

# National Agromet Advisory Service Bulletin

**Friday 5<sup>th</sup> December 2014**

**(For the period 5<sup>th</sup> to 9<sup>th</sup> December 2014)**



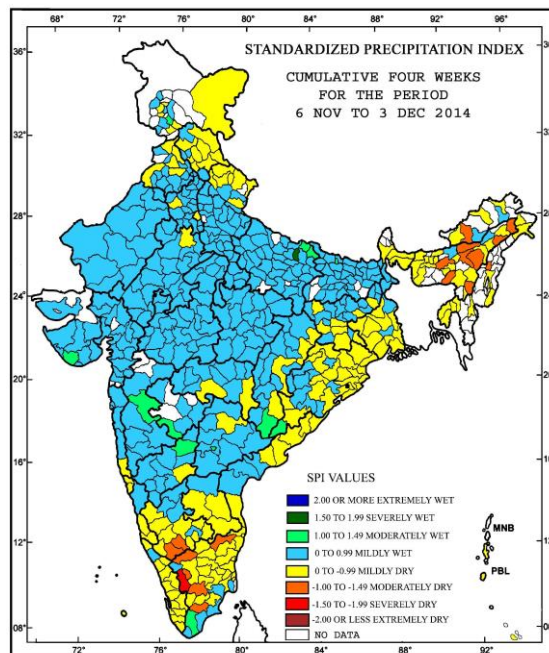
**Issued by**

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



**Standardised Precipitation Index  
Four Weekly  
for the Period 06<sup>th</sup> November to 3<sup>rd</sup> December 2014**

MINISTRY OF EARTH SCIENCES  
INDIA METEOROLOGICAL DEPARTMENT  
HYDROMET SECTION, PUNE

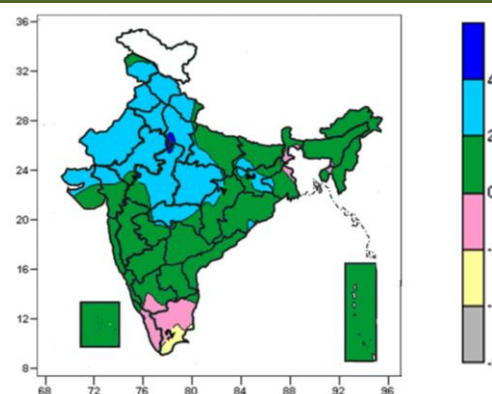
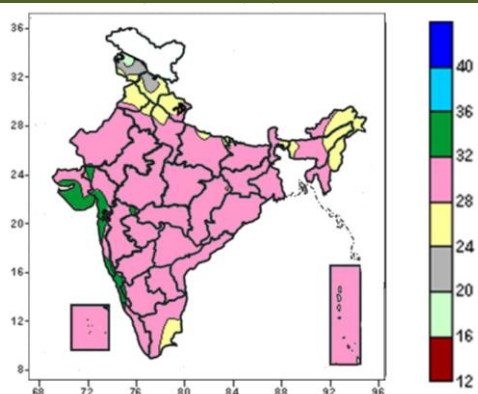


- Extremely/severely wet conditions in the district of Sant Kabir Nagar in Uttar Pradesh.
- Extremely/ moderately/ severely dry conditions experienced in few districts of Assam ; East Khasi Hills district of Meghalaya; Coimbatore, Dindigul, Vellore, Virudhunagar, Tirupur districts of Tamilnadu; Chamarajanagar, Mandya, Mysore districts of Karnataka.
- 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  
03.12.2014**

**Actual Mean Maximum Temperature (°C) in India for the week ending 03.12.2014**

**Mean Maximum Temperature (°C) Anomaly in India for the week ending 03.12.2014**



- 32 to 36°C over many parts of Saurashtra & Kutch, Konkan & Goa, Coastal Karnataka, some parts of Gujarat region and Madhya Maharashtra.
- 28 to 32°C over entire country except many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Arunachal Pradesh, Nagaland, Manipur, Saurashtra & Kutch, Konkan & Goa, Coastal
- 2 to 4°C over many parts of North India (except some parts of East Uttar Pradesh), Madhya Pradesh, Vidarbha, some parts of Bihar, Jharkhand, Odisha, Gangetic West Bengal, Chhattisgarh, Marathwada and Gujarat.
- 0 to 2°C over entire country except many parts of North India, Madhya Pradesh, Vidarbha, Kerala, Tamil Nadu, some parts of East Uttar Pradesh, Bihar, Jharkhand,

Karnataka, some parts of Uttar Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Mizoram, Gujarat, Madhya Maharashtra and Tamil Nadu.

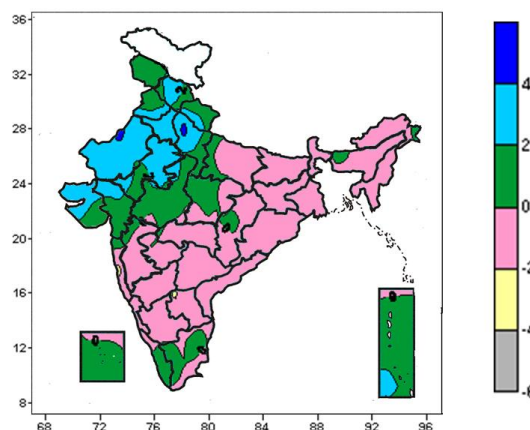
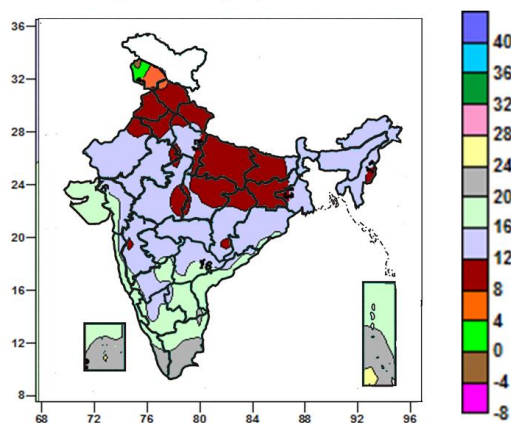
- 24 to 28<sup>0</sup>C over many parts of Himachal Pradesh, Uttarakhand, Punjab, Arunachal Pradesh, Nagaland, Manipur, some parts of Jammu & Kashmir, Haryana, Delhi, Sub-Himalayan West Bengal, Uttar Pradesh, Bihar, Assam & Meghalaya, Mizoram and Tamil Nadu.
- 20 to 24<sup>0</sup>C over many parts of Jammu & Kashmir, some parts of Himachal Pradesh.
- 16 to 20<sup>0</sup>C over some parts of Jammu & Kashmir.

Odisha, Gangetic West Bengal, Chhattisgarh, Marathwada, Gujarat and South Interior Karnataka.

- -2 to 0<sup>0</sup>C over many parts of Tamil Nadu, Kerala some parts of South Interior Karnataka.
- -2 to -4<sup>0</sup>C over some parts of Tamil Nadu.

**Actual Mean Minimum Temperature (°C) in India for the week ending 03.12.2014**

**Mean Minimum Temperature (°C) Anomaly in India for the week ending 03.12.2014**

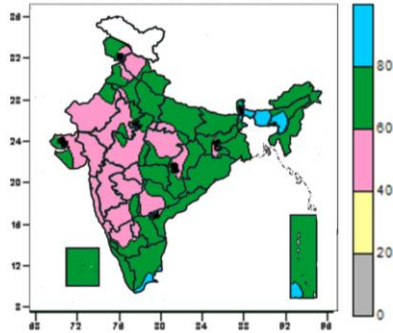


- 0 to 4<sup>0</sup>C over some parts of Jammu & Kashmir.
- 4 to 8<sup>0</sup>C over many parts of Jammu & Kashmir.
- 8 to 12<sup>0</sup>C over many parts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, East Uttar Pradesh, Bihar, Jharkhand, East Madhya Pradesh, some parts of Uttarakhand, Haryana, Delhi, Bihar, Jharkhand and North Chhattisgarh.
- 12 to 16<sup>0</sup>C over many parts of West Uttar Pradesh, West Bengal & Sikkim, North East India, Odisha, West Madhya Pradesh, Chhattisgarh, Rajasthan, Gujrat region, Madhya Maharashtra, Marathwada, Vidarbha, Telangana, North Interior Karnataka, some parts of Uttarakhand, Bihar, Jharkhand, Coastal Andhra Pradesh, Konkan, South Interior Karnataka and Rayalaseema.
- 16 to 20<sup>0</sup>C many parts of Saurashtra & Kutch, Konkan & Goa, Coastal & South Interior Karnataka, Coastal Andhra Pradesh, Rayalaseema, Andaman & Nicobar Islands, some parts of Gujarat region, Madhya Maharashtra, North Interior Karnataka, Kerala, Tamil Nadu and Lakshadweep Islands.
- 20 to 24<sup>0</sup>C over many parts of Tamil Nadu, Kerala, Lakshadweep Islands, some parts of Rayalaseema and Andaman & Nicobar Islands.
- 24 to 28<sup>0</sup>C over some parts Andaman & Nicobar Islands.

- -2 to 0<sup>0</sup>C over entire country except many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Haryana, Delhi, Rajasthan, Haryana, West Uttar Pradesh, Saurashtra & Kutch, some parts of Punjab, Madhya Pradesh, Gujarat region and Andaman & Nicobar Islands where it was 0 to 4<sup>0</sup>C.

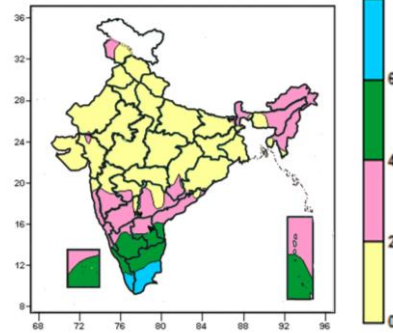
**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 03.12.2014**

**Relative Humidity (%) over India for the week ending 03.12.2014**



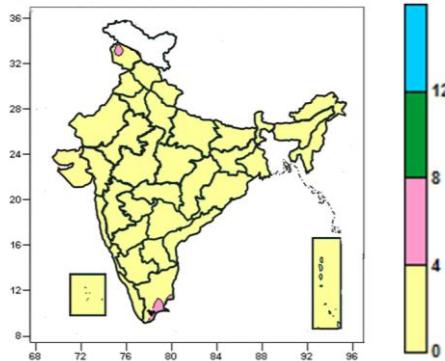
- 80 to 100% over some parts of Sub-Himalayan West Bengal, Assam & Meghalaya, Tamil Nadu and Andaman & Nicobar Islands.
- 60 to 80% over entire country except many parts of Himachal Pradesh, Rajasthan, Gujarat, Madhya Pradesh, Konkan & Goa, Madhya Maharashtra, Marathwada, Karnataka, Telangana some parts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

**Cloud amount (okta) over India for the week ending 03.12.2014**



- 6 to 8 okta over some parts of Kerala and Tamil Nadu.
- 2 to 6 okta over many parts of Sub-Himalayan West Bengal & Sikkim, North East India, Konkan & Goa, Madhya Maharashtra, South India, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Marathwada and Chhattisgarh.
- 0 to 2 okta over entire country except many parts of Sub-Himalayan West Bengal & Sikkim, North East India, Konkan & Goa, Madhya Maharashtra, South India, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Marathwada and Chhattisgarh.

**Wind speed (knots) over India for the week ending 03.12.2014**



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

## Weather Forecast

### Weather Forecast for next 3 days (upto 0830 hours IST of 8<sup>th</sup> December, 2014)

- Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands during the period.
- Rain/thundershowers would occur at isolated places over Jammu & Kashmir during next 24 hours; dry weather would prevail on 6<sup>th</sup> and rain/thundershower would occur at isolated places thereafter.
- Dry weather would prevail over Tamil Nadu & Puducherry 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 temperatures over northwest & adjoining central and west India during next 2 days.
- Fog/ shallow fog would occur at isolated places over Uttar Pradesh, Punjab, Haryana & Delhi, Assam, Nagaland, Manipur, Mizoram & Tripura.

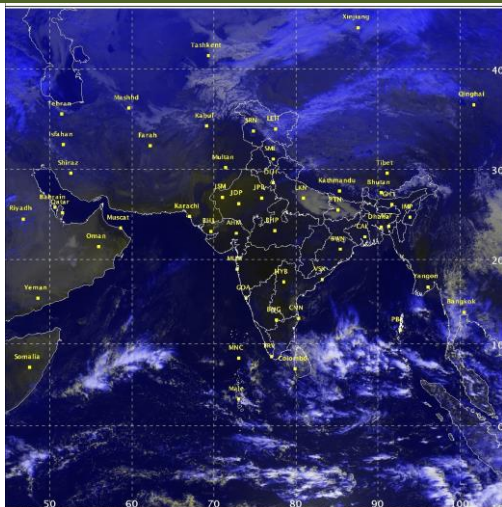
### Weather Warning during next 3 days

- **05 December (Day 1):** Dense fog (visibility 200 m or less) would occur over some parts of East Uttar Pradesh, Bihar, Sub-Himalayan West Bengal and Tripura.
- **06 December (Day 2):** Dense fog (visibility 200 m or less) would occur over some parts of East Uttar Pradesh, Bihar, Sub-Himalayan West Bengal and Tripura.
- **07 December (Day 3):** Dense fog (visibility 200 m or less) would occur over some parts of East Uttar Pradesh, Bihar, Sub-Himalayan West Bengal and Tripura.

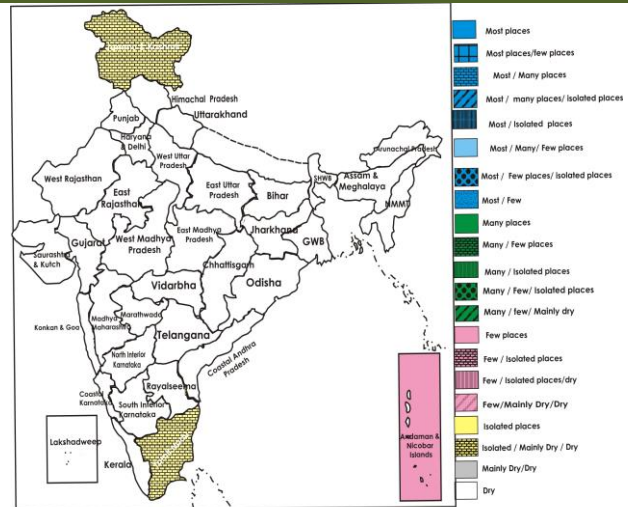
### Weather Outlook for subsequent 4 days from 08<sup>th</sup> December 2014 to 12<sup>th</sup> December 2014.

- Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands and south peninsular India.
- A fresh feeble western Disturbance as an upper air system would affect western Himalayan region from 8<sup>th</sup> onwards.
- Weather would be dry over rest of the country.

### Satellite image dated, 05.12.2014, 0600 UTC



### Weather Forecast Map (Valid upto 0830 hours of 8<sup>th</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 Cuddalore, Karaikal, Madurai, Nagapattinam, Puducherry, Pudukottai, Ramanathapuram, Sivaganga, Thanjavur, Tirunelveli, Tiruvarur and Toothukudi districts of Tamil Nadu; Kollam and Thiruvananthapuram districts of Kerala. Weather remained dry over rest of the region.
- **Weather Forecast:** Dry weather would prevail over Tamil Nadu & Puducherry 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:** Nil.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over south peninsular India. Weather would be dry over rest of the region.
- **Advisories:**
  - **Andhra Pradesh:**
    - Iron deficiency is observed in groundnut in few parts of Anantapur in the Scarce Rainfall Zone under excessive irrigation. For control, spray Ferrous Sulphate @ 5g/litre of water.
    - Continue sowing of *rabi* pulses and harvesting of *kharif* rice in the Krishna Godavari Zone.
    - 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 the Southern Zone after treating the seed with Imidachloprid 2 ml/ kg seed followed by Tebuconazole @ 1g or Mancozeb @ 3g/kg seed.
    - Prevailing night temperatures may lead to spikelet sterility in rice in Anantapur district in the Scarce Rainfall Zone. To overcome this, avoid excess irrigation and provide alleyways to maintain temperature.
    - Stem rot incidence was noticed in Bengal gram in Kurnool district. Spray Bavistin @ 1gram per litre of water to manage the incidence.
    - Due to prevailing dry weather in the Southern Zone during last week, there is possibility of sucking pests and stem borer incidence in groundnut. Spray Monocrotophos @ 1.6 ml or Imidacloprid @ 0.3 ml / litre of water to manage sucking pests and Mancozeb @ 3g/lt. of water to manage stem borer, if noticed.
  - **Telangana:**
    - Complete sowing of maize and black gram in the Northern Telangana region.
    - Prevailing dry weather conditions are congenial for the incidence of leaf hoppers and leaf webber on groundnut in the Southern Telangana Zone. Spray Dimethoate @ 2 ml per litre of water to manage leaf hopper and Quinolphos @ 2 ml per litre of water to manage leaf webber.
  - **Karnataka:**
    - Continue harvesting of groundnut and chilly in North Transition Zone of Karnataka. There is chance of leaf reddening in cotton due to low temperature. Spray MgSo4 @ 1% or Urea/DAP @ 2% per litre of water to control leaf reddening.
    - Continue harvesting of groundnut and ragi in the Eastern Dry Zone of Karnataka.
    - Continue planting of sugarcane in the North East Transition Zone of Karnataka.
    - As dry weather would prevail, continue harvesting of *kharif* rice and maize in the Southern Transition Zone of Karnataka.
    - Continue sowing of wheat and planting of sugarcane; undertake cotton picking and harvesting of *kharif* rice in the North East Dry Zone of Karnataka.
    - Continue harvesting of *kharif* rice and picking of cotton in the Hill Zone of Karnataka.
    - Suitable varieties are given in Annexure I.
  - **Kerala:**
    - Complete transplanting of rice crop in Northern Zone.
    - Due to prevailing temperatures around 25–34°C with relative humidity above 70%, there are chances of incidences of bacterial leaf blight on rice in the Southern Zone. Spray fresh cow dung extract (20 g/ l) and apply

bleaching powder @ 5 kg/ha in the irrigation water.

- Intermittent dry spell is congenial for fungus disease and downy mildew in cucurbits in the Northern Zone. Spray Potassium Phosphonate @3 ml along with Propiconazole @1 ml per litre of water, if noticed.
- In tomatoes and brinjal, there is possibility of leaf curl virus and septoria leaf spot due to prevailing dry weather in the Southern Zone. As a control measure, spray a combination of Imidacloprid (Confidor) @ 0.3 ml and Mancozeb (Indofil M45) @ 3 g / 1 litre of water.

▪ **Tamil Nadu:**

- Complete transplanting of *thaladi* rice in the Cauvery Delta Zone.
- As there are no chances of rainfall, provide irrigation to maize crop which is in milking stage in the Western Zone.
- Prevailing low temperature is congenial for powdery mildew incidence in grapes in the Western Zone. Monitor the crop and spray Wettable Sulphur @ 0.3 % or dust Sulphur @ 6 to 12 kg/ ha in the morning hrs, if noticed.
- Prevailing weather with high cloud cover and humidity is congenial for the incidence of semilooper in green gram and black gram in the South Zone. Spray Monocrotophos 36 SL @ 500 ml/ ha to manage the incidence.
- Suitable varieties are given in Annexure II.
- **Animal Husbandry**
- Prevailing decrease in night temperatures is 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.
- Provide good ventilation, vaccinate to prevent seasonal diseases and provide light traps for heating as a preventive measure for low temperature in the Krishna Godavari Zone of Andhra Pradesh.
- To prevent mastitis in milching cows in the Western Zone of Tamil Nadu, the udder of cows may be regularly cleaned with potassium permanganate solution before and after milking and animals shelters may be cleaned with bleaching powder solution.

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



*Rice*



*Okra*



*Cole Crops (Nursery)*



*Green Gram*

- **Realised Rainfall:** Weather remained mainly dry over the region.
- **Weather Forecast:** Dry weather would prevail over the region. Fog/ shallow fog would occur at isolated places over Assam, Nagaland, Manipur, Mizoram & Tripura.
- **Weather Warning:** Dense fog (visibility 200 m or less) would occur over some parts of Tripura during the period.
- **Weather Outlook:** Weather would be dry over the region.
- **Advisories:**
  - **Assam & Meghalaya, Arunachal Pradesh:**
  - In Assam, continue harvesting of matured *sali* rice.
  - In Upper Bramhaputra Valley Zone and Lower Bramhaputra Valley Zone of Assam, continue sowing of maize, wheat, rapeseed, mustard, planting of potato, nursery sowing of winter tomato and transplanting of cole crops to main field.
  - In Hill Zone, Central Bramhaputra Valley Zone, North Bank Plain Zone and Lower Bramhaputra Valley Zone of Assam, continue nursery raising and sowing of *boro* rice.
  - In Central Bramhaputra Valley Zone, Hill 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. Continue sowing of Zero tillage pea, lentil & toria. 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 / knol khol.
  - In Hill Zone of Assam, due to humid and cloudy weather there is chance of late blight in tomato. Apply Ridomil MZ-72 @ 2g and Indofil M-45 @ 2.5g per litre to prevent the disease. Spray Malathion 50 EC @ 1.5 ml/litre for infestation of leaf eating caterpillars in cole crops.
  - Due to foggy weather condition in Meghalaya, there is chance of late & early blight disease in potato. Spray

Mancozeb 75% WP @ 1.5- 2.0 kg/ha or Copper Oxy Chloride 50% WP @ 2.5 kg/ha or Chlorothalonil 75% WP @ 1.25 kg/ha.

- Due to foggy weather conditions in Arunachal Pradesh, there are chances of occurrence of late blight disease in potato & tomato. Foliar spray of Dithane M-45@2.5g/litre of water for management of 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 and toria, pea.
- In Mild Tropical Plain Zone of Tripura, complete sowing of rabi legumes like mustard and lentil. 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.
- In Tripura, due to decrease in night temperature there is chance of infestation of aphids on banana. Apply Dimethoate (Rogor) or Imidacloprid @ 0.8ml per litre of water.
- 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.
- In Tripura, cover poultry house with gunny bags/ polythene sheet to prevent the expose of animal to cool night. Heating during night may also be given to less than 21 days old chicks.

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



*Sugarcane*

*Groundnut*

*Onion*

*Rice*

- **Realised Rainfall:** Rainfall occurred in North & Middle Andaman and South Andaman districts of Andaman & Nicobar Island and North Sikkim district of Sikkim. Weather remained dry over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands during the period. Dry weather would prevail over rest of the region.
- **Weather Warning:** Dense fog (visibility 200 m or less) would occur over some parts of north Bihar and Sub-Himalayan West Bengal during the period.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands. Weather would be dry over rest of the region.
- **Advisories:**
  - **West Bengal:**
    - In Laterite and Red Soil Zone, complete planting of potato and sowing mustard, wheat. Also continue seed bed preparation for nursery sowing of *boro* rice.
    - In New Alluvial Zone, temperatures are conducive for sowing of wheat, planting of potato.
    - In Coastal Saline Zone, complete harvesting of *aman* rice at the earliest. Continue nursery bed preparation of *boro* rice and planting of potato.
    - In Old Alluvial Zone, continue sowing of wheat and pea.
    - In Terai Zone, continue planting of potato and sowing of wheat.
    - Spray Copper Oxychloride @ 4g/litre water and Mancozeb @ 2g/litre water to prevent late blight of potato due to foggy conditions in Old Alluvial Zone.
    - In New Alluvial Zone, weather is congenial for black rot disease in cabbage. To control the black rot disease, apply Streptocycline @ 100 mg per 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 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 are favourable for Banana planting.
- In East and South Eastern Coastal Plain Zone, present weather is optimum for sowing of groundnut, green pea and mustard. Also continue nursery raising of onion. 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 prevailing cloudy weather may aggravate the infestation of aphid in pulses and powdery mildew in pulses and cole crops. Spray. Imidachloprid @ 5 ml or Metacystox @20 ml per 10 litre water to control aphid and spray Sulfex @ 50 g per 10 litre water to control powdery mildew.
- In East and South Eastern Coastal Plain Zone of Odisha, the weather is optimum for growing sesame and for nursery raising of onion.
- 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. Apply Chloropyriphos dust around the bund to prevent the entry of caterpillar to the unaffected field in early morning.

▪ **Bihar:**

- In North West Alluvial Plain Zone of Bihar, continue sowing of wheat. Carry out intercultural operations like thinning and weeding in timely sown mustard, garlic, vegetables and potato. Apply light irrigation to mustard crop and early sown potato, early sown wheat crop which is in CRI stage and vegetables. Prepare nursery for sowing of *boro* rice.
- 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 mustard, lentil, peas, wheat and gram. Continue sowing of fodder crop berseem.

▪ **Jharkhand:**

- In Western Plateau Zone of Jharkhand, continue sowing of gram, lentil, linseed, wheat, barley and planting of late variety of potato. As dry weather is prevailing, apply irrigation to already sown wheat crop and apply urea @ 22 kg per acre after irrigation in 20 - 25 days old crops.
- In South Eastern Plateau Zone of Jharkhand, continue nursery raising of onion and transplanting of cole crops. Complete sowing of chick pea, wheat, linseed and lentil.
- In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of mustard, wheat and lentil. 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 early planted 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 Coastal Saline Zone of West Bengal there is chance of worm attack due to cold in cattle. Feed Albomer @ 1.5 g bolus per 150kg weight and keep them under proper shade.
- In Old Alluvial Zone, due to cold, keep cattle in proper shade. De-worming medicine should be given followed by vitamin and mineral mixture for 7-10days.

• **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 @ 60 kg/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. No significant change in temperatures over central India adjoining to northwest India during next 2 days.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be dry over the region.
- **Advisories:**
  - **Madhya Pradesh:**
    - Due to prevailing dry weather irrigate early sown potato and vegetables in Satpura Plateau Zone. Undertake sowing of gram, wheat, planting of garlic, and transplanting of onion.
    - Continue sowing of wheat in Bundelkhand Zone. Also continue transplanting of tomato, chilli, brinjal, cauliflower and cabbage on raised beds. As dry weather is prevailing, apply irrigation in early sown wheat and mustard crop. Undertake weeding and hoeing in onion and garlic crops.
    - Continue sowing of wheat and gram in Nimar Valley Zone. Undertake sowing of vegetables like brinjal, coriander, onion, garlic and planting of potato.
    - Continue sowing of wheat, green pea and nursery sowing of tomato, chilli, brinjal, cauliflower, cabbage, capsicum, onion, planting of potato, turmeric and ginger in Vindhya Plateau Zone.
    - Continue sowing of carrot, garlic, spinach, fenugreek and radish and planting of potato, in Kymore Plateau and Satpura Hill Zone. Undertake weeding and intercultural operations in chickpea, mustard, lentil and early sown wheat. Irrigate vegetables like tomato, brinjal and chillies and pick up matured fruits.
    - Continue sowing of wheat, pea and planting of potato in Malwa Plateau Zone. Also continue transplanting of onion, tomato, brinjal, chilli, cabbage and cauliflower on the prepared beds. As dry weather is prevailing irrigate newly planted fruit plants and chickpea.
    - As dry weather is prevailing irrigate early winter vegetables i.e. tomato, chilli, brinjal, cauliflower, cabbage, capsicum etc. and early sown potato & early green pea crop in Jhabua Hill Zone. Continue sowing of garlic and transplanting of onion.
  - **Chhattisgarh:**
    - In North Hill Zone and Plain Zone continue transplanting of vegetables like cauliflower, tomato, brinjal, chilli etc. Continue planting of potato, garlic, onion and sowing of wheat and vegetables like spinach and fenugreek.
    - Undertake sowing of autumn sugarcane, sunflower and groundnut in Plain Zone of Chhattisgarh.
    - Continue 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.

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



*Land preparation*

*Sugarcane*

*Bottle Gourd*

*Onion*

- **Realised Rainfall:** Weather remained mainly dry over the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Jammu & Kashmir during next 24

hours; dry weather would prevail on 6<sup>th</sup> and rain/thundershowers would occur at isolated places thereafter. Dry weather would prevail over rest of the region during the period.

No significant change in temperatures over northwest India during next 2 days.

Fog/ shallow fog would occur at isolated places over Uttar Pradesh, Punjab, Haryana & Delhi.

- **Weather Warning:** Dense fog (visibility 200 m or less) would occur over some parts of East Uttar Pradesh during the period.
- **Weather Outlook:** A fresh feeble western Disturbance as an upper air system would affect western Himalayan region from 8<sup>th</sup> onwards. Weather would be dry over the region.
- **Advisories:**
  - **Jammu & Kashmir:**
    - Undertake harvesting of matured toria & continue sowing of wheat, barley and lentil in Intermediate Zone of Jammu & Kashmir. Undertake hoeing cum intercultural operations within 30 days of sowing to control weeds and conserve moisture for higher yield for mustard crops.
    - Continue sowing of peas and planting of garlic in Valley Temperate Zone of Jammu & Kashmir. Apply top dose of urea @ 3.6 kg/kanal. Maintain drainage channels in Wheat/oats/ brown sarson fields. Undertake hand weeding /hoeing to reduce infestation by weeds.
  - **Himachal Pradesh:**
    - As temperatures are conducive, continue sowing of wheat, planting of potato, early varieties of pea and onion in Lower and Mid Hills regions of Sub-Montane and Low Hills Sub-Humid Tropical Zone. Before sowing treat, the seeds with Bavistin @ 2.5g per kg of seed 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 ghubhi sarson by spraying Isoproturon 75 WP @ 70 g per 30 litres of water in Sub-Montane and Low Hills Sub-Humid Tropical Zone. Undertake application of nitrogen fertilizer in cole crops after 20-25 days of sowing.
    - In Mid Hills Sub-Humid Zone, continue transplanting of late season cauliflower (Pusa-snowball) and cabbage and planting of onion at a distance of 15X10cm. Complete sowing of pea, radish, turnip, methi and spinach.
    - Continue sowing of Chinese cabbage, cabbage and coriander in High Hill Dry Temperate Zone.
    - 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. Chloropyriphos 20 EC @ 80ml mixed in 1kg of sand can be spread in the fields.
    - Under prevailing low temperature condition, there are chances of incidence of canker disease in apple in Mild Hills Sub-Humid Zone. Spray Bordeaux mixture [copper sulphate (2Kg)+quick lime (2kg)] in 200 litres of water.
    - Under prevailing dry weather condition, there are chances of aphids attack in vegetables in Mid Hills Sub-Humid Zone. 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 Chlorpyriphos (Durmet) @ 200 ml in 100 litres of water.
  - **Uttarakhand:**
    - Undertake land preparation for sowing of wheat, turmeric and planting of potato in Hill Zone.
    - Continue sowing of lentil and also farmers having irrigation facilities are advised to give irrigation in early sown wheat, mustard crops of 30 to 35 days duration, sprinkler irrigation in earlier sown chickpea & pea crops, in Bhabar and Tarai Zone.
    - Due to prevailing weather, apply a light irrigation in mustard, chickpea, potato, & pea etc. Continue land preparation for of winter sugarcane, in Sub Humid Sub Tropical Zone .
    - Due to prevailing low temperatures, there are chances of cut warm in lentil & Bengal gram crops in hill Zone. To control spray Chloropyriphos dust @ 250 gms/naali.
  - **Punjab, Haryana and Delhi:**
    - In Western Zone of Punjab, continue sowing of wheat, raya, gobhi sarson, onion, carrot, tomato.
    - In Undulating Plain Zone of Punjab, due to decreases in temperatures there is an attack of pink stem borer in early sown wheat. To control spray Quinalphos 25EC @ 800ml per acre.
    - In Western Plain Zone of Punjab, apply light irrigation to early sown wheat, also to sugarcane crop at monthly interval and complete late sowing of wheat.
    - Present foggy weather is favourable for incidence of diamond back moth or tobacco caterpillar on cauliflower and cabbage in Western Zone of Punjab. To control spray Dipel 8L@300ml/acre or Halt WP7 @ 300g or Success 2.5 SC @ 250ml/acre or Proclaim @ 70g or Avant @ 130 ml/acre or Ekalux @ 200-400 ml or Fenvalerate @ 100ml using 80-100 L of water at 7 day interval in the evening.
    - Present foggy weather is favourable for incidence of late blight in potato in Central Plain Zone of Punjab. To control, spray Indofil M-45 @ 500-700 gm in 250-350 litres of water per acre.
    - 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.

- In Eastern Zone of Haryana undertake sowing of wheat.
- Present weather is favourable for attack of top borer in sugarcane in Eastern Zone of Haryana, apply Carbofuran 3G @13 kg or Phorate 10G @ 8 kg in furrows and apply light irrigation. Propping up and rogue out canes affected by red rot and wilt.
- Western Semi-arid Zone in New Delhi, as temperatures are conducive for sowing of wheat in the prepared fields having optimum moisture and apply irrigation to wheat crop which is in CRI stage. Thinning and weeding is recommended in timely sown mustard crop. Also irrigate timely sown mustard crop, which is about 35 days old.
- Present weather condition is favourable for attack of painted bug in mustard crops in Western Semi-arid Zone in New Delhi, if attack is severe than, spray Carbaryl (Sevin) @2 gram\litre of water.

- **Uttar Pradesh:**

- Under prevailing dry weather condition, apply light irrigation in gram, peas, rajma, lentil and fruit crops in Bundelkhand Zone. Continue sowing of late varieties of gram and undertake sowing of drought resistant varieties of pulses, linseed and rapeseed. Continue transplanting of cauliflower, cabbage, tomato, chilli and brinjal.
- Undertake sowing of late varieties of wheat with seed rate @ 125 kg/ha and lentil with seed rate of 55-75 kg/ha and planting of onion at a distance of 15x10 cm in Central Plain Zone of Uttar Pradesh. Apply 1<sup>st</sup> irrigation in gram and lentil after 45-60 days after sowing, in pea after 35-40 days of sowing. Undertake intercultural operations in vegetables.
- Undertake nursery sowing of late varieties of onion and late varieties of gram in some districts of Central Plain Zone of Uttar Pradesh. Complete planting of papaya.
- Complete sowing of normal varieties wheat and undertake sowing of late varieties of wheat in Eastern Plain Zone of Uttar Pradesh.
- Continue sowing of late varieties of wheat in Western Plain Zone of Uttar Pradesh. Also undertake mixed cropping of mustard, lentil and gram along with wheat. Apply irrigation to early sown wheat after 21 days after sowing, to sugarcane crops at 20 days interval and to early sown potato.
- Weather is conducive for the incidence of blight disease in potato in Central Plain Zone of Uttar Pradesh. For control, spray Macozeb or Blitox 0.2 % @ 2 g per litre of water.
- Under prevailing dry weather condition, there are chances of attack of fruit fly and fruit borer in pigeon pea in Raibareilly, Amethi districts of Eastern Plain Zone of Uttar Pradesh. Spray Imidochlorprid @ 1ml per litre of water per hectare. For control of stem borer in pea, spray Imidochlorprid 17.8 % @ ½ ml per litre of water at 10 days interval.
- Under prevailing dry weather condition, there are chances of occurrence of mau in toria in Basti, Sant Kabir Nagar and Gorakhpur districts of Eastern Plain Zone of Uttar Pradesh. Spray Malathion 50 EC @ 2 litre or Monocrotophos 36 SL 600-800 ml in 600-800 litres of water per hectare in Basti district of Eastern Plain Zone of Uttar Pradesh. For control of attack of saw fly in mustard, spray Fenbelrate 0.4% or Quinolophos 1.5 % @ 20-25 kg per hectare.

- **Rajasthan:**

- In Flood Prone Eastern Plain Zone of Rajasthan, due to dry weather apply irrigation in wheat crops at CRI stage of 21-25 days old. Undertake weeding and thinning in gram and lentil crops and earthing up early sown potato crops at 30-35 days after planting after irrigation and nitrogen application. Undertake nipping in gram crops to enhance branching.
- Weather is suitable for sowing of wheat (late variety), cumin in Semi Arid Eastern Plain Zone.
- Continue field preparation for the sowing of wheat, barley in (Bikaner) and wheat, and cumin in (Jodhpur) Arid Western Plain Zone.
- Due to decrease in temperature, there are chances of attack of sawfly in mustard crops in Sub-Tropical Zone. To control spray Cypermethrin or Fevalerate @ 1ml/lt of water at evening hours if damage by mustard saw fly larvae is more than or equal to 10%., undertake hoeing within 30 DAS to control weeds and conserve moisture. Also to control of aphid infestation in toria crops, to control spray Chlorpyrifos 20EC @ 0.05% or Monocrotophos 36 SL @ 0.04%
- Continue land preparation for sowing of wheat, barley, fenugreek, lucerne in Transitional Plain Zone of Inland Drainage.
- In Sub Humid Southern Plain and Aravali Hill Zone, continue sowing of wheat, gram and mustard. Continue seed bed preparation for nursery sowing of chilli, brinjal and tomato.
- Humidity in atmosphere may increase the attack of saw fly and painted bug in mustard in Arid Western Plain Zone. To control, dusting the crop with Methyl Parathion dust @ 25 kg/ha.
- Weather condition is favourable for attack of pink root rot in onion nursery in Semi Arid Eastern Plain Zone. To control spray Diethane M-45 @ 2 gm per litre water of Rajasthan.
- Suitable varieties are given in Annexure II.

- **Floriculture**

- Temperature is favourable to 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

Cypermethrin @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.
- Under prevailing dry weather condition, give sufficient concentrate with green fodder to the cattle and B-Complete before and after drinking of vermicide drug to cattle in Central Plain Zone of Uttar Pradesh.

## 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. No significant change in temperatures over west India during next 2 days.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be dry over the region.
- **Advisories:**
  - **Maharashtra:**
    - In Konkan, apply irrigation, fertilizers and intercultural operations in vegetable crops and mango and cashew orchards. Prepare the field for the sowing of *rabi* groundnut and raised bed for nursery sowing of *rabi* rice.
    - In Madhya Maharashtra, continue intercultural operations like weeding and fertilizer application in sugarcane, vegetables, *rabi* jowar, wheat and safflower. Continue picking fully opened cotton bolls during morning hours. Apply irrigation to vegetables, sugarcane, safflower, *rabi* jowar, gram, wheat and grapes, banana and pomegranate orchards. Continue harvesting of already matured sugarcane.
    - In Marathwada, as dry weather would prevail, apply irrigation to **sugarcane, red gram, *rabi* jowar, safflower, vegetables and early sown wheat.**
    - Considering the water stress condition, apply micro irrigation like drip and sprinkle irrigation in sugarcane and orchards like banana, pomegranate, sweet lime and orange. Also apply mulch of crop residue. Continue intercultural operation like hoeing, weeding and fertilizer application to **sugarcane, *rabi* jowar, wheat, gram and vegetables.** Continue picking fully opened cotton bolls during morning hours.
    - Low temperature conditions prevailing in Marathwada may affect growth of **banana**, farmers are advised to apply irrigation in the evening and arrange smoking in the orchards at night to prevent the crops from cold injury.
    - 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. Prepare raised bed for nursery sowing of *rabi* rice.
    - Due to cloudy weather in Konkan, there may be attack of mango hoppers in new flush and inflorescence. For control, spray 25% Cypermethrin @ 4 ml per 10 litres of water.
    - Powdery mildew develops rapidly if the day temperature is 20-25 OC for 3-4 hours. Prevailing temperature in Pune district is favourable for the incidence of powdery mildew in grapes; spray water soluble sulphur 80 % @ 20 g per 10 litres of water.
  - **Gujarat**
    - In North Gujarat Zone, undertake sowing of wheat and planting of potato. Complete picking of matured bolls of cotton. Carry out and intercultural operations to conserve soil moisture and irrigate crops under dry condition of atmosphere.
    - Continue sowing of cumin, wheat, green gram, chick pea, castor and planting of sugarcane in Bhal and Coastal Zone
    - 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 gram.
    - Complete picking of matured bolls of cotton. Continue harvesting of matured onion in North Saurashtra Zone.
    - Continue sowing of wheat and cumin in North West Zone.

- Continue sowing of wheat, maize in South Gujarat Heavy Rainfall Zone. Irrigate brinjal, tomato, okra and other vegetable crops in morning hours.
- Suitable varieties are given in Annexure II.
- **Animal Husbandry**
- In Gujarat, increase the green fodder quantity for feeding. Arrange adequate amount of fresh drinking water for cattle.

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

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

Sub-Divisions	19.11.14		26.11.14		03.12.14	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Karnataka</b>						
<b>Coastal Karnataka</b>						
Dakshin Kannada	33.4	67	6.5	-58	0.0	-100
Udupi	31.4	114	0.8	-94	0.0	-100
Uttar Kannada	27.3	122	0.0	-100	0.0	-100
<b>N I Karnataka</b>						
Bagalkote	11.9	147	0.0	-100	0.0	-100
Belgaum	42.1	510	0.0	-100	0.0	-100
Bidar	17.0	295	0.0	-100	0.0	-100
Bijapur	18.7	223	0.0	-100	0.0	-100
Dharwad	40.8	410	0.0	-100	0.0	-100
Gadag	30.5	228	0.0	-100	0.0	-100
Gulbarga	27.8	355	0.0	-100	0.0	-100
Haveri	45.8	214	0.0	-100	0.0	-100
Koppal	14.8	79	0.0	-100	0.0	-100
Raichur	3.1	-53	0.0	-100	0.0	-100
Yadgir	8.2	15	0.0	-100	0.0	-100
<b>S I Karnataka</b>						
Bangalore Rural	32.5	206	0.0	-100	0.0	-100
Bangalore Urban	22.9	112	0.0	-100	0.0	-100
Bellary	15.0	75	0.0	-100	0.0	-100
Chamarajnagar	7.7	-38	0.0	-100	0.0	-100
Chichballapur	19.4	96	0.0	-100	0.0	-100
Chickmagalur	22.1	49	0.0	-100	0.0	-100
Chitradurga	35.6	245	0.0	-100	0.0	-100
Davangere	34.2	124	0.0	-100	0.0	-100
Hassan	8.7	-19	0.0	-100	0.0	-100
Kodagu	11.6	-13	0.0	-100	0.0	-100
Kolar	29.9	141	0.0	-100	0.0	-100
Mandya	5.0	-41	0.0	-100	0.0	-100
Mysore	2.8	-72	0.0	-100	0.0	-100
Ramnagara	19.9	105	0.0	-100	0.0	-100
Shimoga	20.9	52	0.0	-100	0.0	-100
Tumkur	17.0	83	0.0	-100	0.0	-100

<b>Kerala</b>						
Alappuzha	43.4	14	12.0	-66	4.3	-75
Kannur	27.1	48	22.6	31	0.0	-100
Ernakulam	54.7	95	23.6	-23	3.1	-72
Idukki	28.1	-10	7.9	-72	4.3	-72
Kasaragod	15.2	-22	0.0	-100	0.0	-100
Kollam	27.5	-44	18.6	-44	21.3	19
Kottayam	59.5	80	6.3	-78	8.5	-40
Kozhikode	24.8	-12	6.2	-71	0.1	-99
Malappuram	28.1	-5	3.1	-88	0.1	-99
Palakkad	7.7	-69	1.0	-96	0.3	-97
Pathanamthitta	57.3	12	7.7	-79	4.4	-69
Thiruvananthapuram	30.8	-21	29.0	0	21.8	16
Thrissur	49.7	110	10.8	-58	0.0	-100
Wynad	11.3	-40	5.1	-76	0.0	-100
<b>Tamil Nadu</b>						
Ariyalur	54.4	9	2.5	-94	19.0	-43
Chennai	100.4	9	0.0	-100	0.9	-98
Coimbatore	6.9	-72	0.6	-97	1.2	-92
Cuddalore	139.7	95	1.2	-98	56.9	10
Dharmapuri	39.8	98	0.0	-100	0.0	-100
Dindigul	25.7	-25	4.5	-84	10.2	-56
Erode	30.8	44	0.5	-98	0.5	-97
Kanchipuram	92.5	67	0.0	-100	2.6	-94
Kanyakumari	39.1	-13	85.7	167	55.0	150
Karikal	154.1	73	33.8	-68	111.5	82
Karur	34.9	36	0.1	-99	6.0	-63
Krishnagiri	29.5	80	0.0	-100	0.0	-100
Madurai	11.1	-58	13.5	-45	22.0	22
Nagapattinam	152.8	70	40.2	-55	117.9	62
Namakkal	35.8	71	0.3	-98	0.6	-96
Nilgiris	82.6	116	12.7	-62	4.5	-85
Perambalur	32.3	-10	0.0	-100	7.0	-74
Puducherry	121.8	98	0.0	-100	46.8	-13
Pudukottai	60.3	78	17.2	-50	53.9	85
Ramanathapuram	71.2	100	81.1	148	63.5	71
Salem	39.4	39	1.1	-95	0.2	-99
Sivaganga	21.9	-25	36.2	54	48.0	98
Thanjavur	93.5	119	14.5	-71	58.2	51
Theni	13.5	-53	11.7	-49	12.4	-11
Tirunelveli	65.0	45	122.5	234	50.9	63
Tirupur	13.2	-43	0.2	-99	0.2	-99
Tiruvallur	104.9	68	0.0	-100	0.4	-99
Tiruvannamalai	56.1	39	0.0	-100	0.3	-99
Tiruvarur	134.7	98	35.2	-50	75.0	22
Toothukudi	23.9	-36	103.9	201	39.9	29
Trichy	40.3	31	2.4	-92	16.2	-20
Vellore	43.6	54	0.0	-100	0.0	-100
Villupuram	84.5	92	0.7	-98	11.3	-66

Virudhunagar	6.6	-82	15.5	-49	14.6	-38
<b>Andhra Pradesh</b>						
<b>Coastal Andhra Pradesh</b>						
East Godavari	4.6	-63	0.0	-100	0.0	-100
Guntur	34.0	131	0.5	-97	0.0	-100
Krishna	24.9	135	2.7	-80	0.0	-100
Nellore	98.9	52	0.0	-100	0.0	-100
Prakasam	62.8	140	3.0	-86	0.0	-100
Sirkakulam	6.6	-34	0.0	-100	0.0	-100
Visakhapatnam	7.5	-37	0.0	-100	0.0	-100
Vizianagram	9.6	19	0.0	-100	0.0	-100
West Godavari	9.2	-27	0.7	-95	0.0	-100
<b>Rayalaseema</b>						
Anantapur	13.5	78	0.0	-100	0.0	-100
Chittoor	43.5	30	0.0	-100	0.0	-100
Cuddapah	26.7	78	0.0	-100	0.0	-100
Kurnool	6.1	-5	0.0	-100	0.0	-100
<b>Telangana</b>						
Adilabad	5.5	73	0.0	-100	0.0	-100
Hyderabad	53.3	759	0.0	-100	0.0	-100
Karimnagar	3.1	-38	0.0	-100	0.0	-100
Khammam	7.5	176	2.8	-55	0.0	-100
Mehabubnagar	6.0	14	0.0	-100	0.0	-100
Medak	12.7	211	0.0	-100	0.0	-100
Nalgonda	6.6	1	1.0	-77	0.0	-100
Nizamabad	5.6	43	0.0	-100	0.0	-100
Rangareddy	13.7	141	0.0	-100	0.0	-100
Warangal	9.6	135	0.0	-100	0.0	-100
<b>Arunachal Pradesh</b>						
Anjaw	**	**	**	**	**	**
Changlang	0.3	-95	0.0	-100	0.0	-100
Dibang Valley	**	**	**	**	**	**
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	0.3	-91	23.3	442	0.0	-100
Kurung Kumey	**	**	**	**	**	**
Lohit	3.3	-54	6.1	-22	0.0	-100
Lower Dibang Valley	0.7	-92	14.8	-11	0.0	-100
Lower Subansari	**	**	**	**	**	**
Papumpara	14.6	508	7.1	36	1.5	-59
Tawang	16.0	98	3.0	-63	13.0	88
Tirap	0.0	-100	0.0	-100	0.0	-100
Upper Siang	0.0	-100	0.0	-100	0.6	-96
Upper Subansari	2.8	-49	16.4	193	0.0	-100
West Kameng	0.0	-100	0.0	-100	0.0	-100
West Siang	3.0	-9	24.5	188	0.0	-100
<b>Assam&amp;Meghalaya</b>						
<b>Assam</b>						
Baksa	0.0	-100	0.0	-100	0.0	-100
Barpeta	0.1	-97	0.0	-100	0.0	-100



Bongaigaon	0.0	-100	0.0	-100	0.0	-100
Cachar	0.0	-100	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	12.0	150	13.0	210	0.0	-100
Dhubri	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	0.5	-88	2.1	-66	0.0	-100
Goalpara	0.0	-100	0.0	-100	0.0	-100
Golghat	0.0	-100	2.6	-47	0.0	-100
Hailakandi	0.0	-100	0.0	-100	0.0	-100
Jorhat	2.7	-40	2.9	-59	0.0	-100
Kamrup(Rural)	0.0	-100	0.0	-100	0.0	-100
Kamrup(Metro)	0.0	-100	0.3	-81	0.0	-100
Karbi Anglong	0.0	-100	0.0	-100	0.0	-100
Karimganj	0.0	-100	0.0	-100	0.0	-100
Kokrajhar	4.4	47	0.0	-100	0.0	-100
Lakhimpur	13.3	178	5.7	36	0.1	-99
Morigaon	0.4	-87	3.2	10	0.0	-100
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	1.6	-79	0.0	-100
Tinsukia	0.2	-90	0.0	-100	0.0	-100
Udalgiri	0.0	-100	12.1	317	0.0	-100
<b>Meghalaya</b>						
East Garo Hills	0.0	-100	15.7	3040	0.0	-100
East Khasi Hills	0.0	-100	0.1	-99	0.0	-100
Jaintia Hills	1.0	-84	0.0	-100	0.0	-100
Ribhoi	0.4	-89	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	0.0	-100	0.0	-100	0.0	-100
Mamit	**	**	**	**	**	**
Saiha	0.0	-100	0.0	-100	0.0	-100
Serchhip	0.0	-100	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	**	**	**	**	**	**
Paran	**	**	**	**	**	**
Phek	0	-100	0	-100	0	-100
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
<b>Tripura</b>						
Dhalai	0.0	-100	0.0	-100	0.0	-100
North tripura	0.0	-100	0.0	-100	0.0	-100
South tripura	0.0	-100	0.0	-100	0.0	-100
West tripura	0.0	-100	0.0	-100	0.0	-100
<b>Himachal Pradesh</b>						
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Chamba	0.0	-100	0.0	-100	0.1	-97
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Kangra	0.0	-100	0.0	-100	0.0	-100
Kinnaur	0.0	-100	0.0	-100	0.0	-100
Kullu	0.0	-100	0.0	-100	0.3	-95
Lahaul and Spiti	0.0	-100	0.0	-100	4.1	-41
Mandi	0.0	-100	0.0	-100	0.0	-100
Shimla	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	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	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Ludhiana	0.0	-100	0.0	-100	0.0	-100
Mansa	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Ropar	0.0	-100	0.0	-100	0.0	-100
Sangrur	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	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
Katihai	0.0	-100	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	0.0	-100	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	0.0	-100	0.0	-100	1.9	-82
Badgam	0.0	-100	0.0	-100	0.0	-100
Bandipore	**	**	**	**	**	**
Baramula	0.0	-100	0.0	-100	2.5	-57
Doda	0.0	-100	0.0	-100	1.2	-93
Ganderbal	0.0	-100	0.0	-100	2.4	-60
Jammu	0.0	-100	0.0	-100	0.0	-100
Kargil	**	**	0.0	-100	0.0	-100

Kathua	0.0	-100	0.0	-100	0.0	-100
Kistwar	**	**	**	**	**	**
Kulgam	0.0	-100	0.0	-100	1.0	-91
Kupwara	0.0	-100	0.0	-100	13.5	19
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	0.0	-100	**	**	0.3	-98
Pulwama	0.0	-100	0.0	-100	0.0	-100
Rajouri	0.0	-100	**	**	0.0	-100
Ramban	0.0	-100	0.0	-100	0.2	-99
Reasi	0.0	-100	0.0	-100	0.0	-100
Samba	0.0	-100	0.0	-100	0.2	-94
Shopian	0.0	-100	0.0	-100	0.0	-100
Srinagar	0.0	-100	0.0	-100	0.0	-100
Udhampur	0.0	-100	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	0.8	-81	0.0	-100	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	0.1	-97	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100
Burhanpur	0.0	-100	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	0.2	-88	0.0	-100	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	5.0	178	0.0	-100	0.0	-100
Indore	0.1	-96	0.0	-100	0.0	-100
Jhabua	0.8	-70	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.0	-100	0.0	-100
Khargone	0.0	-100	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	0.0	-100	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	6.0	132	0.0	-100	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.0	-100
<b>Chhattisgarh</b>						
Bastar	1.0	-37	0.0	-100	0.0	-100
Bijapur	10.5	515	0.0	-100	0.0	-100
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Dantewara	21.4	5258	0.0	-100	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	12.0	991	0.0	-100	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 Kabirnagar	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	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	**	**	**	**	**	**
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	**	**	**	**	**	**
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	**	**	**	**	**	**
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
Koderrna	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
Saraikela	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	0.0	-100	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	8.7	200	0.0	-100	0.0	-100
Anand	0.4	-84	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Baroda	1.5	-53	0.0	-100	0.0	-100
Broach	0.2	-56	0.0	-100	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	0.5	400	0.0	-100	0.0	-100
Navsari	0.7	-74	0.0	-100	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	0.5	-83	0.0	-100	0.0	-100
Tapi	3.8	81	0.0	-100	0.0	-100
Valsad	8.0	100	0.0	-100	0.0	-100
<b>S K &amp; Diu region</b>						
Amreli	11.8	307	0.0	-100	0.0	-100

Bhavnagar	5.9	30	0.0	-100	0.0	-100
Diu	9.2	188	0.0	-100	0.0	-100
Jamnagar	1.3	-57	0.0	-100	0.0	-100
Junagarh	16.1	1050	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	2.3	-2	0.0	-100	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	4.2	31	0.0	-100	0.0	-100
Mumbai Suburban	2.9	-9	0.0	-100	0.0	-100
North Goa	4.0	-58	0.0	-100	0.0	-100
Raigad	6.0	43	0.0	-100	0.0	-100
Ratnagiri	12.9	102	0.0	-100	0.0	-100
Sindhudurg	9.9	14	0.0	-100	0.0	-100
South Goa	9.3	-14	0.0	-100	0.0	-100
Thane	2.8	17	0.0	-100	0.0	-100
<b>Madhya Maharashtra</b>						
Ahmednagar	62.9	984	0.0	-100	0.0	-100
Dhule	**	**	**	**	**	**
Jalgaon	2.4	-8	0.0	-100	0.0	-100
Kolhapur	23.3	228	0.0	-100	0.0	-100
Nandurbar	5.3	382	**	**	**	**
Nasik	25.5	442	0.0	-100	0.0	-100
Pune	22.7	354	0.0	-100	0.0	-100
Sangli	10.6	45	0.0	-100	0.0	-100
Satara	25.8	180	0.0	-100	0.0	-100
Solapur	22.8	348	0.0	-100	0.0	-100
<b>Marathwada</b>						
Aurangabad	43.6	1182	0.0	-100	0.0	-100
Beed	0.8	-83	0.0	-100	**	**
Hingoli	**	**	**	**	0.0	-100
Jalna	2.2	-55	0.0	-100	**	**
Latur	13.5	182	0.0	-100	0.0	-100
Nanded	8.0	86	0.0	-100	0.0	-100
Usmanabad	19.9	564	0.0	-100	0.0	-100
Parbhani	11.7	172	0.0	-100	0.0	-100
<b>Vidarbha</b>						
Akola	11.6	215	0.0	-100	0.0	-100
Amraoti	0.4	-87	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100
Buldhana	27.8	1223	0.0	-100	0.0	-100
Chandrapur	0.9	-69	0.0	-100	0.0	-100
Gadchiroli	0.0	-100	0.0	-100	0.0	-100
Gondia	0.0	-100	0.0	-100	0.0	-100
Nagpur	6.4	148	0.0	-100	0.0	-100
Wardha	0.0	-100	0.0	-100	0.0	-100
Washim	0.3	-84	0.0	-100	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	-99	0.0	-100	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	5.9	-38	0.0	-100	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	0.9	-69	0.0	-100	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	4.3	-60	0.0	-100	0.0	-100
Malkangiri	0.6	-86	0.0	-100	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	8.6	58	0.0	-100	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	28.1	-63	92.1	17	18.4	-72
North & Middle Andaman	0.0	-100	4.0	-89	26.4	-8
South Andaman	12.4	-84	35.6	-48	33.8	-14
<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)	0.5	-96	0.0	-100	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	4.9	87
East Sikkim	0.6	-91	0.0	-100	1.8	-64
Jalpaiguri	1.4	-69	0.1	-93	2.1	-57
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	25.2	300
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	0.0	-100	0.0	-100	0.0	-100
West Sikkim	0.5	-96	0.0	-100	5.5	-13

### 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, Suhasi.

**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

**Boro rice:** Gutum, Prabhat, Richaria, Dhanlaxmi, Saroj Rajendra Bhagvati, and R.A.U

### 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.