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	0.0	-100	0.0	-100	0.0	-100
Chindwara	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	0.0	-100	0.0	-100
Dindori	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.0	-100
Katni	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.0	-100	0.0	-100
Panna	0.0	-100	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	0.0	-100
Sagar	0.0	-100	0.0	-100	0.0	-100
Satna	0.0	-100	0.0	-100	0.0	-100
Seoni	23.4	767	0.8	-81	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	0.0	-100	0.0	-100
<b>West Madhya Pradesh</b>						
Alirajpur	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	4.4	76	0.1	-97	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100
Burhanpur	14.1	236	0.0	-100	0.0	-100

Datia	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.2	-88	0.0	-100
Guna	0.0	-100	0.0	-100	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.5	-81	5.0	178	0.0	-100
Indore	0.0	-100	0.1	-96	0.0	-100
Jhabua	0.0	-100	0.8	-70	0.0	-100
Khandwa	27.0	694	0.0	-100	0.0	-100
Khargone	14.0	639	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100
Morena	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.0	-100
Rajgarh	0.0	-100	0.0	-100	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100
Sehore	0.2	-96	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	6.0	132	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.0	-100
<b>Chhattisgarh</b>						
Bastar	0.0	-100	1.0	-37	0.0	-100
Bijapur	0.0	-100	10.5	515	0.0	-100
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Dantewara	0.0	-100	21.4	5258	0.0	-100
Dhamtari	0.0	-100	0.0	-100	0.0	-100
Durg	0.0	-100	0.0	-100	0.0	-100
Janjgir	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100
Kawardha	0.0	-100	0.0	-100	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100
Narayanpur	0.0	-100	12.0	991	0.0	-100
Raigarh	0.0	-100	0.0	-100	0.0	-100
Raipur	0.0	-100	0.0	-100	0.0	-100
Rajandgaon	0.0	-100	0.0	-100	0.0	-100
Surguja	0.0	-100	0.0	-100	0.0	-100
<b>East Uttar Pradesh</b>						
Allahabad	0.0	-100	0.0	-100	0.0	-100
Ambedkar Nagar	0.0	-100	0.0	-100	0.0	-100
Azamgarh	0.0	-100	0.0	-100	0.0	-100
Bahraich	0.0	-100	0.0	-100	0.0	-100
Ballia	0.0	-100	0.0	-100	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100

Banda	0.0	-100	0.0	-100	0.0	-100
Barabanki	0.0	-100	0.0	-100	0.0	-100
Basti	0.0	-100	0.0	-100	0.0	-100
Chandauli	0.0	-100	0.0	-100	0.0	-100
Deoria	0.0	-100	0.0	-100	0.0	-100
Faizabad	0.0	-100	0.0	-100	0.0	-100
Farrukhabad	0.0	-100	0.0	-100	0.0	-100
Fatehpur	0.0	-100	0.0	-100	0.0	-100
Gazipur	0.0	-100	0.0	-100	0.0	-100
Gonda	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	0.0	-100	0.0	-100	0.0	-100
Hardoi	0.0	-100	0.0	-100	0.0	-100
Jaunpur	0.0	-100	0.0	-100	0.0	-100
Kannauj	0.0	-100	0.0	-100	0.0	-100
Kanpur City	0.0	-100	0.0	-100	0.0	-100
Kanpur Dehat	0.0	-100	0.0	-100	0.0	-100
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	0.0	-100	0.0	-100	0.0	-100
Kushi nagar	0.0	-100	0.0	-100	0.0	-100
Lucknow	0.0	-100	0.0	-100	0.0	-100
Maharajganj	0.0	-100	0.0	-100	0.0	-100
Mau	0.0	-100	0.0	-100	0.0	-100
Mirzapur	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
RaiBareilly	0.0	-100	0.0	-100	0.0	-100
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100
Sant Kabirnnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	0.0	-100
Shrawasti	**	**	**	**	0.0	-100
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100
Sitapur	0.0	-100	0.0	-100	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	0.0	-100
Sultanpur	0.0	-100	0.0	-100	0.0	-100
Unnao	0.0	-100	0.0	-100	0.0	-100
Varanasi			0.0	-100	0.0	-100
<b>West Uttar Pradesh</b>						
Agra	0.0	-100	0.0	-100	0.0	-100
Aligarh	0.0	-100	0.0	-100	0.0	-100
Auraiya	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.0	-100	0.0	-100
Baghpat	0.0	-100	0.0	-100	0.0	-100
Bareilly	0.0	-100	0.0	-100	0.0	-100
Bijnor	0.0	-100	0.0	-100	0.0	-100
Bulandsahar	0.0	-100	0.0	-100	0.0	-100
Etah	0.0	-100	0.0	-100	0.0	-100
Etawah	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	0.0	-100	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	0.0	-100

Hamirpur	0.0	-100	0.0	-100	0.0	-100
Jalaun	0.0	-100	0.0	-100	0.0	-100
Jhansi	0.0	-100	0.0	-100	0.0	-100
Jotiba Phule Nagar	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100
Lalitpur	0.0	-100	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100
Mainpuri	0.0	-100	0.0	-100	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100
Meerut	0.0	-100	0.0	-100	0.0	-100
Moradabad	0.0	-100	0.0	-100	0.0	-100
Muzzaffarnagar	0.0	-100	0.0	-100	0.0	-100
Pilibhit	0.0	-100	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100
Saharanpur	0.0	-100	0.0	-100	0.0	-100
Shahjahanpur	0.0	-100	0.0	-100	0.0	-100
<b>Uttarakhand</b>						
Almora	0.0	-100	0.0	-100	0.0	-100
Bageshwar	0.0	-100	0.0	-100	0.0	-100
Chamoli	0.0	-100	0.0	-100	0.0	-100
Champawat	0.0	-100	0.0	-100	0.0	-100
Dehradun	0.0	-100	0.0	-100	0.0	-100
Garhwal Pauri	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	0.0	-100	0.0	-100	0.0	-100
Haridwar	0.0	-100	0.0	-100	0.0	-100
Nainital	0.0	-100	0.0	-100	0.0	-100
Pithorgarh	0.0	-100	0.0	-100	0.0	-100
Rudraprayag	0.0	-100	0.0	-100	0.0	-100
Udham Sing Nagar	0.0	-100	0.0	-100	0.0	-100
Uttarkashi	0.0	-100	0.0	-100	0.0	-100
<b>Bihar</b>						
Araria	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	0.0	-100	0.0	-100
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Banka	0.0	-100	**	**	**	**
Begusarai	0.0	-100	0.0	-100	0.0	-100
Bhabua	0.0	-100	0.0	-100	0.0	-100
Bhagalpur	0.0	-100	0.0	-100	0.0	-100
Bhojpur	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	**	**	**	**
Darbhanga	0.0	-100	0.0	-100	0.0	-100
East Champaran	0.0	-100	0.0	-100	0.0	-100
Gaya	0.0	-100	0.0	-100	0.0	-100
Gopalganj	0.0	-100	0.0	-100	0.0	-100
Jahanabad	0.0	-100	0.0	-100	0.0	-100
Jamui	0.0	-100	0.0	-100	0.0	-100
Kathihar	0.0	-100	0.0	-100	0.0	-100
Khagadia	0.0	-100	0.0	-100	0.0	-100

Kishanganj	0.0	-100	0.0	-100	0.0	-100
Lakhisarai	0.0	-100	0.0	-100	0.0	-100
Madhepura	0.0	-100	0.0	-100	0.0	-100
Madhubani	0.0	-100	0.0	-100	0.0	-100
Monghyar	0.0	-100	**	**	**	**
Muzaffarpur	0.0	-100	0.0	-100	0.0	-100
Nalanda	0.0	-100	0.0	-100	0.0	-100
Nawada	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	0.0	-100	0.0	-100
Purnea	0.0	-100	0.0	-100	0.0	-100
Rohtas	0.0	-100	0.0	-100	0.0	-100
Saharsha	0.0	-100	0.0	-100	0.0	-100
Samstipur	0.0	-100	0.0	-100	0.0	-100
Saran	0.0	-100	0.0	-100	0.0	-100
Sheikpura	0.0	-100	0.0	-100	0.0	-100
Sheohar	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	0.0	-100	0.0	-100
Siwan	0.0	-100	0.0	-100	0.0	-100
Supaul	0.0	-100	0.0	-100	0.0	-100
Vaishali	0.0	-100	0.0	-100	0.0	-100
West Champaran	0.0	-100	0.0	-100	0.0	-100
<b>Jharkhand</b>						
Bokaro	0.0	-100	0.0	-100	0.0	-100
Chatra	0.0	-100	0.0	-100	0.0	-100
Deoghar	0.0	-100	0.0	-100	0.0	-100
Dhanbad	0.0	-100	0.0	-100	0.0	-100
Dumka	0.0	-100	0.0	-100	0.0	-100
East Singbhum	0.0	-100	0.0	-100	0.0	-100
Garhwa	0.0	-100	0.0	-100	0.0	-100
Giridih	0.0	-100	0.0	-100	0.0	-100
Godda	0.0	-100	0.0	-100	0.0	-100
Gumla	0.0	-100	0.0	-100	0.0	-100
Hazaribagh	0.0	-100	0.0	-100	0.0	-100
Jamtara	0.0	-100	0.0	-100	0.0	-100
Khunti	0.0	-100	0.0	-100	0.0	-100
Koderna	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	0.0	-100
Lohardagga	0.0	-100	0.0	-100	0.0	-100
Pakur	0.0	-100	0.0	-100	0.0	-100
Palamau	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	0.0	-100	0.0	-100
Ranchi	0.0	-100	0.0	-100	0.0	-100
Sahebganj	0.0	-100	0.0	-100	0.0	-100
Saraikelela	0.0	-100	0.0	-100	0.0	-100
Simdega	0.0	-100	0.0	-100	0.0	-100
West Singbhum	0.0	-100	0.0	-100	0.0	-100
<b>East Rajasthan</b>						
Ajmer	0.0	-100	0.0	-100	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100



Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	0.0	-100	0.0	-100
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.0	-100	0.0	-100
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100
Sikar	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	0.0	-100
Udaipur	0.0	-100	0.0	-100	0.0	-100
<b>West Rajasthan</b>						
Barmer	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.0	-100	0.0	-100
Hanumangarh	4.0	567	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-100	0.0	-100
Nagaur	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	0.0	-100	0.0	-100
<b>Gujarat Region</b>						
Ahmedabad	0.0	-100	8.7	200	0.0	-100
Anand	0.0	-100	0.4	-84	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Baroda	0.0	-100	1.5	-53	0.0	-100
Broach	0.0	-100	0.2	-56	0.0	-100
DNH	**	**	0.0	-100	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	0.0	-100	0.0	-100	0.0	-100
Dangs	0.0	-100	0.0	-100	0.0	-100
Gandhinagar	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.0	-100
Mehsana	0.0	-100	0.0	-100	0.0	-100
Narmada	0.0	-100	0.5	400	0.0	-100
Navsari	0.0	-100	0.7	-74	0.0	-100
Panchmahal	0.0	-100	0.0	-100	0.0	-100
Patan	0.0	-100	0.0	-100	0.0	-100

Sabarkantha	0.0	-100	0.0	-100	0.0	-100
Surat	0.0	-100	0.5	-83	0.0	-100
Tapi	0.0	-100	3.8	81	0.0	-100
Valsad	0.0	-100	8.0	100	0.0	-100
<b>S K &amp; Diu region</b>						
Amreli	0.0	-100	11.8	307	0.0	-100
Bhavnagar	0.0	-100	5.9	30	0.0	-100
Diu	0.0	-100	9.2	188	0.0	-100
Jamnagar	0.0	-100	1.3	-57	0.0	-100
Junagarh	0.0	-100	16.1	1050	0.0	-100
Kutch	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	2.3	-2	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100
<b>Maharashtra &amp; Goa</b>						
<b>Konkan &amp; Goa</b>						
Mumbai City	0.0	-100	4.2	31	0.0	-100
Mumbai Suburban	0.0	-100	2.9	-9	0.0	-100
North Goa	0.0	-100	4.0	-58	0.0	-100
Raigad	0.0	-100	6.0	43	0.0	-100
Ratnagiri	0.0	-100	12.9	102	0.0	-100
Sindhudurg	0.0	-100	9.9	14	0.0	-100
South Goa	0.2	-98	9.3	-14	0.0	-100
Thane	0.0	-100	2.8	17	0.0	-100
<b>Madhya Maharashtra</b>						
Ahmednagar	0.3	-96	62.9	984	0.0	-100
Dhule	22.5	733	**	**	**	**
Jalgaon	4.7	50	2.4	-8	0.0	-100
Kolhapur	0.0	-100	23.3	228	0.0	-100
Nandurbar	1.9	18	5.3	382	**	**
Nasik	4.8	-4	25.5	442	0.0	-100
Pune	0.0	-100	22.7	354	0.0	-100
Sangli	6.8	15	10.6	45	0.0	-100
Satara	0.0	-100	25.8	180	0.0	-100
Solapur	10.4	31	22.8	348	0.0	-100
<b>Marathwada</b>						
Aurangabad	3.8	-41	43.6	1182	0.0	-100
Beed	1.7	-72	0.8	-83	0.0	-100
Hingoli	0.0	-100	**	**	**	**
Jalna	0.0	-100	2.2	-55	0.0	-100
Latur	8.2	17	13.5	182	0.0	-100
Nanded	0.0	-100	8.0	86	0.0	-100
Usmanabad	21.6	204	19.9	564	0.0	-100
Parbhani	0.6	-85	11.7	172	0.0	-100
<b>Vidarbha</b>						
Akola	3.7	18	11.6	215	0.0	-100
Amraoti	11.2	220	0.4	-87	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100
Buldhana	0.0	-100	27.8	1223	0.0	-100

Chandrapur	0.1	-94	0.9	-69	0.0	-100
Gadchiroli	0.0	-100	0.0	-100	0.0	-100
Gondia	0.0	-100	0.0	-100	0.0	-100
Nagpur	1.0	-56	6.4	148	0.0	-100
Wardha	3.8	17	0.0	-100	0.0	-100
Washim	0.0	-100	0.3	-84	0.0	-100
Yeotmal	0.0	-100	0.0	-100	0.0	-100
<b>Odisha</b>						
Angul	0.0	-100	0.0	-100	0.0	-100
Balasore	0.0	-100	0.0	-100	0.0	-100
Bargarh	0.0	-100	0.0	-100	0.0	-100
Bhadrak	0.0	-100	0.0	-99	0.0	-100
Bolangir	0.0	-100	0.0	-100	0.0	-100
Boudh	0.0	-100	0.0	-100	0.0	-100
Cuttack	0.0	-100	0.0	-100	0.0	-100
Deogarh	0.0	-100	0.0	-100	0.0	-100
Dhenkanal	0.0	-100	0.0	-100	0.0	-100
Gajapati	11.4	-38	5.9	-38	0.0	-100
Ganjam	0.0	-100	0.0	-100	0.0	-100
Jagatsingpur	0.0	-100	0.0	-100	0.0	-100
Jajpur	0.0	-100	0.0	-100	0.0	-100
Jharsuguda	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.9	-69	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.0	-100
Kendrapara	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.0	-100	0.0	-100	0.0	-100
Khurda	0.0	-100	0.0	-100	0.0	-100
Koraput	0.0	-100	4.3	-60	0.0	-100
Malkangiri	24.4	662	0.6	-86	0.0	-100
Mayurbhanj	0.0	-100	0.0	-100	0.0	-100
Nawapara	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.0	-100	0.0	-100
Nayagarh	0.0	-100	0.0	-100	0.0	-100
Puri	0.0	-100	0.0	-100	0.0	-100
Rayagada	2.5	-59	8.6	58	0.0	-100
Sambalpur	0.0	-100	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.0	-100	0.0	-100	0.0	-100
<b>West Bengal &amp; Andaman Nicobar Islands</b>						
<b>A &amp; N ISLAND</b>						
Nicobar	53.2	-22	28.1	-63	92.1	17
North & Middle Andaman	57.6	-1	0.0	-100	4.0	-89
South Andaman	27.6	-57	12.4	-84	35.6	-48
<b>GWB</b>						
Bankura	0.0	-100	0.0	-100	0.0	-100
Birbhum	0.0	-100	0.0	-100	0.0	-100
Burdwan	0.0	-100	0.0	-100	0.0	-100
East Midnapore	0.0	-100	0.0	-100	0.0	-100
Hooghly	0.0	-100	0.0	-100	0.0	-100

Howrah	0.0	-100	0.0	-100	0.0	-100
Kolkata	0.0	-100	0.0	-100	0.0	-100
Murshidabad	0.0	-100	0.0	-100	0.0	-100
Nadia	0.0	-100	0.0	-100	0.0	-100
24 Pargana (N)	0.0	-100	0.0	-100	0.0	-100
Purulia	0.0	-100	0.0	-100	0.0	-100
24 Pargana (S)	0.0	-100	0.5	-96	0.0	-100
West Midnapore	0.0	-100	0.0	-100	0.0	-100
<b>SHWB &amp; Sikkim</b>						
Cooch Behar	0.0	-100	0.0	-100	0.0	-100
Darjeeling	0.0	-100	0.0	-100	0.0	-100
East Sikkim	0.0	-100	0.6	-91	0.0	-100
Jalpaiguri	0.0	-100	1.4	-69	0.1	-93
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	0.0	-100	0.0	-100	0.0	-100
North Sikkim	0.0	-100	0.0	-100	0.0	-100
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	0.0	-100	0.0	-100	0.0	-100
West Sikkim	0.0	-100	0.5	-96	0.0	-100

### Legends

	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall	**	Data not available

### Annexure II List of varieties

#### Tamil Nadu

**Late Samba/ Thaladi rice:** ADT 38, ADT 46, ADT 49, Improved white Ponni, IR 20, ASD 19, Paiyur1, TRY 1, TRY 3, CO 48, CO 49, BPT 5204 and CO 50

**Direct seeded rice:** (White Ponni or ADT 39)

#### Assam

**Green gram:** T-44, Kopergaon, K-851, ML-56, ML-131 etc.

**Black gram :** T-9, T-27, Pant U-19, T-122.

**Radish :** Pusa Deshi, Pusa Chetki, Pusa Himani

**Cauliflower :** Improved Japanese, Pusa Synthetic, Pusa Snowhall and Main Crop Patna.

Early maturity Cabbage varieties : Golden Acre, Pride of India, Pusa Mukta (Sel – 8).

**Early maturity Knol Khol :** White Vienna.

**Winter brinjal :** Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samrat

#### Meghalaya

**Pigeon pea:** short duration : UPAS-120, ICPL 87. long duration WB 20, Pusa 9 & Sarita.

**Cabbage:** H-139, Pride of India

**Cauliflower:** Meghalaya Local

**Carrot:** New Karoda, Nantesh

**Radish:** Local genotype

**Broccoli:** Puspa, Aiswarya

**French bean:** Naga Local

**Pea:** Arkel (for vegetables), TRC P8, TRC P9, Prakash, Rachna.

**Potato:** Kufri Joyti, Kufri Megha, Kufri Giriraj, Kufri Girdhari, Kufri Himsona, Kufri Himalini.

**Pea:** Arkel (for vegetables), TRC P8, TRC P9, Prakash, Rachna.

### **Tripura**

**Tomato:** Trishul, Allrounder, T- 1408, T- 1458, Anup.

**Cauliflower:** CFL- 4048, Pusa early synthetic, Kamaya, Suhasihi.

**Cabbage:** BC- 76, Pusa Drum Head, Pusa Synthetic.

**Broccoli:** Everest, Ayeshwaria.

### **Odisha**

**Sesame:** Kanak, Kalika, Uma, Usha, Tilotama, Nilima, Prachi

**Greengram:** K-851, PDM-11, PDM-54, OUM-11-5

**Blackgram:** T-9, Pant U-11, Pant U-19, Pant U-30

**Cowpea:** SEB-2, Pusa Barsati Niger: Deomali, Niger-1 and for Okra: Utkal Gourav.

### **West Bengal**

**Banana:** Mortoman, Chapa, Kathali, Singapuri.

**Tomato:** Avinash-2, 448.

**Cabbage:** Pride of India, Pusa early, Kranti.

**Cauliflower:** Jawhar moti, Bharat Jyoti, Early banaras

### **Bihar**

**Shakarkand:** Rajendra Shakarkand- 5, Rajendra Shakarkand-35, Rajendra Shakarkand-43, Rajendra Shakarkand-47, Kalmegh and Rajendra Shakarkand-92.

**Pigeon Pea:** arhar: Bahar, Pusa 9, Narendra Arhar 1

**Urd:** T-9, Pant U-19, Pant Urd 31, PDU-1

**Radish:** Pusa Chetki, Pusa Himani, Pusa Rashmi, Japani Saphed

**Pointed gourd:** Rajendra Parwal-1, Rajendra parwal-2, FPI and 3

### **Jharkhand:**

**Urd:** T 9, Pant U 19, 30, 35 and Birsa urd 1

**Moong:** Pusa Vishal, S M L 668, K 885, P S 16, Pant Moong 2 and P D M 11.

**Arhar:** Birsa Arhar (210 days), Bahar (240 Days) and ICPH 2671 (210 days),

**Maize:** short duration variety: Birsa Vikas Maize-2 and medium duration variety: Birsa Maize-1.

### **Madhya Pradesh**

**Gram:** JG-130, JG-11, JG-315, JG-16

**Wheat:** Sujata, HW-2004, HI-1500

**Winter Sugarcane:** KJN 86-572, KJN 86-141

**Green Pea:** Arkel, PSM-3, Jawahar Pea 1, Jawahar Pea 2

**Chickpea:** J.G-11, J.G-74

### **Chhattisgarh**

**Gram:** JG-16, JG-11, JG-74, Vaibhav

**Linseed:** RLC-92, Indira-32

**Wheat:** GW-273, Lok-1

**Mustard:** Pusa Bold

### **Jammu & Kashmir**

**Berseem:** Mescavi, Pusa Giant, BL-1 and Vardan

### **Uttarakhand**

**Pea:** VL Ageti Mater-7, Vivel Mater-10, Pant Subjee Mater-3, Azad Mater-3 and Arkel

**Potato:** Kufri- Jyoti, Ashok, Anand

**Toria :** Pant Toria-30, 303, 507 or local varieties.

### **Himachal Pradesh**

**Peas:** Palam Triloki, Arkel, VL-7 and Matar Ageta

**Late variety of Cauliflower:** broccoli

### **East Uttar Pradesh**

**Cabbage:** Imprabad Japani, Pusa chipali and Pusa kartiki

**Radish:** Japani white, Pusa chetakij, Hisar Muli No.1 and kalyanpur-1

**Toria:** T-9, T-36, Pant -30,303, B-9

**Potato:** Kuferi - Chandramukhi, Bahar

**Mustard:** Basati, Maya, Kanti, Urvashi, Narendra, Swarna-8, Narendra Ageti-4  
**Ageti Matar:** Kashi - Nandini, Uday, Mukti, Arkel, Azad-3

**West Uttar Pradesh:**

**Toria:** Sangam, TL-17, 67

**Ageti matar:** Azad P-3, Arkel

**Maharashtra**

**Madhya Maharashtra**

**rabi jowar:** Selection-3, Phule Mauli, Phule Anuradha in light soil, Phule Chitra, Maldandi-35-1 in medium soil and Phule Vasudha, Phule Yashodha in black soil

**Safflower:** Bhima or Phule Kusuma

**Marathwada**

**Jowar:** Parbhani Moti or Parbhani Jyoti.

**Gujarat:**

**Pea:** Pusa Pragati.

**Carrot:** Pusa Rudhira and Pusa Kesar.