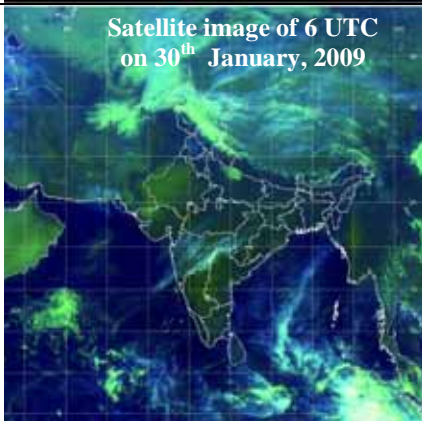




## National Agromet Advisory Bulletin

Thursday, 29<sup>th</sup> January, 2009  
(For the period 29<sup>th</sup> January to 2<sup>nd</sup>  
February, 2009)



Satellite image of 6 UTC  
on 30<sup>th</sup> January, 2009

### Chief Synoptic Feature (Based on 1430 hours IST observations of 29<sup>th</sup> January, 2009)

- Under the influence of a feeble western disturbance as an upper air system isolated precipitation is likely over Jammu & Kashmir during next 48 hours.
- The minimum temperatures have fallen by about 2-3°C over Indo-Gangetic plains and are now near normal. The Current Meteorological conditions suggest no significant change in minimum temperature over Indo-Gangetic Plains during next 48 hours.
- Mainly dry weather is likely to prevail over most parts of the country during next 3 days.

### Advisories for cold injury

- Due to low temperature cold injury may occur in the crops in Punjab, Haryana, Himachal Pradesh and Uttarakhand. Farmers are advised to arrange for smoking in these States to protect the crops from cold injury.
- Due to forecast of minimum temperature at sub-zero levels in Srinagar and Rajouri divisions in Jammu and Kashmir, protect vegetable crops, mustard and gram from frost by arranging smoke nearby the field. Provide thatches in young orchards of mango, litchi, guava, citrus and papaya.

### Advisories for irrigation

- As there was no significant rain in almost all the states of the country during last week and no significant rain is likely to occur for next five days, farmers are advised to apply irrigation to the crops.

### Advisories for pest and disease

- Weather conditions are favourable for the incidence of pest and diseases in the following States:
  - Aphids in mustard in Assam, Rajasthan, West Bengal, Jammu & Kashmir and Punjab.
  - Hoppers and powdery mildew in mango in Maharashtra.
  - Late blight in potato in Jammu division.
  - Thrips and purple blotch disease in onion in Delhi.
- Monitor the crops for the pests and diseases and undertake plant protection measures if required.

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.imdaqrimet.org>) of the Division

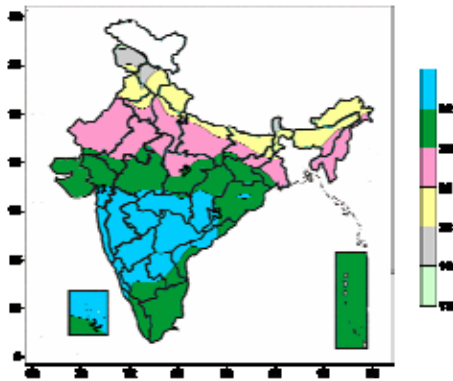
<b>Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks</b>					
<b>Sub-division</b>	<b>Cumulative Rainfall (% Dep.) for the period</b>				
	<b>31<sup>st</sup> December</b>	<b>7<sup>th</sup> January</b>	<b>14<sup>th</sup> January</b>	<b>21<sup>st</sup> January</b>	<b>28<sup>th</sup> January</b>
A & N Islands	46	-14	-97	-100	-99
Arunachal Pradesh	-87	-62	-100	-94	16
Assam and Meghalaya	-59	-90	-100	-99	49
NNMT	15	-100	-100	-100	-100
SH West Bengal & Sikkim	163	-46	-96	-99	-100
Gangetic West Bengal	-100	-64	-51	-100	-100
Orissa	-100	-100	-99	-100	-100
Jharkhand	-100	-80	132	-100	-100
Bihar	-100	-68	-83	-100	-100
East Uttar Pradesh	-100	-99	-98	-100	-100
West Uttar Pradesh	-100	-97	-64	-99	-100
Uttarakhand	-100	-79	-100	-87	-100
Haryana, Chandigarh & Delhi	-100	-94	-100	-17	-87
Punjab	-100	-85	-100	74	-100
Himachal Pradesh	-100	-11	-84	10	-81
J & K	-100	-36	-69	223	-15
West Rajasthan	-100	-99	-100	-53	-100
East Rajasthan	-100	-100	-100	-97	-100
West M. P.	-100	-100	25	-100	-100
East M. P.	-100	-82	71	-100	-100
Gujarat region	-100	-100	-100	-100	-100
Saurashtra & Kutch	-100	-100	-100	-100	-100
Konkan and Goa	-100	-100	-100	-100	-100
Madhya Maharashtra	-100	-100	-88	-100	-100
Marathwada	-100	-100	-100	-100	-100
Vidarbha	-100	-100	-100	-100	-100
Chhattisgarh	-100	-75	-77	-100	-100
Coastal A. P.	-80	-99	-100	-100	-100
Telangana	-100	-100	22	-100	-100
Rayalseema	-100	-100	-60	-100	-100
TamilNadu & Pondicherry	-95	-88	-64	-60	106
Coastal Karnataka	-100	-100	-100	-100	-100
N. I. Karnataka	-100	-100	-100	-100	-100
S. I. Karnataka	-100	-100	-90	-99	-100
Kerala	-100	-100	-97	-100	-7
Lakshadweep	-100	-77	-100	-74	4

The subdivisions like Gangetic West Bengal, Orissa, Bihar, Uttar Pradesh, Uttarakhand, Rajasthan, Gujarat, Saurashtra & Kutch, Maharashtra, Chhattisgarh, Coastal Andhra Pradesh, Rayalaseema, and Karnataka received scanty / deficient rain in all the 5 weeks; Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Sub-Himalayan West Bengal and Sikkim, Jharkhand, Punjab, Haryana, Chandigarh, Delhi, Madhya Pradesh, Telangana Tamil Nadu & Pondicherry, Kerala and Lakshdweep received scanty / deficient rain in 4 out of last 5 weeks; Andaman & Nicobar Islands, Himachal Pradesh and Jammu & Kashmir received scanty / deficient rain in 3 out of last 5 weeks. Other subdivisions received normal or excess rain for at least 3 weeks out of last 5 weeks.

	(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

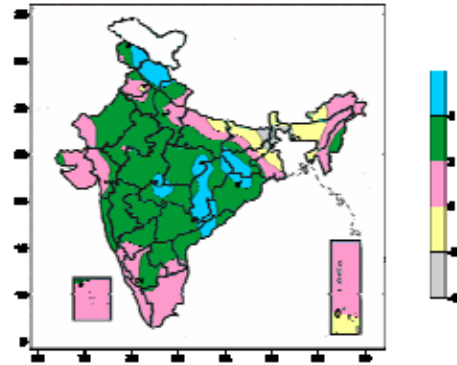
## Contour maps for the week ending 28.01.09

**Actual Mean Maximum Temperature (°C) in India for the week ending 28.01.09**



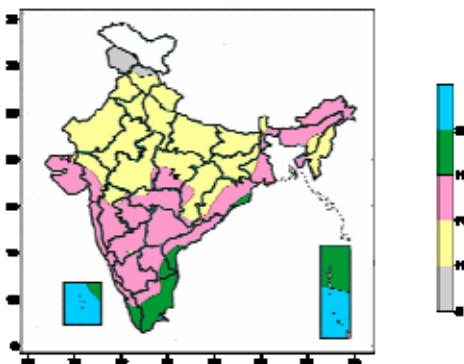
Actual Mean Maximum temperature ranged between 32 to 36<sup>0</sup>C over most parts of Maharashtra, Andhra Pradesh, Karnataka and Lakshadweep, over some parts of Orissa, Gujarat, West Madhya Pradesh and Chhattisgarh, 24 to 28<sup>0</sup>C over most parts of the Haryana, Delhi, Uttar Pradesh, Gangetic West Bengal, Nagaland, Manipur, Mizoram and Tripura, some parts of Bihar, Jharkhand, Assam, Arunachal Pradesh and Madhya Pradesh, 20 to 24<sup>0</sup>C over most parts of Punjab, Uttarakhand, Bihar, Sub-Himalayan West Bengal, Assam and Arunachal Pradesh, over some part of Jammu & Kashmir, Himachal Pradesh, Haryana, Uttar Pradesh and Jharkhand, 16 to 20<sup>0</sup>C over most parts of Jammu & Kashmir and Sikkim, some parts of Himachal Pradesh, 12 to 16<sup>0</sup>C over some parts of Jammu & Kashmir, 8 to 12<sup>0</sup>C over remaining parts of the Country.

**Minimum Temperature (°C) Anomaly in India for the week ending 28.01.09**



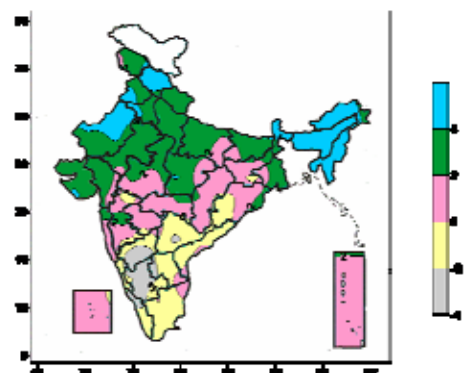
Actual Mean Maximum temperature anomaly ranged between 4 to 6<sup>0</sup>C over most parts of Himachal Pradesh and central Chhattisgarh, some parts of the Jammu & Kashmir, Jharkhand, Orissa, Madhya Pradesh, Vidarbha, Coastal Andhra Pradesh and Telangana, 0 to 2<sup>0</sup>C over most parts of Punjab, North Uttar Pradesh, Gangetic West Bengal, Assam, Arunachal Pradesh, Mizoram, Gujarat, Saurashtra & Kutch, Coastal Karnataka, Kerala, Tamil Nadu, Lakshdweep, Andaman and Nicobar Islands, some parts of Jammu & Kashmir, Haryana, Uttarakhand, Bihar, Jharkhand, Nagaland, Manipur, Rajasthan, Interior Karnataka, Coastal Andhra Pradesh and Rayalaseema, -2 to 0<sup>0</sup>C over most parts of North Bihar, Assam, Sikkim and Tripura, some parts of Punjab, East Uttar Pradesh, Jharkhand, Assam, Gangetic West Bengal and Andaman & Nicobar Islands, -4 to -2<sup>0</sup>C over most parts of Sub-Himalayan West Bengal, some parts of Bihar, Jharkhand and Gangetic West Bengal, 2 to 4<sup>0</sup>C over remaining parts of the country.

**Actual Mean Minimum Temperature (°C) in India for the week ending 28.01.09**



Actual Mean Minimum Temperature ranged between 22 to 26<sup>0</sup>C over most parts of Lakshadweep, some parts of Andaman & Nicobar Island, 18 to 22<sup>0</sup>C over most parts of Kerala, Tamil Nadu, some parts pf Coastal Andhra

**Minimum Temperature (°C) Anomaly in India for the week ending 28.01.09**

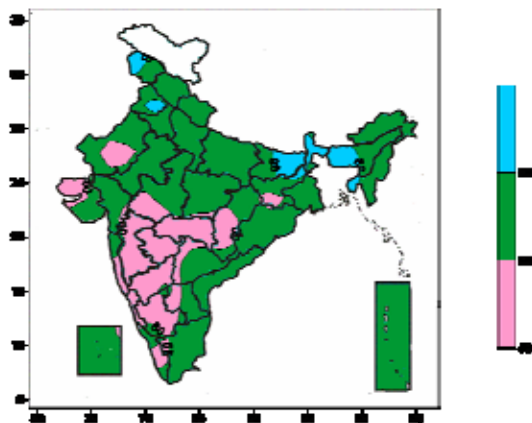


Minimum Temperature anomaly ranged between 4 to 6<sup>0</sup>C over most parts of Himachal Pradesh, Sikkim, North East India and East Rajasthan, some parts of Punjab, Haryana, Saurashtra & Kutch, Sub-Himalayan West Bengal and East

Pradesh, Raylaseema, Lakshadweep, Andaman & Nicobar Island, 10 to 14<sup>0</sup>C over most parts of Haryana, Punjab, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, Sikkim, Orissa Rajasthan, Gujarat, Chattisgarh, Madhya Pradesh, Nagaland, Manipur, Mizoram, some parts of West Bengal, Assam, Madhya Maharashtra, Marathwada, Vidarbha and North Interior Karnataka, 8 to 10<sup>0</sup>C over most parts of Jammu & Kashmir, some parts of Himachal Pradesh, 14 to 18<sup>0</sup>C over remaining parts of country.

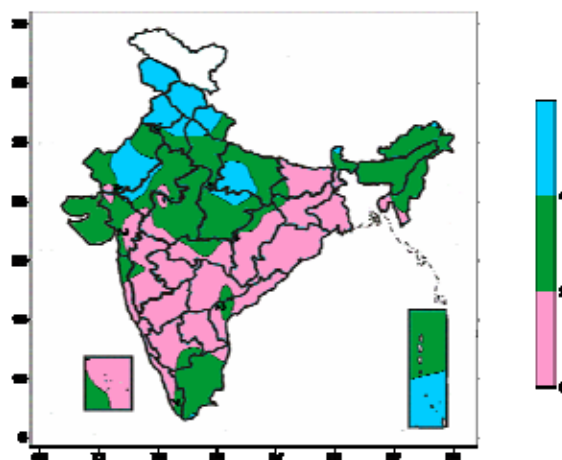
Madhya Pradesh, 0 to 2<sup>0</sup>C over most parts of Jharkhand, Maharashtra, Chattisgarh, Andaman & Nicobar Island, Lakshadweep, some parts of Jammu & Kashmir, East Uttar Pradesh, Bihar, Orissa, Gangetic West Bengal, Madhya Pradesh, Coastal Andhra Pradesh, Raylaseema and Tamil Nadu, -2 to 0<sup>0</sup>C over most parts of Andhra Pradesh, Tamil Nadu, Kerala, some parts of Jharkhand, Orissa, Madhya Maharashtra, Marathwada, Karnataka, Lakshadweep Island, -4 to -2<sup>0</sup>C over most parts of Interior Karnataka, some parts of Telangana, Raylaseema and Kerala, 2 to 4<sup>0</sup>C over remaining parts of the Country.

Relative Humidity (%) over India for the week ending 28.01.09



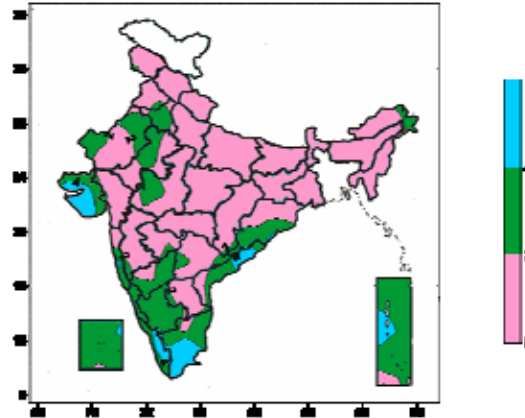
Relative humidity ranged from 80 to 100% over most parts of Sub-Himalayan West Bengal, Sikkim, some parts Jammu & Kashmir, Punjab, Bihar, Jharkhand, Assam, Tripura, 40 to 60% over most parts of Maharashtra, Karnataka, some parts of West Rajasthan, Gujarat region, Madhya Pradesh, Jharkhand, Chattisgarh, Telangana, Rayalaseema, Kerala, Lakshdweep 60 to 80% over remaining parts of the country.

Cloud amount (okta) over India for the week ending 28.01.09



Cloud amount ranged from 4 to 6 okta over most parts of Jammu & Kashmir, Himachal Pradesh, Punjab, some parts of Haryana, Uttarakhand, Rajasthan, Uttar Pradesh, Sikkim, East Madhya Pradesh, Andaman & Nicobar Island, 2 to 4 okta over most parts of Rajasthan, Madhya Pradesh, Uttar Pradesh, Sub Himalayan West Bengal, North East India, Saurashtra & Kutch, Tamil Nadu, some parts of Haryana, Delhi, Bihar, Jharkhand, Gujarat, Konkan & Goa, Madhya Maharashtra, Vidarbha, Coastal Andhra Pradesh, Telengana, South Interior Karnataka, Kerala, Andaman & Nicobar Island, Lakshadweep.

Wind speed (knots) over India for the week ending: 28.01.09

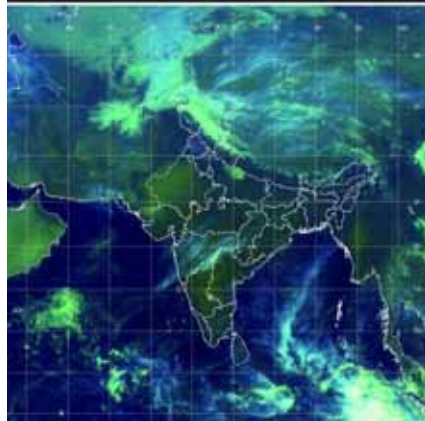


Wind speed ranged between 4 to 6 knots over some parts of Saurashtra & Kutch, coastal Andhra Pradesh, Tamil Nadu, Kerala, Andaman and Nicobar Islands, Lakshadweep, 2 to 4 knots over most parts of Haryana, Delhi, Karnataka, Andaman Nicobar Islands, Lakshadweep, some parts of Rajasthan, Gujarat, West Madhya Pradesh, Orissa, Andhra Pradesh, Konkan, Madhya Maharashtra, Marathwada, Tamil Nadu, Kerala, Extreme North east India, 0 to 2 knots over remaining parts of the country.

**Chief Synoptic Feature (Based on 1430 hours IST observations of 29<sup>th</sup> January, 2009)**

- Under the influence of a feeble western disturbance as an upper air system isolated precipitation is likely over Jammu & Kashmir during next 48 hours.
- The minimum temperatures have fallen by about 2-3<sup>0</sup>C over Indo-Gangetic plains and are now near normal. The Current Meteorological conditions suggest no significant change in minimum temperature over Indo-Gengetic Plains during next 48 hours.
- Mainly dry weather is likely to prevail over most parts of the country during next 3 days.

**Satellite image of 6 UTC on 30<sup>th</sup> January, 2009**



**Zone-wise Forecast**

**NORTHWEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP] (Forecast valid upto 1430 hours IST of 1<sup>st</sup> February, 2009)**

- Rain/snow is likely at isolated places over Jammu & Kashmir during next 48 hours & mainly dry weather thereafter.

- Mainly dry weather is likely over the rest region.

**Quantitative District Weather Forecast for next five days:**

- Light rainfall is likely to occur over Jammu Kashmir during next 48 hours & mainly dry weather thereafter.
- Mainly dry weather is likely over the rest region.

**EAST INDIA [EAST UP, JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]**  
(Forecast valid upto 1430 hours IST of 1<sup>st</sup> February, 2009)

- Mainly dry weather is likely over the region.

**Quantitative District Weather Forecast for next five days:**

- Mainly dry weather is likely over the region.

**NORTHEAST INDIA [Arunachal Pradesh, NMM & T, Assam, Meghalaya]** (Forecast valid upto 1430 hours IST of 1<sup>st</sup> February, 2009)

- Rain/thundershowers are likely at isolated places over Arunachal Pradesh and Assam.
- Mainly dry weather is likely over the rest region.

**Quantitative District Weather Forecast for next five days:**

- Light rainfall is likely to occur over Arunachal Pradesh and Assam.
- Mainly dry weather is likely over the rest region.

**SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]** (Forecast valid upto 1430 hours IST of 1<sup>st</sup> February, 2009)

- Mainly dry weather is likely over the region.

**Quantitative District Weather Forecast for next five days:**

- Mainly dry weather is likely over the region.

**WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT, RAJASTHAN]** (Forecast valid upto 1430 hours IST of 1<sup>st</sup> February, 2009)

- Mainly dry weather is likely over the region.

**Quantitative District Weather Forecast for next five days:**

- Mainly dry weather is likely over the region.

**CENTRAL INDIA [M.P., CHHATTISGARH, VIDARBHA]** (Forecast valid upto 1430 hours IST of 1<sup>st</sup> February, 2009)

- Mainly dry weather is likely over the region.

**Quantitative District Weather Forecast for next five days:**

- Mainly dry weather is likely over the region.

**Weather Outlook from 1430 IST of 1<sup>st</sup> February, 2009 to 1430 IST of 3<sup>rd</sup> February, 2009 (Based on numerical weather products):**

- Mainly dry weather is likely over many parts of the country.
- A fresh western disturbance is likely to affect western Himalayan region from 3rd February onwards.

## Zonewise Agromet Advisories

**NORTH WEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP]**

### **Himachal Pradesh**

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), wheat (tillering), barley, oat and oil seeds (vegetative), cabbage, cauliflower and broccoli (vegetative), pea and knoll-khol (vegetative), carrot, raddish, turnip and the leafy vegetables like letuce, methi, palak, dhania etc. (early vegetative / vegetative).
- As mainly dry weather is likely to prevail during next five days, apply irrigation to the crops.
- Due to low temperature cold injury may occur in the crops. Farmers are advised to arrange for smoking to protect the crops from cold injury.
- Under prevailing weather conditions, undertake sowing of potato in mid hills region. Procure the healthy and disease free bulbs for planting.
- The transplanting of onion may be completed within this week. Drench the crop field with Dithane M-45 @ 2 g and Bavistin @ 1 g for the control of damping off. It is also optimum time for sowing of radish.
- The nursery sowing of chilly and brinjal may be taken up in the poly houses. Planting of stone fruits like peach, pear, plum almonds, apricot and apple may also be carried out.
- It is optimum time for planting of peach, pear, plum almonds, apricot and apple.
- Weather is congenial for production of white button mushroom in the closed room. Maintain room temperature at 18-22<sup>0</sup>C and relative humidity around 85% for successful cultivation. For Oyster mushroom 16-22<sup>0</sup>C temperature may be maintained.
- Under prevailing weather condition there is possibility of infestation of powdery mildew. For control of powdery mildew in peas spray Sulfex @ 25 g per 10 litres of water or karathane @ 5 ml per 10 litres of water.
- Weather condition is also congenial for downy mildew in cruciferous vegetables. For control spray Redomil M-Z @ 25 g per litre of water at 15 days interval.
- White wash the stems of the trees like apple and other orchard crops with 10 kg Chuna + 100 gm of Copper oxichloride + 25 liters of water to protect the plants from diseases and direct sun radiation.
- Mulch the tree basins to conserve moisture. Use waste materials like dry grass, broken leaves etc. Farmers may use black UV sheet for tree basins.
- Undertake intercultural operations, spraying of pesticides after spells of rain.
- Details of crop varieties are mentioned in Annexure I.

### **Poultry**

- Replace the poultry houses with fresh litter to avoid wetting and keep the houses clean and ensure clean drinking water to the birds.
- Raise the temperature of the poultry enclosures using bhukhari, otherwise chances of death of birds increases as the birds mount each other and increase the poultry food by 10%.

### **Honeybees**

- Due to winter season enough flora is not available for bees, therefore farmers are advised to give artificial feed of 50% sugar and 50% water solution to honey bees.
- Also ensure proper packing to the apiary to protect from cold.
- Ensure before packing that weak apiaries should be given artificial food. Insert the brood chamber without frame for ensuring aeration.

### **Animal Husbandry**

- The night temperature is very low and the newly born calves may be protected against the cold as the weather is conducive for white scour, naval ill and pneumonia. Feed pregnant and lactating cows and buffalos with balanced feed including mineral mixture.

## Uttarakhand

- **Major Standing Crops:** Sugarcane (harvesting), wheat (heading) and mustard (vegetative), chickpea, potato, pea and lentil (vegetative).
- As there was no significant rainfall in most of the districts during last few weeks and mainly dry weather is likely for the next five days, apply irrigation to the standing *rabi* crops.
- Farmers are advised to protect the seedlings of potato and onion crops from cold injury by arranging smoking around the field. Protect small trees of mango, guava, litchi and lemon from cold injury by covering them with rice straw.
- Farmers are advised to complete transplanting of onion and chilly seedlings.
- Undertake harvesting of matured crops of potato and toria
- Farmers are advised to undertake field preparation and sowing of sunflower. Sow certified seeds of high yielding varieties like MSFS-8, NSFH-9, Ranjha, Heer, Badshah etc.(hybrids), Morden and Paradobic.
- Farmers are also advised to undertake sowing of French bean with varieties like Pant Anupama, Pant Bean-2, VL Vonibean-1 and Pusa Parvati etc.
- Provide balanced feed to animals and continue to keep them inside the shed to protect them from cold.

## Punjab

- **Major Standing Crops:** Horticultural crops (vegetative), sugarcane (harvesting), *spring* sugarcane (early vegetative), potato (vegetative) and wheat (elongation/heading), gram and lentil (vegetative), pea and vegetable crops like chilly, tomato, brinjal and onion(seedling/transplanting/early vegetative), oilseeds(flowering/pod formation).
- As there was no significant rainfall in most of the districts during last few weeks and mainly dry weather is likely for the next five days, apply irrigation to the standing *rabi* crops.
- Continue harvesting of matured crops of sugarcane.
- In view of fall in temperature, cold injury may occur in vegetables, potato, sugarcane and *rabi* oilseeds. Provide rice straw / polythene cover to save the plants from cold injury. Also arrange for smoking around the field to protect the crops against the cold injury.
- Farmers are advised to continue sowing of sunflower and transplanting of chilly, tomato, brinjal and onion.
- Undertake layering of litchi trees and side grafting of mango for their propagation.
- Weather is congenial for attack of mustard aphid, spray the crop with Metasystox 25 EC @ 250 ml or 375ml Dusban/ Coroban 20 EC in 100 litres of water per acre. Repeat application whenever economic threshold level attack is noticed.
- Farmers are advised to provide bedding to calves and adult animals. Density of the ration may be increased by adding grains and oils. In view of expected fall in temperatures, farmers are advised cover the side of poultry sheds to maintain the temperature inside the shed.

## Haryana

- **Major Standing Crops:** Sugarcane (harvesting), spring sugarcane (early vegetative), vegetable crops (seedling/early vegetative), wheat (heading), oilseeds (flowering/pod formation)
- As there was no significant rainfall in most of the districts during last few weeks and mainly dry weather is likely for the next five days, apply irrigation to the standing *rabi* crops.
- In view of fall in temperature, cold injury may occur in sugarcane. Provide rice straw / polythene cover or arrange for smoking around the field to save the plants from cold injury.
- Continue sowing of sunflower and berseem. Details of crop varieties are mentioned in Annexure I.
- Complete transplanting of tomato and continue transplanting of onion. Farmers are advised to cover the nursery beds by polythene sheets for protection against cold injury.



- Farmers are advised to provide bedding to calves and adult animals. Density of the ration may be increased by adding grains and oils. In view of expected fall in temperatures, farmers are advised cover the side of poultry sheds to maintain the temperature inside the shed.

### Delhi

- **Major Standing crops:** Vegetables (vegetative / flowering), mustard (capsule formation), potato (tuber formation / maturity), gram (flowering / pod formation), wheat (tillering), *rabi* onion (vegetative).
- As dry weather is likely to prevail for next five days, farmers are advised to apply irrigation to wheat, vegetables, mustard, potato, gram etc.
- As there is no chance of rain, farmers are advised to undertake intercultural operation to keep the crop fields weed free.
- As temperature was above normal during last week and there is less possibility of change in weather, farmers are advised to prepare land for sowing of early varieties of vegetables.
- As dry weather is likely to prevail, farmers are advised to start harvesting of already matured crops of potato. Also stop irrigation to the potato crops which will be ready for harvest within two weeks.
- Under prevailing weather condition start nursery sowing of tomato.
- In view of prevailing dry weather farmers are advised to apply irrigation to late sown wheat followed by application of second dose of nitrogen.
- Farmers are also advised to apply irrigation to mustard wherever crops are at capsule formation stage.
- Present weather condition is favourable for infestation of pod borer in gram. Farmers are advised to monitor the crops and use pheromone traps for managing the pest.
- Under prevailing weather condition there is possibility of infestation of thrips and also purple blotch disease in onion. Farmers are advised to mix mancozeb @ 2 gm and metasystox @ 1 ml per litre of water and apply to the crops.

### Uttar Pradesh

- **Major Standing crops:** Sugarcane (grand growth / cane formation), mango (fruit setting), rai, mustard, potato, gram, pea and lentil (vegetative/flowering), wheat (tillering/heading).
- As there was no significant rainfall in most of the districts during last few weeks and mainly dry weather is likely to prevail for the next five days, apply irrigation to the standing *rabi* crops and sugarcane. Continue picking of vegetable crops depending upon the market demand.
- Undertake weeding, intercultural operations, application of fertilizers and pesticides in the standing crops like garlic, onion and potato as favourable weather conditions prevail during these days.
- Farmers are advised to prepare the field for sowing of mentha crop.
- Sowing/transplanting of onion may be continued.
- Farmers are advised to harvest the matured crops of sugarcane and toria.

### J & K

- **Major Standing Crops:** Wheat (vegetative), pulses (vegetative), mustard (vegetative). This is proper time for transplanting of tomato and onion in Jammu.
- As rain/snow is likely to occur at isolated places during next 48 hours and mainly dry weather is likely to prevail thereafter, apply irrigation to the crops.
- Due to forecast of night temperature at subzero levels in Srinagar and Rajouri divisions, protect vegetable crops, mustard and gram from frost by arranging smoke nearby the field. Provide thatches in young orchards of mango, litchi, guava, citrus and papaya.
- Undertake intercultural operations in brown sarson, pulses and wheat in Srinagar, mustard in Jammu division, beet, mongol and spinach in Leh division and mustard, berseem, pulses and vegetable crops in Rajouri division to keep the field weed free.
- Complete transplanting of onion and tomato seedlings in Jammu division.

- Due to decrease in minimum and maximum temperature protect the pregnant and milch animals from cold and feed them mineral mixture regularly. Cover the poultry shed with gunny bags in order to protect the birds from cold weather.
- Weather conditions are congenial for mild incidences of
- aphids in mustard, collar rot and root rot in pulses and leaf eating caterpillar in vegetable crops in Rajouri division;
- wilt and rot in peas and late blight in potato in Jammu division;
- monitor the crops for the pests and diseases and undertake plant protection measures.

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

### **Bihar**

- **Major Standing Crops:** Sugarcane (vegetative), *rabi* maize, pulses, potato and sunflower (vegetative), wheat (heading).
- As there was no significant rainfall during last few weeks in most of the districts and mainly dry weather is likely for the next five days, apply irrigation to the standing crops. Apply 3<sup>rd</sup> irrigation to late sown wheat crop which is in 60 to 65 days stage. Avoid moisture stress in potato and maize crop by maintaining adequate soil moisture as moisture stress at this stage affects the yield of these crops. Avoid irrigation to fruit crops during flowering.
- Undertake intercultural operations, application of fertilizers and pesticides in maize, tomato, brinjal, cauliflower, cabbage etc.
- Farmers are advised to continue the field preparation for planting of sugarcane crop.
- Farmers are advised to continue preparation of mainfield for transplanting of *boro* rice.
- Due to prevailing high temperature, there are chances of incidence of litchi mite and borer insects in litchi orchards. Spray Rogor @ 1.5 to 2.0 ml/litre of water against borer insects immediately.

### **Jharkhand**

- **Major Standing Crops:** Arhar and maize (harvesting), wheat (heading), *rabi* oilseeds (vegetative/flowering).
- As there was no significant rainfall during last few weeks in most of the districts and mainly dry weather is likely for the next five days, apply irrigation to the standing crops. Farmers are advised to apply third irrigation to late sown wheat at 60 to 65 days after sowing along with top dressing of urea @ 22kg/ha.
- Undertake transplanting of onion in the mainfield.
- Undertake sowing of bitter gourd, sponge gourd, ridge gourd, bhendi and water melon.
- Farmers are advised to raise the nursery of summer rice. Select the varieties like IR36, IR64 and Lalat.
- Farmers are advised to undertake weeding, intercultural operations in potato, oilseeds and wheat.

### **Orissa**

- **Major Standing crops:** Sugarcane (harvesting), sunflower, mustard (flowering), vegetables (vegetative / flowering / fruiting), wheat (tillering), potato, onion (vegetative) and summer rice (transplanting).
- As there was no significant rainfall in the State during last few weeks and mainly dry weather is likely for the next five days, apply irrigation to the standing *rabi* crops.
- Farmers are advised to undertake nursery sowing of ragi and sowing of groundnut in river banks. Details of crop varieties are mentioned in Annexure I.
- Continue sowing of maize and sesame and undertake transplanting of *summer* rice. Undertake planting of marigold.
- Undertake planting of sugarcane. Dip the sugarcane seed material (sett) in Bavistin solution (1.5g/lit) for 20-30 minutes before planting.

- Undertake intercultural operations, application of fertilizers and pesticides in *rabi* crops.
- Prevailing weather may favour the egg laying of stem borer in rice in the main field. To attract the butterflies, place 4 pheromone trap /acre, collect the adult and destroy them by burning them under soil or by burning.

### West Bengal

- **Major Standing Crops:** Sugarcane (cane development / cane maturity), mustard, gram and lentil (flowering / pod formation), wheat (tillering), potato (tuber formation) and *boro* rice (transplanting / early vegetative).
- As there was no significant rain during last few weeks in most of the districts of the State and mainly dry weather is likely to prevail during next five days, apply irrigation to mustard, gram, lentil, wheat, vegetables and potato.
- As there is no possibility of rainfall, farmers are advised to undertake intercultural operation to keep the fields weed free.
- Irrigate the seedbed of *boro* rice regularly to maintain 2-3 cm stagnant water in the bed. Undertake preparation of the main field and transplanting of *boro* rice. Transplant 3-4 no. of seedlings together in 4-5 cm depth in the main field with a spacing of 20 x 10 cm. Maintain 1-2 cm stagnant water in the field.
- Under prevailing weather condition, undertake preparation of land for sowing of groundnut and sunflower. Well filled kernels of groundnut should be selected and treated with 5 g of Thiram or 3 g of Captan per kg of kernels. 18-20 kg healthy and well developed pods of groundnut are required per bigha. 600 to 800 g of well filled plump seeds of sunflower are required to cover one bigha land.
- As the soil temperature is increasing day by day, there is a chance of lower tuber development in potato. To get higher yield, cover the field with rice straw mulch.
- In the foggy weather, attack of blight disease (late blight in potato and early blight in tomato) is becoming severe in New Alluvial zone. To control the disease, apply 2.5 gm Mancozeb per litre of water.
- Under the prevailing weather condition aphid infestation is remaining high in mustard in New Alluvial zone and Coastal Saline zone. Apply 1.5 ml metasystox per litre of water to control the pest.
- Details of crop varieties are mentioned in Annexure I.

### Sikkim

- **Major Standing Crops:** Orange (maturity/picking), large cardamom (vegetative), *rabi* wheat (heading), mustard (flowering/capsule formation), vegetable crops (flowering/fruiting/ harvesting), potato (tuber formation)
- As there was no significant rainfall during last week in the state and mainly dry weather is likely to prevail over the state for the next five days, apply irrigation to the vegetable crops, wheat, orange and large cardamom.
- Undertake intercultural operations in mustard, wheat and vegetable crops like cabbage, cauliflower, carrot, Chinese cabbage, knol-khol, garden peas, radish, turnip, lettuce, celery, spinach, etc., in medium and low hills as conducive weather prevails during these days.
- Continue harvesting orange and vegetable crops depending upon market demand.
- Maintain large cardamom sucker nursery; apply FYM and undertake intercultural operations.
- **Plant Protection:** Weather conditions are congenial for mild incidences of
- Chirkey and Foorkey disease, and shoot borer in large cardamom
- fruit fly and trunk borer in orange.
- Monitor the crop/tree and undertake plant protection measures to control the pests and diseases.

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

### Assam

- **Major Standing crops:** Arhar (pod formation / maturity), sugarcane (harvesting), vegetables (vegetative / flowering / fruiting), mustard, lentil and pea (flowering / pod formation), wheat (tillering / ear initiation), potato (tuber formation) and *boro* rice (transplanting / early vegetative).
- As there was no significant rain over the State during last few weeks and no significant rain is likely to occur for next five days, farmers are advised to apply irrigation to arhar (at pod formation stage) and vegetable crops like cauliflower, cabbage, raddish, brinjal, tomato, knolkhol, onion and carrot and also to wheat, mustard, lentil, pea and potato.
- As there is less possibility of occurrence of rain, farmers are advised to undertake intercultural operation to keep the fields weed free. Second earthing up should be done in case of two months old crop of potato.
- Under prevailing dry weather condition, farmers are advised to undertake harvesting of sugarcane.
- Transplanting of *boro* rice may be undertaken as the weather condition is favourable. Also maintain 3-5 cm stagnant water in already transplanted *boro* rice field.
- Prevailing weather condition is favourable for the infestation of leaf curl virus and late blight in potato. Crop should be sprayed with Malathion 50 EC @ 2 ml / litre of water against insect vector of leaf curl virus and Dithane M 45 @ 2.5 g / litre against late blight disease.
- As weather condition is favourable, farmers should be vigilant for the attack of aphids at flowering stage of rapeseed and mustard. If the number of aphids is more than 30 in the main shoot, then application of either Malathion 50 EC @ 2 ml / litre or Dimethoate 30 EC @ 1 ml / litre is essential to control the pest.

### Poultry

- Considering the occurrence of bird flu in different districts of lower, upper and central Assam, poultry farmers are advised to be extra vigilant. Any unnatural and sudden death of their poultry birds should immediately be reported to veterinary officials. Vaccine for Ranikhet disease of poultry birds may be given during this period.

### Fishery

- Under present weather condition fishes may suffer from a disease that cause decay in patches in different parts of the body. To protect from the disease apply Potassium permanganate @ 2.5 Kg / bigha. Moreover, application of 1 Kg turmeric powder and 13 Kg lime can save the fishes from the disease.

### Arunachal Pradesh

- **Major Standing crops:** *Rabi* vegetables (harvesting), wheat (flowering / grain formation), mustard (flowering/pod formation), pea (pod formation/harvesting), *rabi* maize (grain formation) and potato (vegetative/tuber formation).
- As there was no significant rainfall in most of the districts during last few weeks and no significant rainfall is likely during next five days, apply 2<sup>nd</sup> irrigation to wheat and also apply irrigation to mustard, pea, *rabi* maize and potato. Postpone irrigation in Tirap and Lohit districts as there was sufficient rainfall in these districts during last week.
- Farmers are advised to apply top dressing, intercultural operations in late sown crops.
- Regular monitoring for powdery mildew attack in pea may be carried out.
- Undertake harvesting of matured vegetables.

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

### **Andhra Pradesh**

- **Major Standing Crops:** sugarcane (grand growth), gram (grain formation/development/maturity), wheat, mustard and sunflower (grain/seed development) and chilly (fruit development)
- Apply irrigation to the crops as there was no rainfall during last week and mainly dry weather is likely to prevail over the state for the next five days.
- Farmers in Srikakulam, Vijayanagaram and Visakappattinam are advised to continue harvesting of sugarcane. After the harvest, allow ratoon or undertake new planting of sugarcane. Undertake thinning and intercultural operations in rice fallow maize.
- Farmers in Krishna, West Godavari, Guntur and Prakasam districts are advised to undertake sowing of rice fallow maize and rice fallow pulse crops during these days. Details of varieties are given in Annexure I.
- Farmers in Guntur are advised to continue transplanting rice seedlings in the main field.
- Farmers in Anantapur are advised to undertake intercultural operations in rice and groundnut.
- Farmers in high altitude regions of Srikakulam, East Godavari, Vijayanagaram, Visakappattinam and Khammam are advised to complete harvesting of red gram. Continue transplanting the seedlings of rice and ragi.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- leaf spot in turmeric, stem and fruit borer in brinjal, late BPH in rice and necrosis in onion in Karimnagar, Nizamabad, Warranagl and Medak districts;
- spotted pod borer and powdery mildew in black gram, green gram and red gram, Spodoptera in gram, sucking pests in cotton and white fly and fruit rot in chilly in Guntur;
- ring spot and rust in sugarcane, powdery mildew and thrips in chilly, Alternaria leaf spot and fruit borer in tomato, powdery mildew in gourds, leaf spot and aphids in field bean and hopper and anthracnose in mango in Srikakulam, Vijayanagaram and Visakappattinam
- undertake plant protection measures to control the pests and diseases.

### **Karnataka**

- **Major Standing Crops:** Annual sugarcane (grand growth). *rabi* crops (grain development/maturity/harvesting). This is proper time for sowing of summer crops and rice fallow crops.
- As there was no significant rainfall during last few weeks in the state and mainly dry weather is likely to prevail over the state for the next five days, apply irrigation to the crops.
- Farmers in Raichur are advised to undertake harvesting of red gram and early sown sunflower due to dry weather conditions prevail during these days. Arrange proper storage for harvested produce.
- After the harvest of *rabi* crops, farmers are advised to undertake deep ploughing to conserve moisture and to control weeds and soil borne pathogens.
- Continue harvesting/picking onion and chilly during these days in Dharwad.
- Farmers in Shimoga are advised to undertake harvesting of rice and maize. Arrange proper storage for harvested produce.
- Farmers in Udipi and Dakshin Kannada districts are advised to undertake intercultural operations and application of fertilizers and pesticides in plantation crops.
- Undertake harvesting of rice in Uttar Kannada as conducive weather conditions prevail. After the harvest of rice, undertake sowing of rice fallow pulses like green gram, black gram and cowpea.
- **Animal Husbandry:** Due to cold weather in and around Dharwad and Bijapur sneezing is noticed indicating respiratory problem. Keep the animals under warm condition.
- **Plant Protection:** Weather conditions are favourable for mild incidences of:
- *Heliothis* in gram and red gram, thrips and mites in sorghum and jassids and powdery mildew in mango in Dharwad;

- sucking pests and powdery mildew in tomato, brinjal and chilly in Bidar,
- blight and anthracnose in pomegranate, *Sigatoka* leaf spot in banana and sucking pests in mango in Bijapur;
- powdery mildew in mango in Raichur;
- undertake plant protection measures.

### Kerala

- **Major Standing Crops:** *Mundakan* rice (grain formation), vegetable (vegetative/ flowering/fruited) and plantation crops (Coconut, Arecanut, Pepper and Cashew). This is proper time for sowing *puncha* rice and *rice fallow/summer* vegetable crops.
- As there was no rainfall during last few weeks in the state and mainly dry weather is likely to prevail over the state for the next five days, farmers are advised to apply irrigation to the crops.
- Undertake sowing of vegetable crops like *Amaranthus*, bottle gourd, bitter gourd, cucumber, water melon and snake gourd in Wayanad district.
- Complete nursery sowing of *puncha* rice in Malappuram, Kasargod, Kozhikode and Kannur districts.
- Undertake sowing of *puncha* rice and *summer* vegetable crops in and around Thrissur. Select among Jyothi, Kanchana, Ahalya, Hraswa and Revathi for rice and Preethi, Priyanka in bitter gourd, Koumudi in snake gourd, Mudicod, Soubhagya in cucumber, Lola in cowpea, Arca anamica, Arca abhay in bhindi, Arun, Kannara local in *Amaranthus* for vegetable crops.
- Provide thatches to young plants of arecanut in Wayanad and coconut in Thiruvananthapuram to prevent from sun scorching.
- Continue harvesting/plucking of arecanut, coconut, pepper, banana, ginger, cardamom and coffee in Wayanad and turmeric, ginger and pepper in Thrissur as conducive weather conditions prevail during these days.
- Undertake intercultural operations and application of fertilizers and pesticides in banana in Thrissur and in coconut and banana in Thiruvananthapuram and plantation crops (coconut, arecanut, pepper and cashew), in general, as conducive weather conditions prevail.

#### Plant Protection:

- Weather conditions are favourable for the attack of
- shoot and fruit borer in brinjal in Wayanad.
- stem borer in rice and aphids and mealy bug in vegetables in Thiruvananthapuram.
- fruit fly and powdery mildew in gourds and bacterial wilt in chilly, tomato and brinjal in Malappuram, Kasargod, Kozhikode and Kannur districts;
- jassids and leaf spot in vegetables and tea mosquito bug in cashew in Thrissur.
- Undertake plant protection measures.

### Tamilnadu

- **Major Standing Crops:** Special season sugarcane (grand growth stage), Cotton (boll maturity/ picking stage). *Rabi* crops like rice, pulses, millets and oilseeds are at grain formation/development/ maturity stage.
- As there was no sufficient rain during last few weeks in the state and mainly dry weather is likely to prevail over the state for the next five days, farmers are advised to apply irrigation to the crops.
- Undertake land preparation and sowing of bitter gourd, pumpkin, snake gourd and water melon as conducive weather conditions prevail during these days.
- Undertake sowing of irrigated groundnut in Namakkal, Salem and Coimbatore districts.
- Sowing and transplanting of vegetable crops such as bhendi, tomato, cowpea, dolichos and chilly may be taken up with irrigation facilities.
- Continue harvesting matured crops of jowar, maize, cotton, sunflower and pulses in Virudunagar district, pulses in Tuticorin district and cereals and pulses in Erode district as conducive weather prevails during these days. Arrange for proper storage after the harvest of crops.

**Plant Protection:** Present weather is conducive for mild incidences of

- leaf spot in turmeric in Erode;
- blast in rice in Namakkal;
- damping off in chilly;
- undertake plant protection measures.

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

### Maharashtra

- **Major Standing Crops:** Sugarcane (pre-seasonal & *suru*) (cane maturity / harvesting), *rabi* jowar (grain maturity in Pune, Kolhapur divisions and flowering / grain formation in other divisions), *rabi* sunflower (seed formation), maize (tasseling & silking / cob initiation), gram (pod formation / pod maturity in Pune, Kolhapur, Amravati and flowering / pod formation in other divisions), wheat (milking / dough stage in Pune, Kolhapur, Aurangabad and Latur divisions and ear head emergence / flowering in other divisions), safflower (seed maturity in Pune & seed formation / seed maturity in other divisions).
- As there was no significant rain in all the districts of the State during last few weeks and mainly dry weather is likely to prevail during next five days, apply irrigation to the standing crops.
- As dry weather is prevailing, farmers are advised to undertake harvesting of sugarcane and start harvesting of already matured jowar in Pune & Kolhapur divisions.
- As weather condition is favourable, planting of sugarcane (*suru*) may be carried out in Madhya Maharashtra & Marathwada. Sugarcane setts may be treated with 100 g Bavistin + Rogor 30 % @ 265 ml in 100 liters of water for 5-10 minutes. 15 to 20 cm distance may be kept between two cane setts.
- As weather condition is favourable, transplanting of summer rice and ragi may be completed with 30 to 35 days old seedlings at a distance of 20 x 20 cm or 15 x 15 cm in Sindhudurga district. Also undertake sowing of groundnut at 30 x 10 cm distance & sowing of summer bajra at 30 X10 cm distance.
- Details of crop varieties are mentioned in Annexure I.
- **Plant protection**
- Present weather condition is favourable for increase in infestation of thrips on onion crop, spray Trizophos + Deltamethrin @ 20 ml or 25 % Cypermethrin @ 5 ml in 10 liters of water to control the pest.
- Under prevailing weather condition, there is possibility of increase in incidence of hoppers and powdery mildew on newly emerged inflorescence of mango. Spray Imidacloprid 17.8 EC @ 3 ml per 10 liters of water against hoppers. Mix water soluble Sulphur @ 20 g or Hexaconazole @ 5 g during insecticidal spray for controlling powdery mildew.

### Gujarat

- **Major Standing Crops:** Sugarcane (maturity / harvesting), *Kharif* cotton (boll maturity / picking), castor (maturity / picking), mustard (flowering / pod formation), vegetables (vegetative / flowering / fruiting / harvesting), potato (tuber formation) and wheat (tillering).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail for next five days, apply irrigation to mustard, wheat, potato and vegetables.
- As there is no possibility of rain, undertake intercultural operation in above mentioned crops to keep the fields weed free.
- Prevailing weather is conducive for harvesting matured crops of castor and picking of *kharif* cotton.
- As weather condition is favourable, farmers are advised to undertake transplanting of summer rice in the main field.

- Under prevailing weather condition farmers are advised to prepare land and undertake sowing of summer groundnut and pearl millet in middle Gujarat region.
- As dry weather is likely to prevail, farmers are advised to apply top dressing of Nitrogen @ 40 kg / ha in late sown wheat followed by light irrigation.
- As weather condition is favourable for fruit borer in vegetable crops like brinjal and okra, farmers are advised to spray Endosulphan @ 20 ml in 10 liters of water.
- As there is chance of attack of pod borer in gram in Bhal and Coastal region and Saurashtra region due to favourable weather condition, apply Endosulphan 35 EC or Monocrotophos 35 EC @ 20 ml in 10 liters of water for effective control of pod borer.
- Under prevailing weather condition there is chance of attack of thrips in chilly and pod borer in gram in Surendra Nagar, Amreli, Jamnagar and Rajkot districts and sucking pests in mustard in Banaskantha, Gandhinagar, Patan and Sabarkantha districts. Undertake plant protection measures to control the pests.

#### **Poultry**

- To protect the poultry birds from cold wind cover the poultry house with plastic / sunhemp sheets.

#### **Rajasthan**

- **Major Standing Crops:** *Rabi* crops (wheat, mustard, gram, vegetable crops, etc.) are at flowering stage.
- As there was no significant rainfall during last week in the state and no significant rainfall is likely for the next five days, apply irrigation to the crops.

#### **East Rajasthan**

- Undertake intercultural operations in mustard, gram, onion and garlic in Alwar, Bharatpur, Dholpur, Karauli and Sawai Madhepur districts and in cumin, fenugreek, isabgol, garlic and radish in Ajmer, Dausa, Jaipur and Tonk districts as conducive weather conditions prevail.
- To protect sensitive crops like mustard, Rajmash, potato, gram from cold injury, spray diluted sulphuric acid @ 1% ( 1 litre H<sub>2</sub>SO<sub>4</sub> in 1000 litre water) or thiourea @500 ppm (500 gm thiourea in 1000 litre water) or give light irrigation to these crops in Ajmer, Dausa, Tonk and Jaipur districts.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- cut worm in gram in Alwar, Dholpur, Bharatpur, Karauli and Sawai Madhepur districts, dust Endosulphan 4 % or Methyl Parathion 2%.
- powdery mildew in methi, pea, cumin, and coriander in Ajmer, Dausa, Tonk and Jaipur districts, spray Karathion @ 1 ml or Calaxin @ 1 ml/litre water or dust sulphur @ 25 kg per hectare. Also hopper in mango; spray Malathion 50 EC @ 1.0 ml or Endosulfan 35 EC @ 1.5 ml per litre water and thrips in garlic and onion crops in Ajmer, Dausa, Tonk and Jaipur districts, spray Methyl demeton 25 EC or Melathion 50 EC @ 1 ml/litre water.
- aphids in late sown mustard in Bhilwara, Sirohi, Udaipur and Chittorgarh, spray Dimethoate 30 EC or Endosulphan 35 EC @ 875 ml/ha.

#### **West Rajasthan**

- Undertake sowing of sweet gourd, cucumber, pumpkin, bitter gourd, tinda, tomato and ladies finger in Barmer, Churu, Jalore and Jodhpur. Also undertake sowing of cumin.
- Farmers in Pali are advised to complete sowing of wheat and cumin at the earliest
- Farmers in Jodhpur, Barmer, churu, Jalore and Pali are advised to undertake planting of onion.
- Details of varieties are given in Annexure I.



**Plant Protection:** Weather conditions are favourable for mild incidences of

- leaf eating caterpillar in fruits and vegetable crops in Barmer, Churu, Jalore and Jodhpur; spray Qunalphos @ 1.5 kg or Endosulphan @ 4.25 kg/hectare. Also pod borer in gram, spray Endosulphon or Methyl parathion powder 20-25 kg/ha
- white rust in mustard, spray metalecyl (ridomil MZ) 0.2% 2 g/ha, in Sriganganagar and Hanumangarh districts.
- fruit fly in ber in Pali; spray Monocrotophos @ 1 ml + Endosulphan @ 1 ml/litr of water.
- sucking pest (mahu) in mustard and cumin in Barmer, Jodhpur, Pali, Churu and Jalore districts, spray Endosulphon 35 EC 2ml/lit water or Melathion 50 E.C. or Methyl Dematon 1ml in 1 lit water.

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

### Madhya Pradesh

- **Major Standing Crops:** Sugarcane (grand growth), soyabean (pod maturity), maize (cob development/maturity), cotton (boll development) and vegetable crops (vegetative).
- As there was no significant rainfall during last few weeks and dry weather is likely to prevail over the state for the next five days, apply irrigation to the standing crops.
- Undertake intercultural operations in cauliflower, cabbage, tomato, chilly, onion and brinjal in Chindwara and Betul.
- Undertake sowing of summer vegetables like cucurbits and summer okra in the pit in Jhabua and Dhar
- Details of varieties are given in Annexure I.
- **Animal Husbandry:** Provide proper ventilation and clean water to cattle and arrange for vaccination to save them from infectious disease in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts. Create smoke during the night in cattle shed to prevent cattle from mosquitoes and bees.
- Undertake vaccination in cattle against Anthrax, Galgotu, Black quarter and FMD in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh. Also undertake deworming.
- Cattle should be kept in aeration condition and in dry place, provide balanced and nutrient rich feed having protein, carbohydrate, fat vitamins and antibiotics in Jhabua
- **Plant Protection:** Weather conditions are favourable for
- red pumpkin beetle in cucurbits, sucking pest and powdery mildew in vegetables in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh districts. Apply Methyl parathion @ 2% dust before fruiting to control red pumpkin beetle, spray Dimethoate @ 1.5 ml/litre of water to control sucking pests and spray Carbendazime @ 1 g/litre of water to control powdery mildew in vegetables.
- agathi or pacheti and zulsa in potato in Morena, Bhind, Gwalior, Shivpuri, Guna, Sheopur and Ashoknagar districts; spray Mancozeb @ 2 kg in 600 lit water.
- aphid in mustard & vegetable crops if attack use dusting of Methyl Parathian 2% dust 20-25 kg/ha in Jhabua and Dhar districts.
- leaf cutting weevil in mango; spray 0.1% Malathion or 0.05% Endosulphan 35EC in Jhabua and Dhar districts.
- pod borer in chickpea in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi., to control place "T" shaped pegs in the field to shelter the predators and also use different types of light traps i.e. Mercury Vapor Lamp and Pheromone Traps @ 5 trap/ hectare and for caterpillar spray NPV virus @ 250 lt. dissolve in 500 L water
- sucking pest on chilly, tomato, brinjal, spray Dimethoyte 1 ml/lit of water or Phosphomedon 3 ml/litre of water in Damoh, Bhopal, Sagar, Raisen, Sehore and Vidisha.
- fruit borer in gram, tomato and brinjal, spray endosulphan 35 EC 2 ml in 1 litre of water in Chattarpur and Datia.

## Chattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), pigeon pea (pod maturity), wheat (tillering), gram, pea, mustard, berseem, pigeon pea and linseed (flowering / pod formation), potato (tuber formation), vegetables (vegetative / flowering / fruiting).
- In view of no significant rain during last few weeks over the State and possibility of mainly dry weather condition during next five days and due to above normal temperatures, the evaporation rate has increased during past 3-4 days (4-5 mm/day) and thereby the water requirement of *rabi* crops has also increased. It is, therefore, advised to reduce the interval between two irrigations particularly in wheat crop. The farmers who have drip irrigation system for vegetables and plantation crops should regulate the water discharge rate accordingly.
- As weather condition is congenial, intercultural operation and weeding are advised in sunflower and groundnut. Fertilizer application followed by irrigation should also be done in sunflower after weeding.
- As dry weather is prevailing, it is advised to undertake intercultural operation, fertilizer application, earthing up followed by irrigation in sugarcane crop wherever the crop is at knee height stage.
- As weather condition is favourable, it is time for sowing of some cucurbitaceous crops, like watermelon, muskmelon, pumpkin, bottle gourd, etc. Hence the sowing of these crops can be done in poly bags to prepare the seedlings.
- Field preparation and sowing can also be done for summer vegetables like okra, cowpea etc.
- As the incidence of pod borer in gram is observed in some places and is likely to increase under prevailing weather condition, it is advised to install light trap / pheromone trap for initial control of adults of this insect. At least five Pheromone traps should be installed in one hectare area for effective control. Apart from these bamboo sticks of about 1 m length can also be installed at every 5 m distance, so that the birds can easily sit on these sticks to eat maximum number of larvae. Spaying of insecticides is only recommended if the incidence is above economic threshold level.

## Annexure I

### Crop varieties

#### Madhya Pradesh:

- **Wheat:**
  - **Unirrigated/ Semi-irrigated:** JWS-17, HW-2004, HI-1500, Malav Ratna (HD-4672) and Malav Shri (HI-8381).
  - **Irrigated:** GW-273, Kanchan (DL-803-3), WH- 147, GW- 190, GW- 322 and Malav Shakti (HI-8498).
- **Gram:** JG- 412, JG- 226, JG- 11 and JG- 130.
- **Maize:** JM- 421, JM- 8, JM- 12, Chandan makka- 3, Ganga- 3, Ganga- 4 and HPQM – 1.

#### Andhra Pradesh:

- **Black gram:** LBG 402, 648, 645, 685, 709 and 752.

#### Rajasthan

##### East Rajasthan:

- **Fenugreek:** RMT 1 and RMT 14
- **Cumin:** RS 1, RZ 209 and RZ 19
- **Garlic:** G-1, G-41, G-50, G-282 and G-313
- **Radish:** Pusa Deshi and Japoni White
- **Cauliflower:** Pusa Hybrid-2, Pusa Snowball-1, Pusa Snowball K- 1 and Pusa Snowball K-25

##### West Rajasthan:

- **Cumin:** RC 19 and GC 4

#### Jammu

- **Radish:** Japanese white and Minowase
- **Beans:** Contender and Arka Komal
- **Potato:** Kufri Jyoti and Kufri Badshah

#### Orissa:

- **Summer rice:** Parijat, Khandagiri, Naveen, MTU-1010, Lalat, etc.
- **Maize:** Hybrid varieties-MRM-3838, MRM-3765, Shaktiman 1, Bio 9681, Cargil 633, Deccan 105, K.H. 510 , Composite varieties – Navjot, Arun, Kiran
- **Ragi:** Subhra, Varabi, Dibyasing, Nilachala, Godavari and Chilika
- **Sesame:** Uma, Usha, Kalika, Nirmala, Prachi and Amrit.

#### Haryana:

- **Sunflower:** Surajmukhi No.1, Hybrids: KBSH 1, PAC 36, MSFH 8, PCSH 234, KBSH 44, HSFH 848.

#### Assam

- **Boro rice:** Jyotiprasad, Bishnuprasad, Jaymoti, Kanaklata, Boro-1 and Boro-2.

### **West Bengal**

- **Boro rice:** IET - 1444, IET – 4786 (Satabdi), IET – 4094, Lalat, MTU - 1010, JGI –1798 etc.
- **Ground nut:** A.K. 12-24, J.L.-24, Girnar-1, Somnath, ICGS-11, ICGM-44, T.J.-3 etc.
- **Sunflower:** Morden, Sidhesor, Surya and hybrid varieties like Pack-36, Pack-1091, M.F.S.H.-17, Sungin-85, B.S.H.-1, Surya-51, K.B.S.H.

### **Himachal Pradesh**

- **Raddish:** Pusa Himani.

### **Maharashtra**

- **Groundnut:** Improved varieties like TG-26, TG-37, TAG-24.
- **Sugarcane (*Suru*):** Co-86032, Co-94012, Co-M-0265.
- **Bajra:** Shraddha, Saburi, ICTP 8203 and ICMV – 211.