

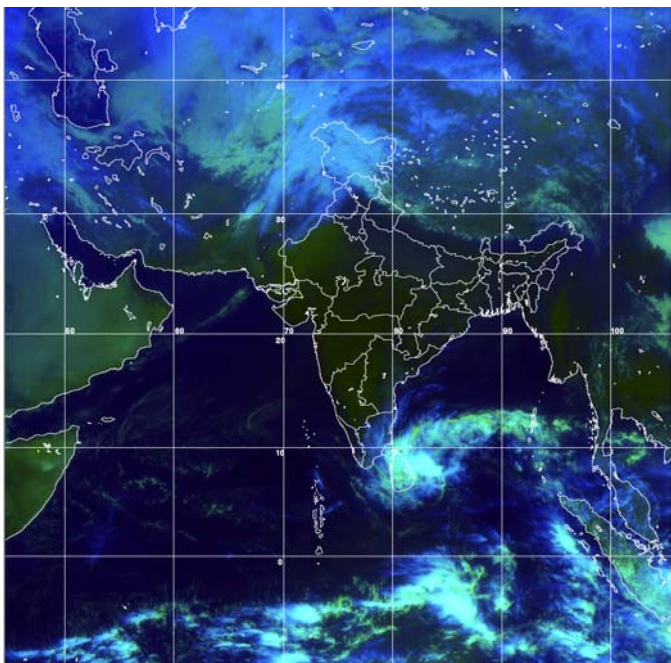


# National Agromet Advisory Bulletin

Thursday, 3<sup>rd</sup> February, 2011

(For the period 3<sup>rd</sup> to 7<sup>th</sup> February, 2011)

Satellite image 0600 UTC Dated  
4<sup>th</sup> February, 2011



Issued by  
National Agrometeorological Advisory Service Centre  
Agricultural Meteorology Division  
India Meteorological Department  
Shivajinagar  
Pune.

The bulletin is also displayed in the website (<http://www.imdagrimet.gov.in>) of the Division

## Executive Summary

Mainly dry weather prevailed over the country during last week. Minimum temperatures have been observed between 4-8°C over most parts of northwest India and 8-12°C over central, east and northeastern States and above 1-2°C over remaining parts of the country. They are below normal by 2-4 °C over most parts of Telangana, Rayalaseema, South & North Interior Karnataka, some parts of Marathwada, above normal by 2°C over some parts of East Madhya Pradesh, Chattisgarh, Vidarbha, Andaman & Nicobar Island and near normal over rest of the country.

In Gurdaspur and Hoshiarpur divisions of Punjab, due to low temperature standing *rabi* crops suffered from cold injury; farmers are advised to apply light irrigation by sprinklers in vegetables particularly in brinjal, tomato, chillies and early sown cucurbits to protect against cold injury. Farmers in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh are advised to protect the nurseries of vegetables and forest plants from cold injury by covering nursery with polythene sheet in lower regions. In hilly regions of Tamilnadu, sprinkler irrigation for a short period of time in the early morning may be applied to avoid cold injury.

Scattered rain / snow may occur over Jammu & Kashmir and isolated over Himachal Pradesh and Uttarakhand during next 24 hours and increase thereafter. Farmers in these states are advised to monitor the crops and arrange for smoke around the field to manage impact of low temperature on crops.

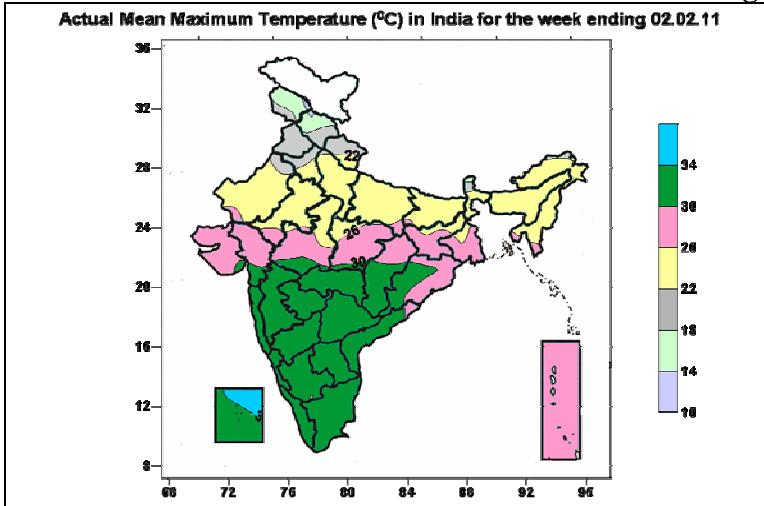
As dry weather is likely to prevail over remaining parts of the country, farmers are advised to complete intercultural operations utilizing the favourable weather conditions. Harvesting of crops may be undertaken during the next three days.

Potato, pea and papaya may be adversely affected due to low temperature in Nagaland. Apply irrigation to the crops or arrange for smoke around the field to save the crops. Early harvesting may also be useful for saving the crop.

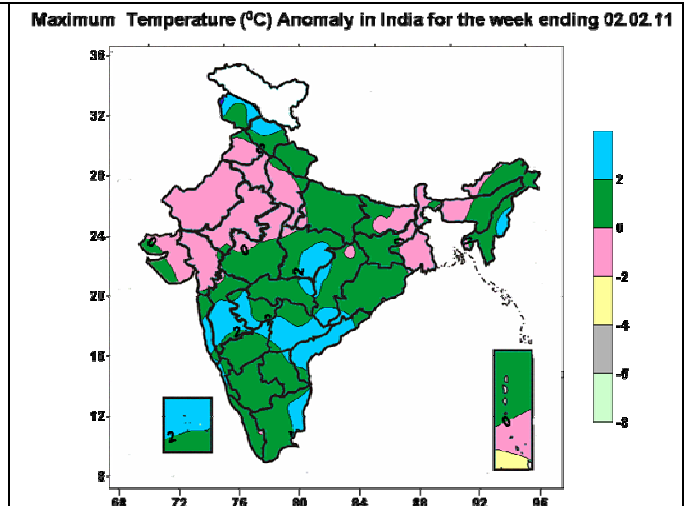
Weather condition is favourable for sowing of summer groundnut, sunflower and soybean in Western Maharashtra Plain zone, summer sesamum in Central Vidarbha zone of Maharashtra, early *ahu* rice in North Bank Plain zone of Assam, summer rice in Central and North Eastern Plateau Zone in Jharkhand, finger millet in Hill zone and summer maize and groundnut in Southern Transition Zone in Karnataka and rice fallow pulses in Cauvery Delta Zone in Tamil Nadu. Farmers are advised to undertake land preparation and sowing of these crops.

Due to congenial weather conditions there is possibility of incidence of white rust in late sown mustard in Eastern Zone in Haryana and Sub Humid Southern Plain and Aravali Hill Zone in Rajasthan, yellow rust in wheat in Punjab, downey mildew in cruciferous vegetables in Himachal Pradesh, powdery mildew in methi, pea, cumin and coriander, termite in wheat and barley in Jaipur and Dausa divisions of Rajasthan, aphids in mustard in Delhi and powdery mildew in cumin in South Saurashtra zone. Farmers are advised to adopt appropriate plant protection measures to avoid severe crop damage.

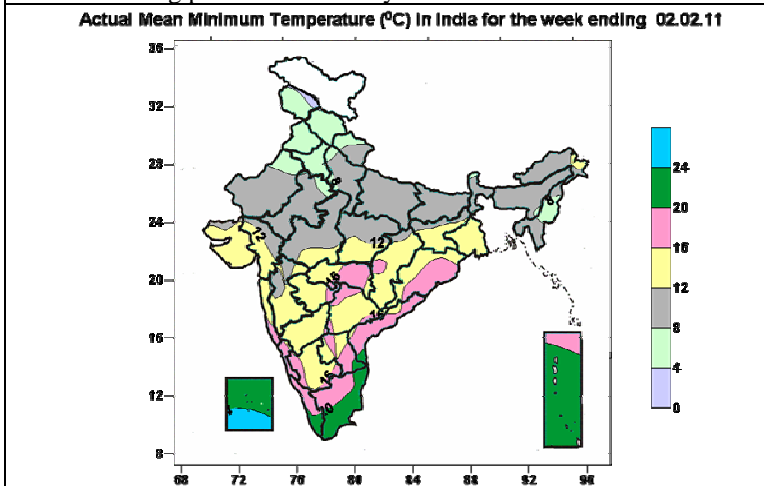
**Contour maps (Maximum, Minimum temperature and anomalies)  
for the week ending 02.02.2011**



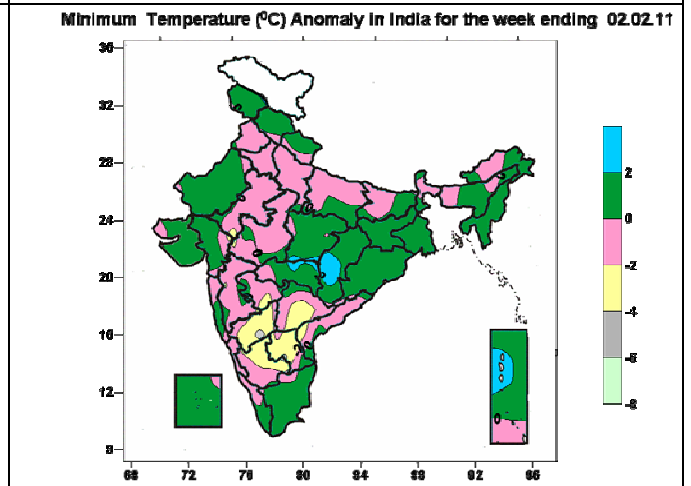
Actual Mean Maximum temperature ranged above 34°C over some parts of Lakshadweep Island, 26 to 30°C over most parts of Saurashtra & Kutch, Gujarat, Madhya Pradesh, Jharkhand, Gangetic West Bengal, Andaman & Nicobar Islands, some parts of East Uttar Pradesh, Rajasthan, Bihar, Chattisgarh, Orissa, 22 to 26°C most parts of Rajasthan, Haryana, Delhi, Uttar Pradesh, Bihar Sub-Himalayan West Bengal, Northeast India, some parts of Uttarakhand, Haryana, Delhi, Madhya Pradesh, Jharkhand, Gangetic West Bengal, 18 to 22°C over most parts of Punjab, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Haryana, West Rajasthan, Sub-Himalayan West Bengal, Arunachal Pradesh, 14 to 18°C over some parts of Jammu & Kashmir, Himachal Pradesh 10 to 14°C over most parts of Jammu & Kashmir, Himachal Pradesh, 30 to 34°C over remaining parts of the country.



Actual Mean Maximum temperature anomaly ranged between 2 and above over most parts of Coastal Andhra Pradesh, Telangana, some parts of Jammu & Kashmir, Himachal Pradesh, East Madhya Pradesh, Chattisgarh, Orissa, Rayalaseema, Maharashtra, Tamil Nadu, Coastal Karnataka, North Interior Karnataka, Lakshadweep Island, -2 to 0°C over most parts of Punjab, Haryana, Rajasthan, West Uttar Pradesh, West Bengal, Sikkim, Gujarat, some parts of East Uttar Pradesh, Bihar, Assam, Arunachal Pradesh, Tripura, Chattisgarh, Madhya Pradesh, Saurashtra & Kutch, Andaman & Nicobar Islands, -4 to -2°C over some parts of Andaman & Nicobar Island, 0 to 2°C over remaining parts of the country.

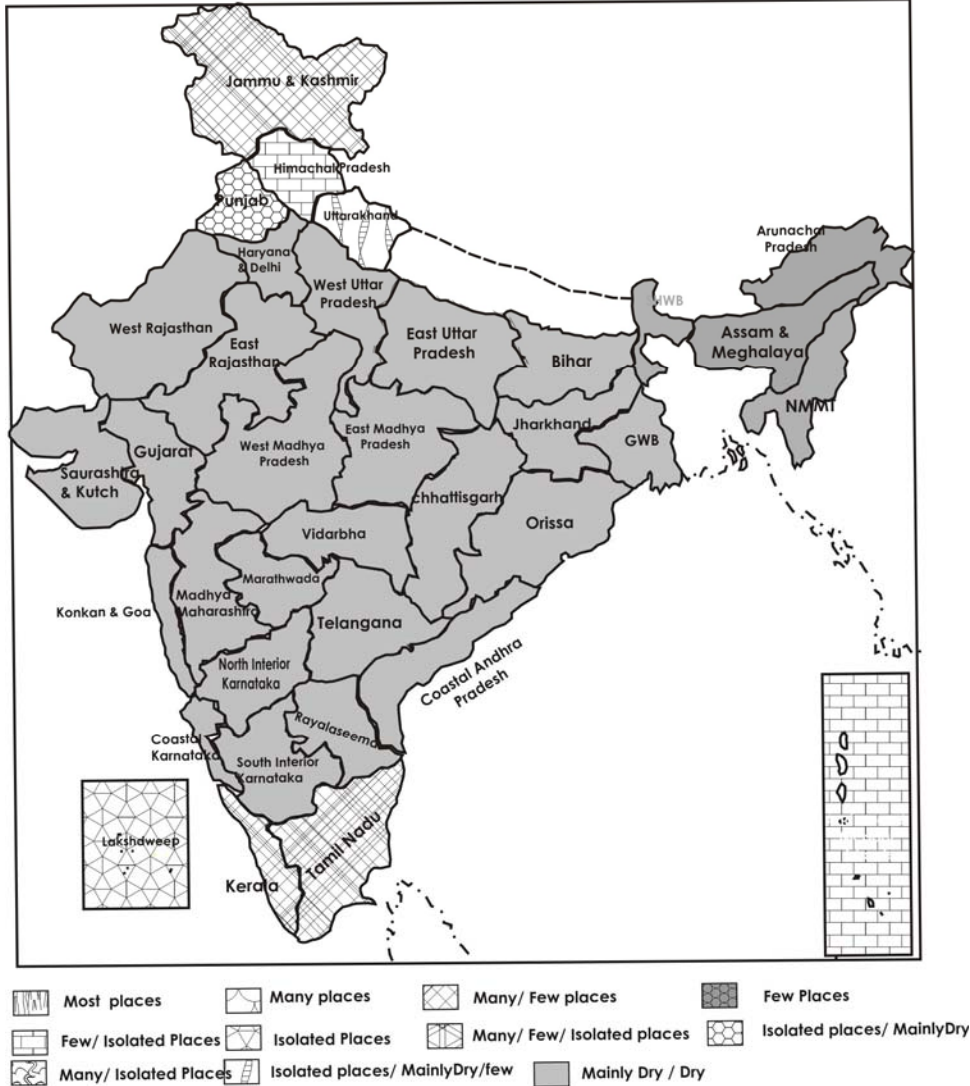


Actual Mean Minimum Temperature ranged above 24°C over Lakshadweep Island, 20 to 24°C over most parts of Lakshadweep, Andaman & Nicobar Island, some parts of Kerala, Coastal Tamil Nadu, Coastal Andhra Pradesh and Rayalaseema, 16 to 20°C over most parts of Kerala, Tamil Nadu, Coastal Andhra Pradesh and Coastal Karnataka, Orissa, some parts of Konkan & Goa, Marathwada, Vidarbha, Chattisgarh, Telangana, Rayalaseema, South Interior Karnataka, Andaman & Nicobar Islands, 12 to 16°C most parts of Gangetic West Bengal, Jharkhand, Chattisgarh, Maharashtra except Vidarbha, Saurashtra & Kutch, south & North Interior Karnataka, some parts of Gujarat, Madhya Pradesh, Orissa, Andhra Pradesh, 4 to 8°C over most parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Delhi, Manipur, some parts of Rajasthan, Uttarakhand, West Uttar Pradesh, 0 to 4°C over some parts of Jammu & Kashmir, 8 to 12°C over remaining parts of the Country.



Minimum Temperature anomaly ranged above 2°C over some parts of East Madhya Pradesh, Chattisgarh, Vidarbha, Andaman & Nicobar Island, -2 to 0°C over most parts of Punjab, Haryana, Delhi, East Rajasthan, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh, Coastal Karnataka, some parts of Himachal Pradesh, Uttarakhand, West Rajasthan, Saurashtra, Gujarat, Konkan, Vidarbha, Arunachal Pradesh, Assam, Orissa, Chattisgarh, Telangana, Raylaseema, Kerala, Tamil Nadu, Andaman & Nicobar Island, -4 to -2 over most parts of Telangana, Raylaseema, South & North Interior Karnataka, some parts of Marathwada, 0 to 2°C over remaining parts of the Country.

## Weather Forecast (Valid upto 1430 hours of 6<sup>th</sup> February, 2011)



### Major Feature of Weather Forecast (upto 1430 hours IST of 6<sup>th</sup> February, 2011)

- Scattered rain/snow may occur over Jammu & Kashmir and isolated over Himachal Pradesh and Uttarakhand during next 24 hours and increase thereafter.
- Scattered rain/thundershowers would occur over Andaman & Nicobar Islands during next 24 hours and decrease thereafter.
- Fairly widespread rain/thundershowers would occur over south coastal Tamilnadu on 4<sup>th</sup> and 5<sup>th</sup> February.
- Scattered rain/thundershowers would occur over interior Tamilnadu and Kerala from 5<sup>th</sup> February onwards.
- Maximum and minimum temperatures may rise by about 2°C over parts of northwest and adjoining central India during next 2-3 days.

### Weather Outlook (upto 1430 hours IST of 8<sup>th</sup> February, 2011)

- Fairly widespread rain/snowfall would occur over western Himalayan region.
- Fairly widespread rainfall would occur over Tamilnadu and Kerala.
- Mainly dry weather would prevail over west, central and east India.

## Zonewise Agromet Advisories

### EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]

- **Realised Rainfall:** Weather remained mainly dry during last week in the States of the region.
- **Rainfall Forecast:** Dry or mainly dry weather is likely to prevail during the period over the States of the region.
- **Major Crops:**
  - Tobacco (harvesting), gram (pod formation), mustard and sarson (pod formation), wheat (tillering), maize (vegetative / tasseling / silking), potato (tuber formation), vegetables like cauliflower, cabbage (vegetative / head formation / maturity), chillies, tomato (vegetative / flowering / fruiting / harvesting), palak, carrot, radish etc. (vegetative / harvesting), knoll khol, turnip, beet, garlic, onion etc. (vegetative), barseem, lucerne, oat (vegetative), coriander, fenugreek (vegetative), sugarcane (land preparation / planting), *boro* rice (transplanting), summer vegetables like bhindi, bitter gourd, sponge gourd, pumpkin, cucumber etc. (sowing) in Bihar.
  - Arhar and green pea (pod formation / seed formation), wheat (tillering / heading stage), potato (tuber formation / early maturity), *toria*, mustard (pod formation/ early maturity), pea, lentil and gram (pod formation / grain filling), onion (vegetative), tomato (flowering / fruiting / harvesting), cabbage and cauliflower (vegetative / head formation), chilli and brinjal (transplanting / early vegetative), summer rice (transplanting), summer vegetables (sowing / transplanting), mango and litchi (flowering) in Jharkhand.
  - Cotton (maturity / picking), *boro* rice (transplanting), maize (sowing / vegetative), groundnut, garlic, sesame, sunflower (sowing), marigold (land preparation / planting), *rabi* vegetables (vegetative / flowering / fruiting / harvesting), *rabi* oilseeds like groundnut, mustard and sunflower (pod formation / early maturity), arhar (pod formation), wheat (tillering / flowering), potato (tuber formation), *rabi* pulses like gram, lentil, field pea and chickpea (pod formation) and sugarcane (harvesting) in Orissa.
  - *Boro* rice (transplanting), wheat (tillering / ear head initiation), arhar (pod formation), mustard (pod development / seed development), potato (tuber formation / early maturity), lentil, pea, Bengal gram (pod formation), *rabi* vegetables like cabbage and cauliflower (vegetative / head formation), sunflower (sowing), summer vegetables like lady finger, *Kakrol*, amaranthus (sowing), gladiolus (planting) in West Bengal.
  - Large cardamom (vegetative lag phase), orange (end harvesting), wheat (tillering / active tillering / flowering), *rabi* potato (tuberization), ginger (harvesting), *rabi* vegetables (vegetative / flowering / fruiting / harvesting) mustard (siliqua formation / seed formation / seed maturity) in Sikkim.
- **Advisories:**
  - As there was no significant rainfall during last week in the region and no significant rainfall is likely during next three days, farmers are advised to apply irrigation to pulses like lentil, gram, arhar etc., mustard, *rabi* vegetables and at tillering stage of wheat and light and frequent irrigation to potato.
  - In Orissa, if the rice seedlings are already ready, transplanting may be undertaken. Also undertake transplanting of ragi. The weather is also optimum land preparation and sowing of summer groundnut and sunflower.
  - Prepare the field and undertake sowing of summer vegetable crops like bhindi, bitter gourd, sponge gourd, pumpkin, cucumber etc. and also undertake transplanting the seedlings of *boro* rice in main field in North West Alluvial Plain Zone and South Bihar Alluvial Zone in Bihar. Also prepare land for spring season sugarcane and summer vegetable in North East Alluvial Zone of Bihar.
  - Farmers in West Bengal are advised to undertake field preparation for sowing of groundnut, sunflower and planting of Gladiolus.
  - Farmers are advised to undertake, transplanting of *boro* rice in Jharkhand and West Bengal.
  - Prepare the field and undertake sowing of summer vegetable crops like long gourd, round gourd, ridge gourd, bitter gourd, sponge gourd, cucumber, water melon and musk melon, *okra*, brinjal and shimla mirch in Jharkhand.
  - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure I.
  - Under the prevailing weather condition aphid infestation may be high in mustard crop in New Alluvial zone of West Bengal. Attack of powdery mildew may also be high in cucumber and pointed gourd; apply 3 to 4 g Blytox per litre of water. Infestation of blight disease may also occur in wheat; spray Mancozeb @ 2.5 to 3 g per litre of water.

- Due to warm temperature and high humidity, potato may be affected by blight disease in Coastal Saline Zone of West Bengal; farmers are advised to spray 1.5 ml Metasystox with Copper oxichloride @ 4 g / litre or Cymoxnil 8% + Mancozeb 64% @ 2.5 g per litre of water at 7-10 days intervals.
- In South Bihar Alluvial Zone, wilting disease has been reported in gram and lentil crops; the affected plants should be uprooted as soon as possible.
- Due to favourable weather, insect attack and powdery mildew disease may appear in field pea and aphids in mustard in South Eastern Plateau Zone and pod borer in lentil, gram, pigeon pea and pea in Western Plateau Zone of Jharkhand; spray Karathen @ 1 ml or sulfex @ 3 ml per litre of water in field pea, Methyl Demitone or Rogor (Dimethoate) @ 1 ml per liter mixed with teepol @ 5 ml per litre in mustard and Monocrotophos @ 1 ml per litre of water in lentil, gram pigeon pea and also pea to manage the infestation.
- Temperature is moderately high in Laterite and Red Soil Zone of West Bengal, which may cause attack of rust and blight diseases in wheat crop; spray Mancozeb @ 2.5 to 3 g per litre of water and collect the infected seeds and burn them.
- Occurrence of pod borer in gram and pea in cuttack district has been reported; spray 50 ml Imidacloprid or 400 ml Dimethoate or Metasystox in 200 litres of water per acre.
- Cold and cloudy weather may favour the infestation of powdery mildew and aphids in pulses, leaf webber and aphids in irrigated mustard in Ganjam district of Orissa; spray 1 kg Sulfex WP in 200 litre of water per acre for powdery mildew, 50 ml Imidacloprid or 400 ml Dimethoate or Metasystox per acre for aphid and 200 ml Ithofenprox or Deltamethrin per acre for leaf webber.
- Weather is favourable for *Alternaria* blight and aphids in potato in Jagatsinghpur district of Orissa; spray 3 g Indofil-M-45 in one litre water for *Alternaria* blight and apply 4 ml neem based pesticide or 2 ml Metasystox per litre of water for aphids.
- The current temperature is favourable for the infestation of downey mildew in mustard in Jagatsinghpur district of Orissa; spray 2 g Redomil-MZ in 1 litre water. The current weather may also favour the infestation of saw fly and leaf webber; spray 400 ml Endosulphan per acre for saw fly and 200 ml Ithofenprox or Deltamethrin per acre for leaf webber, mixed in 200 litres of water.
- **Animal Husbandry**
  - Calves are susceptible to respiratory infection mostly pneumonia and poultry birds are prone to respiratory infection and CRD (Chronic Respiratory Diseases) during this period; provide warm and comfortable housing to animals in North Eastern Coastal Plain Zone of Orissa.
  - Foot and Mouth Disease symptoms in cow like shivering, high fever ( $105^{\circ}$  F), abscess in mouth and between toes, excess oozing of saliva from mouth, drastic decline in milk production and erection of body hairs may be observed in South Eastern Plateau Zone of Jharkhand. If such symptoms are observed, wash mouth with alum or potash solution and toes with phenyl solution. Simultaneously, paint with boroglycerine in mouth and on tongue. Apply turpentine oil in between toes for maggot protection. Antibiotics may also be administered after veterinarian advice.

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

- **Realised Rainfall:** No significant rainfall occurred during last week in most of the districts of the States of the region.
- **Rainfall Forecast:** Dry or mainly dry weather is likely to prevail over the States of the region during the period.
- **Major Crops:**
  - Cole crops like cauliflower and cabbage (head formation / maturity / harvesting), sugarcane (cane development), potato (tuber development / maturity), rapeseed & mustard (pod filling / maturity / harvesting), *boro* rice (transplanting / tillering) and wheat (tillering / heading) and early *ahu* rice (sowing) in Assam.
  - *Rabi* vegetables like cauliflower, cabbage (head formation / maturity / harvesting), tomato (fruiting / maturity / harvesting), pea (pod formation / maturity), maize (vegetative) and potato (vegetative / tuber formation / maturity), mustard (silique formation) and orange (maturity) in Arunachal Pradesh.
  - *Toria*, lentil (pod formation), *rabi* vegetables (flowering / fruiting / harvesting) and *boro* rice (transplanting) in Tripura.

- *Boro* rice (seedling / transplanting), *rabi* vegetables (vegetative / flowering / fruiting / harvesting), rapeseed and mustard (pod filling stage), *rabi* maize (vegetative), *rabi* maize at medium and low altitudes (harvesting), wheat (tillering), winter potato (tuber initiation / tuber formation), winter potato at high altitude (harvesting) in Meghalaya.
- Rice (sowing), *rabi* maize (sowing), mustard and rapeseed (flowering / pod formation), field pea (vegetative / flowering), onion (vegetative), cauliflower and cabbage (Harvesting), tomato (transplanting) and potato (vegetative / tuber formation) in Manipur.
- Khasi Mandarin (vegetative), banana (vegetative / fruiting / maturity), onion (vegetative), pea (vegetative / flowering / pod formation), beans (flowering / pod formation / harvesting), carrot and radish (vegetative / harvesting), tomato, chilli and capsicum (vegetative flowering / fruiting / harvesting), cole crops (vegetative / head formation), ginger, turmeric (harvesting) and maize (cob formation / maturity) in Mizoram.
- Potato (tuber formation), pea (fruiting / harvesting stage) mustard (pod formation), *toria* (pod formation / maturity) and papaya (fruiting) in Nagaland.

- **Advisory:**

- As there was no significant rainfall in the region during last couple of weeks and no significant rain is likely to occur, farmers are advised to apply irrigation to the standing crops. Undertake intercultural operations, application of fertilizers and pesticides taking the advantage of dry weather conditions prevailing during these days.
- Apply irrigation to *rabi* pulses, potato, cole crop, *rabi* vegetables and also to wheat at tillering and heading stage of wheat in Assam. Weeding and top dressing of urea in wheat should precede irrigation.
- Taking the advantage of dry weather, start harvesting of potato and rapeseed and mustard in Assam during this week.
- Farmers in Assam, Tripura and Manipur are advised to transplant the seedlings of *boro* rice.
- Light and frequent irrigation is required to keep the soil moist during the vegetative phase of onion in Manipur. Frequent irrigation should also be continued at bulb formation stage of onion.
- Taking the advantage of prevailing dry condition, weeding, top dressing and earthing up may be carried out in *rabi* maize in Ri-bhoi, East khasi and South Garo District of Meghalaya.
- Due to reduced moisture, condition is favourable for cracking in banana in Mizoram. The cracking may be minimized by proper mulching and nutrient management especially with application of boron. As maize crops are also critical to moisture and nutrients, ensure the irrigation and nutrient management for high yield and to attain full length of cob with good quality grains.
- As per forecasted high wind speed, farmers in Mizoram are advised to support banana plant against high wind with two bamboos in the form of 'X' shape.
- In tomato in Mizoram due to reduction of soil moisture, availability of calcium may be affected which leads to flower drops and rotting of fruits. Farmers are advised to ensure weekly irrigation for optimum fruit setting.
- With the residual soil moisture, transplanting of tomato may be undertaken in Manipur.
- As the weather condition is congenial for the growth of blister blight disease in tea plants in Assam, farmers are advised to spray Hexaconazol @ 100 ml per 100 litres of water or Copper Oxychloride @ 500 g per 100 litres of water in lower surface of the leaves when 1-2 blisters are observed.
- As the weather is favourable for bacterial and viral diseases in brinjal and tomato in Lower Brahmaputra Valley Zone of Assam, remove the plants affected by bacterial wilt and drench root zone of unaffected plants with mixture of 1g Hing + 5 g Turmeric in 10 litres of water.
- Weather condition is presently favourable for infestation of powdery mildew in pea in Mizoram; spray Karathane @ 250-300 ml / ha or Suflex @ 1-1.5 kg / ha in 800 litres of water to control.
- Fluctuation of temperature from low to high with foggy weather at morning and evening and low night temperatures are the most favourable for the incidence of late blight in tomato and chilli crops in Mizoram. Farmers are advised to spray Mancozeb @ 1 g per litre of water at 10-15 days intervals when disease appears.
- Incidence of late blight is noticed in winter potato in Meghalaya. To control late blight in potato, spraying of Indofil-M-45 @ 2 - 3 g / litre of water or Ridomil-Z-78 @ 2 - 3 g / litre of water may be done at the interval of 15-20 days.
- Leaf folder may appear in pea in Ri-bhoi or East khasi hill districts of Meghalaya due to favourable weather condition. If it appears, Malathion 56 EC may be sprayed @ 2 ml / litre of water.

- Farmers are advised for proper monitoring for mustard aphids as the prevailing condition is conducive for the infestation. Temp at 20<sup>0</sup>C or below and cloudy weather are the most favourable conditions.
- **Animal Husbandry:**
- In present weather conditions provide proper lighting to keep chicks warm and also provide lukewarm water fortified with Vitamin B complex in Arunachal Pradesh. Warm clean drinking water should also be ensured to the cattle round the clock and water troughs/feeders should be regularly cleaned. Avoid dampness in the shed and put animals in the sunshine during the morning hours.
- Present cold weather condition is favourable for the chances of pneumonia in newly born calves in Mizoram. Therefore, special care should be taken to avoid cold weather. Also keep the animals in dry place and change the bedding material when it gets wet. Pigs need housing to keep them warm to avoid scorching cold temperature

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

- **Realised Rainfall:** Rain occurred in most of the districts of Himachal Pradesh and Jammu and Kashmir during last week. Weather remained dry in remaining States of the region.
- **Rainfall Forecast:** Rainfall is likely at a few places during next 24 hours in Jammu & Kashmir and at many places thereafter. Rainfall is likely at isolated places during next 24 hours in Himachal Pradesh and at a few places thereafter. Isolated rainfall/ mainly dry weather is likely during next two days in Uttarakhand and at a few places thereafter. Either mainly dry/dry weather will prevail over the remaining States.
- **Major Crops:**
  - Wheat (tillering), mustard, pea and gram (flowering / pod formation), broccoli, cauliflower, cabbage and onion (planting / early vegetative) and lentil (pod formation) in Delhi.
  - Wheat (tillering), potato (vegetative / tuber initiation / tuber formation), vegetables (flowering / fruiting / harvesting), garlic (planting) in Himachal Pradesh.
  - Gram (late vegetative / flowering), berseem, oats (vegetative), wheat, barley (tillering / jointing / flag leaf stage), toria ( maturity / harvesting), mustard (pod formation ), vegetable crops like tomato, chilli, brinjal, cucurbits (vegetative / flowering), onion (vegetative) in Jammu & Kashmir.
  - Sugarcane (maturity / harvesting), wheat (tillering / flag leaf /ear head emergence stage), potato (tuber initiation / maturity / harvesting), toria (maturity / harvesting), mustard (flowering / pod formation ), barley (tillering), garlic, seasonal vegetables (vegetative / flowering), onion (vegetative), pea ( harvesting), chilli, tomato (sowing / transplanting), lahi (flowering / fruiting) in Uttarakhand.
  - Sugarcane (maturity/harvesting), barseem (vegetative), wheat (tillering), barley (heading), lentil, gram(branching), raya, African sarson (flowering/pod formation), radish (vegetative), ghobi sarson (vegetative), oilseeds (flowering), *toria* (harvesting), papaya, onion (transplanting), vegetables (sowing) in Punjab.
  - Sugarcane (harvesting), wheat (tillering/vegetative), berseem (vegetative), gram, rapeseed, mustard (flowering / pod formation / seed formation) in Haryana.
  - Wheat (tillering), barley, oats (vegetative / tillering), *toria* (flowering / pod formation), mustard, sarson (flowering / pod formation), potato (vegetative / tuber formation), field pea, chick pea, lentil, linseed (late vegetative / flowering), winter sugarcane (vegetative), sugarcane (maturity / harvesting), winter vegetables like carrot, garlic, onion (vegetative), cabbage, cauliflower (vegetative / flowering / fruiting), vegetable pea (flowering / pod formation) etc. in Uttar Pradesh.
  - Sugarcane (maturity / harvesting), winter sugarcane (initial growth), wheat (tillering), oats, barley (tillering), taramira, mustard (flowering / pod formation), gram (flowering), lentil (vegetative / flowering), ajwain, fenugreek and isabgol (vegetative), potato (tuberization), cabbage, cauliflower (late vegetative / head formation), tomato (flowering/ fruiting) in Rajasthan.
- **Advisory:**
  - In Gurdaspur and Hoshiarpur divisions of Punjab, due to low temperature standing *rabi* crops suffered from cold injury; farmers are advised to apply light irrigation by sprinklers in vegetables particularly in brinjal, tomato, chillies and early sown cucurbits to protect against cold injury. Farmers in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh are advised to protect the nurseries of vegetables and forest plants by covering nursery with polythene sheet from cold injury in lower regions.



- Farmers in Delhi are advised to undertake preparation of nursery for cucurbitaceous vegetables, chilli, tomato and brinjal crops and sowing of spinach, coriander, fenugreek and bhindi.
- Farmers in Delhi are advised to undertake intercultural operations in cole crops, carrot, radish, turnip and sweet potato.
- Farmers in Himachal Pradesh are advised to undertake field preparation and sowing of leafy vegetable crops, nursery sowing of brinjal and chilli in poly houses, flower crops and new planting of apple orchards utilizing the realized rainfall during last week.
- Farmers in Jammu & Kashmir are advised to undertake nursery sowing of tomato, brinjal in Intermediate Zone (Pahelgam, Rajouri districts) and undertake harvesting of leafy vegetables in Cold Arid Zone (Leh).
- Farmers in Bhabar and Terai Zone (Nainital and Udamsingh Nagar districts) of Uttarakhand are advised to undertake nursery sowing of tomato, brinjal and capsicum. Due to prevailing low night temperature, farmers are advised to cover the small plants of mango, guava and litchi with straw material to save from cold injury. Farmers in high hills are also advised to prepare land and undertake sowing of potato.
- Farmers in Bhabar and Terai Zone of Uttarakhand are advised to undertake harvesting of main sugarcane crop during this week and spread a layer of trash in the field due to prevailing low minimum temperature.
- Farmers in Western Plain zone of Punjab are advised to start preparation of field for planting of spring sugarcane. Farmers in Punjab and Haryana are advised to undertake harvesting of autumn sugarcane.
- Farmers in Rajasthan are advised to start sowing of summer bhindi and cucurbits in Jaipur division and summer tomato in Udaipur division.
- Farmers in Uttar Pradesh are advised to undertake harvesting of maize and undertake field preparation and sowing of summer sunflower and vegetables and transplanting of Onion.
- There is possibility of incidence of aphid in mustard in Delhi under present weather conditions. Farmers are advised to monitor the crop and if population is above ETL, undertake spraying of Endosulfan 35 EC @ 0.07% or Malathion 50 EC @ 0.05%.
- In Himachal Pradesh, downy mildew is expected in cruciferous vegetables and pea due to prevailing weather conditions, spray Ridomil M-Z @ 25 g per litre of water at 15 days interval in cruciferous vegetables and spray Celfex@25 g per 10 litres of water or Karathane@ 5 ml per 10 litres of water in peas.
- Weather is congenial for incidence of white rust in late sown mustard in Eastern zone of Haryana and farmers are advised to monitor the crop and spray as per recommendation.
- In Punjab incidence of flag smut in wheat is noticed, plants affected with flag smut may be rogued out and burnt to reduce the inoculums for next year. In Gurudaspur & Hoshiarpur division farmers are advised to spray Indofil M-45 @500-700gm per acre in 250 liters of water for protection against early blight disease in tomato. In case of high disease severity spray Ridomil MZ @ 700gm per acre.
- Leaf curl and mosaic diseases may affect papaya crop in Semi Arid Eastern Plain Zone of Rajasthan. At the initial appearance of these diseases, farmers are advised to uproot and burn the affected plants and to check further spread of disease spray Dimethoate 30 EC or Methyl demeton 25 EC @ 1.0 ml per litre of water & repeat spray after an interval of 15 days.
- In Jaipur and Dausa division of Rajasthan, methi, pea, cumin, and coriander are likely to be affected by powdery mildew. Farmers are advised to spray Karathane @ 1.0 ml or Calaxin per litre water or dust sulphur @ 25 kg per hectare. Due to rise in temperature wheat and barley crop may be attacked by termite attack. Apply Chlorpyrifos 20 EC @ 4 litre or Endosulfan 35 EC @ 2.5 litre per hectare with irrigation. Repeat the application if needed.
- In Sub Humid Southern Plain and Aravali Hill Zone (Udaipur), there is possibility of incidence of white rust in late sown mustard crop. Farmers are advised to monitor the crop and spray Diathene M-45 @ 2 kg/ha for its control.

#### **SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]**

- **Realised Rainfall:** Mainly dry weather prevailed during last week in the States of the region.
- **Rainfall Forecast:** Dry or mainly dry weather is likely to prevail during the next three days over the region except Tamil Nadu and Kerala where rainfall is likely to occur at a few / many places.
- **Major Crops:**
  - Vegetables (vegetative / flowering), *puncha* rice (vegetative / tillering) in Kerala.

- Rice (maturity), pulses (pod initiation / pod development), groundnut (late vegetative), cotton (Boll development), sugarcane (vegetative) in Tamil Nadu.
- Bengal gram (pod development to maturity), rice (tillering), red gram (pod formation), sunflower (flowering / seed development), groundnut (pegging / pod development) in Andhra Pradesh.
- Sugarcane (ratooning), mango (flowering), pigeon pea (harvesting), bengal gram (pod filling / harvesting), bitter gourd (fruiting), cotton (square to boll formation), sunflower (flowering to head filling) in Karnataka.
- **Advisories:**
  - As there was no significant rainfall in most of the region except Tamil Nadu and Kerala, farmers are advised to apply irrigation to the standing crops. Postpone irrigation to the standing crops in Tamil Nadu and Kerala as there are chances of rainfall during next three days.
  - In Southern Transition Zone of Karnataka, farmers are advised for sowing of summer maize and advised to apply zinc sulphate @ 10 kg / ha before sowing and sowing of groundnut with Rhizobium seed treatment.
  - In North Dry Zone of Karnataka, since dry weather is likely to prevail in the district during the coming five days, farmers are advised to take up the following weather based operations. Farmers are advised to take up spraying in field and horticultural crops. Harvest the matured chickpea, clean and sundry the produce and store
  - In *Samba* rice field of Cauvery Delta Zone of Tamil Nadu, it is the right time to sow rice fallow pulses. Black gram varieties like ADT-3 and ADT-4 and green gram variety like ADT-3 are suitable under rice fallow condition.
  - In Southern zone (Kovilpatti) of Tamil Nadu, as high velocity winds are expected give support to Banana and Sugarcane.
  - To avoid frost injury in tea in High Altitude Hilly Zone in Tamil Nadu, sprinkler irrigation for a short period of time in the early morning is recommended.
  - In Scarce Rainfall Zone of Rayalaseema of Andhra Pradesh, dry weather prevailing since last month were favourable for the incidence of sucking pests in groundnut especially thrips. To control, spray acephate @ 1.5g **or** acetamiprid @0.2 g per litre of water and to control leaf miner spray Monocrotophos @ 1.6 ml **or** Chlorpyrifos@2.0 ml per litre of water.
  - In the Southern Telangana Zone, prevailing weather conditions are congenial for the incidence of blast in paddy. To control spray Tricyclazole @ 0.6 g per litre of water, followed by application of urea as top dressing.
  - In *Samba* rice field of Cauvery Delta Zone of Tamil Nadu, bacterial leaf blight and bacterial leaf streak are being noticed due to prevailing cool weather condition. To control this, streptomycin sulphate + tetracycline compound at 120 gms and copper oxychloride (500 gms/ac) or copper hydroxide (500 gms/ac) in 200lit of water can be sprayed.
  - In the Problem Area zone of Kerala due to the prevailing climatic condition there is chance of sheath blight occurrence in the fields where the plant population is high. The farmers are advised to remove the severely affected plants in order to provide air circulation into the crop canopy and there by reduce the spread of the disease to the nearby plants.

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

- **Realised rainfall:** Weather remained dry in the States of the region during last week.
- **Rainfall forecast:** Dry weather is likely to prevail over the States of the region during the period.
- **Major Crops:**
- Summer rice (seedling / transplanting/ early tillering in Konkan and East Vidarbha), Jowar (grain filling / grain maturity), *rabi* gram (flowering / pod development / pod maturity at some places), safflower (flowering / seed formation), maize (silking and tasseling / cob initiation), sunflower (flowering / head formation), irrigated wheat (ear head emergence/ flowering / milk), sugarcane (*Adsali*) (active tillering), sugarcane-pre seasonal (early vegetative), sugar cane-*Suru* (planting), summer groundnut (germination / early vegetative in Konkan & sowing in other Divisions) in Maharashtra.
- Mustard (flowering / grain formation), pigeon pea (pod development / early maturity), gram (flowering / pod development), potato (tuber development), brinjal and tomato (flowering / fruiting / harvesting), *rabi* fennel (flowering), cumin (flowering / grain formation), early sown wheat and timely sown wheat (tillering /

heading / flag leaf initiation), late sown wheat (tillering), isabgol (tillering / flowering / grain formation), sugarcane (sprouting / early vegetative) in Gujarat.

- **Advisory:**

- As dry weather prevailed over the State during last few weeks and dry weather would prevail during the period, farmers are advised to apply protective irrigation to standing crops.
- Farmers in Madhya Maharashtra are advised to complete preparatory tillage and undertake sowing of summer groundnut.
- Farmers in Madhya Maharashtra and Marathwada are advised to undertake planting of *suru* sugarcane.
- Farmers in Pune division of Maharashtra are advised to undertake sowing of fodder maize, jowar and bajra. Prevailing weather is also favourable for planting of watermelon & musk melon.
- Farmers in Central Vidarbha Zone of Maharashtra are advised to undertake sowing of summer seasmum.
- Taking benefit of prevailing weather conditions, farmers in Western Maharashtra Plain Zone are advised to undertake sowing of summer sunflower (60x30 cm spacing) and summer soybean (30x10 cm spacing in medium soil and 45x10 cm spacing in black soil) in first fortnight of February.
- Taking the advantage of dry weather, farmers are advised to start harvesting of the already matured jowar & gram in Maharashtra.
- As dry condition is prevailing during last few weeks and there is also a possibility of increase in temperature, farmers in North Gujarat region are advised to irrigate wheat, cumin, gram, mustard, cotton etc. taking the advantage of dry weather, also undertake intercultural operations before applying irrigation.
- Farmers in North Saurashtra region of Gujarat are advised to undertake sowing of summer groundnut.
- The suitable varieties of different crops are mentioned in Annexure I.
- Due to high temperature and low humidity in North Gujarat region, farmers are advised to irrigate vegetables.
- Due to increase in temperature there may be incidence of mango hopper in Konkan region of Maharashtra. Farmers are advised to spray Methyl Dimeton 25 EC @ 12 ml or Thiomethoxion 25% granular @ 1 g / 10 liters of water on whole tree.
- Due to congenial weather, there may be incidence of thrips in mango in Konkan region of Maharashtra; farmers are advised to spray Spinosid 45 SL @ 25 ml or Dimethoate 30 EC @ 10 ml / 10 litres of water.
- Prevailing weather is favourable for attack of rust in wheat in Central Vidarbha Zone of Maharashtra. Farmers are advised to spray Mancozeb @ 25 g in 10 liters of water.
- As there is an attack of aphids in safflower in Pune & Latur Divisions of Maharashtra, farmers are advised to spray Dimethoate 30% @ 10 ml or Endosulfan 35% @ 10 ml in 10 liters of water.
- Weather is favourable for incidence of *Helicoverpa* on gram in Madhya Maharashtra, Marathwada & Vidarbha region. For control use 5 to 6 pheromone traps or (HANPV) Nuclear Polyhydrosis Virus. For that purpose take 500 caterpillar crash in 500 litres of water per ha and spray solution.
- Weather conditions are congenial for outbreak of powdery mildew in mango at flowering stage in South Gujarat region. Farmers are advised to dust the crop with 300 mesh sulphur dust to control this disease as soon as the symptoms are noticed or spray Dinocap (Kerathan or Thiovet) @ 20-25 gm per 10 litres of water.
- Infestation of pod fly crossed ETL in North Sourashtra Zone of Gujarat state. Farmers are advised to spray Endosulphan 35 EC @ 20 ml / 10 litres of water Solution.
- Due to dry weather conditions, there is a chance of infestation of powdery mildew disease in Cumin in South Saurashtra zone. Farmers are advised to spray Hexaconazol @ 10 ml in 10 liters of water.

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

- **Realised Rainfall:** Weather remained dry during last week in the States of this region.
- **Rainfall Forecast:** Dry weather is likely to prevail over the region.
- **Major Crops:**
  - Wheat (tillering/flowering), mustard (seed formation / development), chickpea (flowering / pod formation), pigeon pea (pod formation), sugarcane (planting), cotton (boll formation) in Madhya Pradesh.
  - Pigeon pea (pod development), gram (fruiting/grain filling), wheat (tillering/ panicle initiation), mustard (pod formation), sunflower (sowing), Sugarcane (vegetative) in Chattisgarh.

- **Advisory:**

- Taking the advantage of dry weather, farmers are advised to undertake intercultural operations in the early sown crops to keep the fields weed free and apply irrigation to the standing crops
- Farmers in Bastar Plateau Zone in Chattisgarh are advised to prepare nursery for late sown *rabi* vegetables and farmers in Chattisgarh Plain Zone are advised to sow cucurbitaceous and leafy vegetables and preparation of land for the summer vegetables.
- Farmers in Jhabua Hill Zone are advised to prepare nursery for summer onion and sowing of okra. Also farmers in Nimar Valley Zone are advised to plant sugarcane.
- Farmers in Nimar, Central Narmada Valley and Gird Zones in Madhya Pradesh are advised to continue sowing of cucurbitaceous vegetables, watermelon and muskmelon. Also farmers in Kymore Plateau Zone are advised to raise nursery for late sown cabbage, cauliflower and transplant the matured seedlings in main field.
- As there are chances of dry weather conditions and increase in maximum temperature by 2-3 °C during the next five days, farmers in Bundelkhand Zone are advised to transplant tomato, chilly and sow cucurbit crops in the field.
- Farmers in Chattisgarh Plain Zone are advised for sowing of cucurbitaceous crop in the poly bags. And also sowing of leafy vegetables and land preparation for the summer vegetable and complete sowing of sunflower as early as possible. Also farmers in Northern Hill Zone are advised to raise nursery for onion and prepare land for planting of sugarcane.
- Weather is congenial for early blight in potato, leaf curl and *Alternaria* blight in tomato, leaf miner and pod borer in pea in Budelkhand Zone in Madhya Pradesh; farmers are advised to spray Mencozeb @ 2.5 ml per liter of water to control early blight and Imidacloprid @ 0.5 ml per liter of water for leaf curl, Mencozeb @ 2.5 ml per liter of water for *Alternaria* blight and Melathion 50 E.C. @ 1.0 ml per litre of water for leaf minor and pod borer.
- As there are chances of dry weather conditions and 2°C increase in minimum temperature during the next 5 days in Budelkhand Zone in Madhya Pradesh, farmers are advised to monitor the mustard, lentil and kusum crops against attack of aphids. If found, it is advised to spray of Methyl Dematon 25 E.C. or Dimethoate 30 E.C. @ 2.0 ml. per liter of water. Also attack of leaf curl in tomato and chilly crops, farmers are advised to sure spray of Methyl Dematon 25 E.C. @ 2.0 ml. or Emidachloprid @ 0.5 ml. per litre of water.
- As there are chances of rise in temperature in coming days in Kymore Plateu Zone, farmers are advised to monitor chickpea for pod borer incidences. If caterpillars are more than 2 or 3 in per meter row length spray 10% of the neem leaves extract, spray Chlorpyriphos 20 EC or Indosulfan 35 EC per liter @ 500 litre of water.

### **Animal Husbandry & Poultry**

- In Malwa Plateau Zone in Madhya Pradesh, farmers are advised to insure vaccination to protect animals from infections/diseases like Black Quarter and FMD etc. And also provide the animal's clean water, balanced and nutrients rich food.
- As there are chances of clear sky conditions during next 5 days in Bundelkhand Zone of Madhya Pradesh, hence sheep raiser are advised to do medicine bath in sunny condition to control parasites.

## Annexure I List of Varieties

### Orissa

**Summer maize:** Dhabal and Navjot and Hybrid varieties like Decca, Ganga, Deccan 105, Kargil 900-M, PRO 345, Kargil 633.

**Summer groundnut:** Smruti (OG 52-1), Phule Pragati, ICGS-44, TAG-24, TG-3, TMV-2 and TG 38.

**Summer Sunflower:** High Yielding Variety like Modern and Hybrid Varieties like PAC 36, KBSH, MSFH-8 and MSFH 17.

**Sesame:** Uma, Kalika, Nirmala, Prachi and Usha.

### West Bengal

**Sunflower :** Morden, Surya (90-95 days duration), Pack 36 (hybrid variety, 104 days duration), KBSH (90-95 days duration).

**Green gram:** TM-99-50, PDM-11, TARM-1, 2, Samrat.

### Jharkhand

**Summer Rice:** IR 36, 64, Naveen, Lallat, Taichung Native.

### Assam

**Ahu Rice:** High yielding tall varieties like Banglami, Dubaichenga, Rangadaria (115-120days), Ahujoha (110-120 days) and short duration varieties like Dogaranga (85-95days) etc.

### Delhi:

**Spinach:** Jyoti

**Coriander:** Pant Haritma

**Fenugreek:** PEB, AM-1

**Ladies finger:** A-5 and Parvani Kranti

### Uttar Pradesh:

**Sunflower :** Modern KBSH-1

**Lady Finger :** VRO-6, 5, IIVR-10

### Uttarakhand:

**Brinjal:** Pant Samrat, Pant Rituraj, Pant Brinjal-4, ARU-1

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

### Maharashtra

**Summer Groundnut:** TPG-41, TG-26, TAG-24, SB-11 and ICGS-11.

**Suru Sugarcane:** CO-86032, COM-0265 (Phule 265), CO-94012 for Madhya Maharashtra and CO-86032, CO-8014, CO-740 and CO-7219 for Marathwada.

**Summer sunflower:** KBSH-1, KBSH-44 or Bhanu and MSFH-17.

**Summer sunflower:** BSS-11 and APSH-11.

**Summer soybean:** MACS-58, JS-335 or Phule Kalyani.

**Summer Seasmum:** AKT-101 and NT-11-99.

**Watermelon :** Sugar-baby, Arka Manik and Arka -Jyoti.

**Musk melon.:** Pusa Sarbati, Hara Bhanu, Punjab Sunhari, Durgapura Madhu.

**Fodder maize:** African tall, Ganga safed, Vijay, Ganga-5.

**Fodder Jowar :** Ruchira, Maldandi 35-1, Phule Amruta.

**Fodder bajra:** Giant.

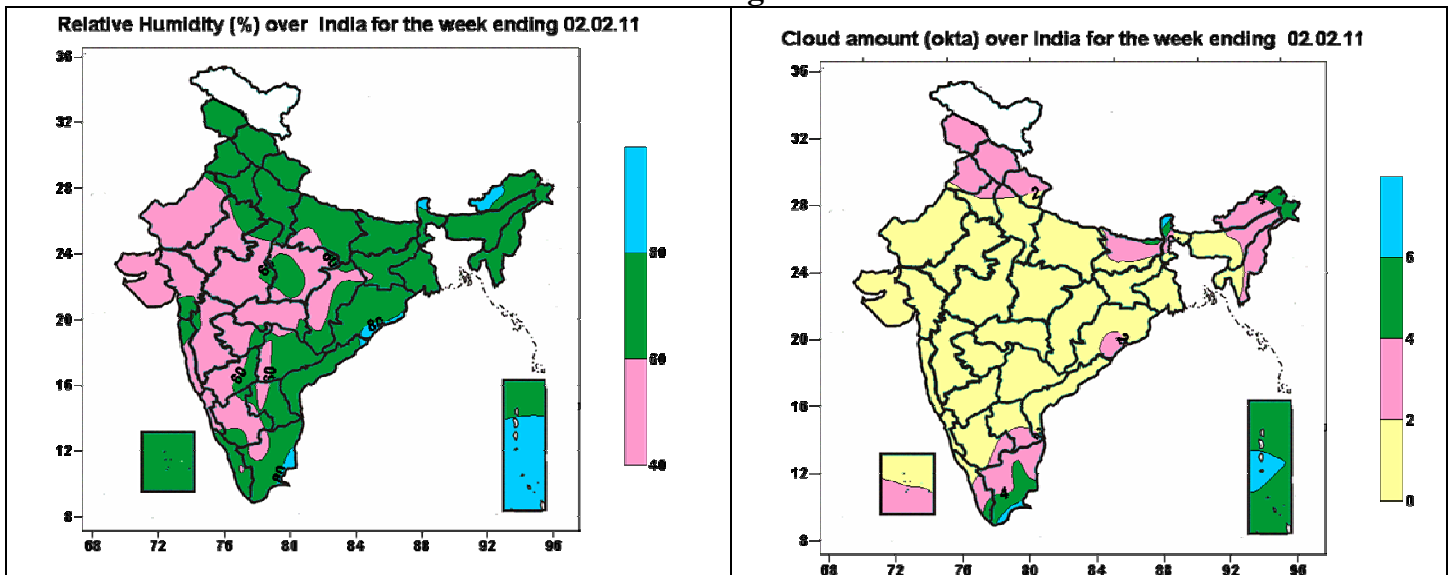
### Gujarat

**Chilli:** GVC-101, GVC-111, GVC- 121, AVNPC-131.

**Summer Groundnut:** GG-2, GG-6, GG-5, GG-7, TG.37A, TGP.41.

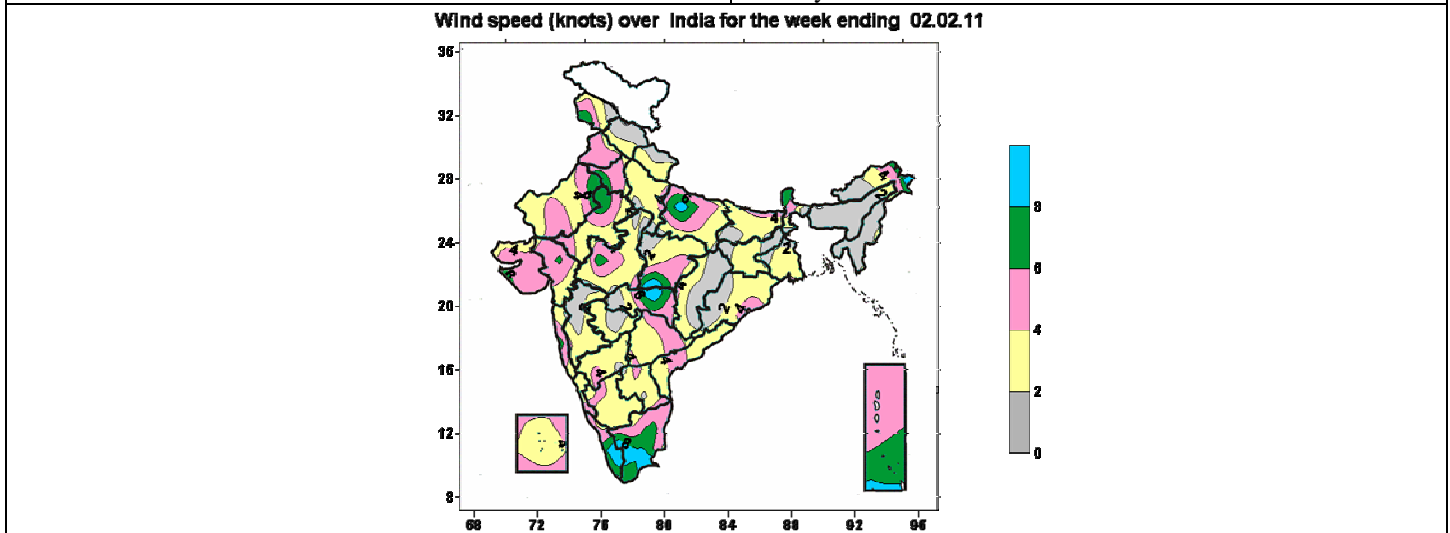
## Annexure II

### Contour maps (Relative humidity, Cloud amount and Wind Speed) for the week ending 02.02.2011



Relative humidity between 80% and above over most parts of, Sikkim, Andaman & Nicobar Island, some parts of Arunachal Pradesh, Orissa, Coastal Andhra Pradesh, Tamil Nadu, 40 to 60% most parts of Rajasthan, Gujarat, Saurashtra & Kutch, Maharashtra, Madhya Pradesh, Karnataka, some parts of East Uttar Pradesh, Jharkhand, Chhattisgarh, Rayalaseema, Telengana, Tamil Nadu, Kerala, 60 to 80% over remaining parts of the country.

Cloud amount 6 okta and above over some parts of Tamil Nadu, Andaman & Nicobar Island, 4 to 6 okta over most parts of Sikkim, Andaman & Nicobar Island, some parts of Bihar, Sub-Himalayan West Bengal, Arunachal Pradesh, Tamil Nadu, Kerala, 2 to 4 okta over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Arunachal Pradesh, Meghalaya, Nagalanad, Manipur, Tamil Nadu, Kerala, some parts of Haryana, Delhi, West Uttar Pradesh, Bihar, Coastal Orissa, Mizoram, Raylaseema, south Interior Karnataka, Lakshadweep Island, 0 to 2 okta over remaining parts of the country.



Wind speed ranged between 8 knots and above over some parts of East Uttar Pradesh, Arunachal Pradesh, East Madhya Pradesh, Vidarbha, Tamil Nadu, Kerala and Andaman & Nicobar Islands, 6 to 8 knots over most parts of Sikkim, Kerala, Tamil Nadu, some parts of Jammu & Kashmir, Haryana, Rajasthan, East Uttar Pradesh, Arunachal Pradesh, Madhya Pradesh, Gujarat, Vidarbha, Andaman & Nicobar Islands, 4 to 6 knots over most parts of Punjab, Haryana, Saurashtra & Kutch, Gujarat, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Uttar Pradesh, Rajasthan, Bihar, Arunachal Pradesh, Sub-Himalayan West Bengal, Orissa, Madhya Pradesh, Vidarbha, Konkan & Goa, Karnataka, Andhra Pradesh, Kerala, Tamil Nadu, Lakshdweep Island, 0 to 2 knots over most parts of Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Chatisgarh, North Madhya Maharashtra, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, West Uttar Pradesh, East India, Arunachal Pradesh, Madhya Pradesh, MArathwada, Vidarbha, North Interior Karnataka, Rayalaseema, 2 to 4 knots over remaining parts of the country.