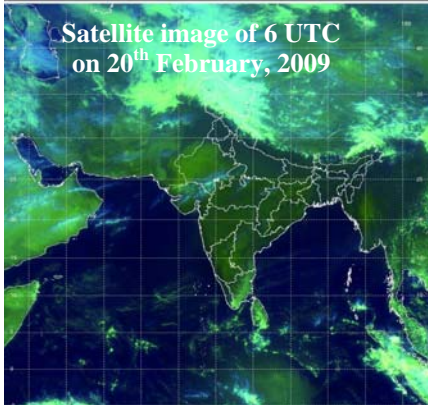




# National Agromet Advisory Bulletin

Thursday, 19<sup>th</sup> February, 2009  
(For the period 19<sup>th</sup> to 23<sup>rd</sup> February, 2009)



## Chief Synoptic Feature (Based on 1430 hours IST observations of 19<sup>th</sup> February, 2009)

- A feeble western disturbance is likely to affect Western Himalayan region during next 48 hours. Under its influence scattered rain/snow is likely over western Himalayan region during next 48 hours.
- The minimum temperatures are above normal by 2-4<sup>o</sup>C over parts of west and central India. The meteorological analysis suggests that a gradual rise in minimum and maximum temperatures is likely over many parts of northwest, west and central India during next 3-4 days.
- Numerical Weather Prediction Models suggest strong northwesterly winds likely to prevail over Indo-Gangetic plain during next 3-4 days.

## Advisories for cold injury

- Due to possibility of low minimum temperature in Srinagar, Udhampur, Kathua and Rajouri divisions, protect vegetable crops, mustard and gram from cold injury 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 most of 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 pests and diseases in the following States:
  - Aphids in mustard in Punjab, Haryana, Orissa, Bihar and West Bengal.
  - Thrips in chilli in North Saurashtra and Coastal Andhra Pradesh.
  - Stem borer in summer rice in Orissa.
- Monitor the crops for the pests and diseases and undertake plant protection measures if required.




Issued by

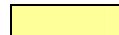

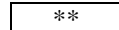
National Agrometeorological Advisory Service Centre,  
Agricultural Meteorology Division, India Meteorological Department, Shivajinagar, Pune.

The bulletin is also displayed in the website (<http://www.imdagrimet.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>21<sup>st</sup> January</b>	<b>28<sup>th</sup> January</b>	<b>4<sup>th</sup> February</b>	<b>11<sup>th</sup> February</b>	<b>18<sup>th</sup> February</b>
A & N Islands	-100	-99	-96	-49	-100
Arunachal Pradesh	-94	16	-71	-100	-93
Assam and Meghalaya	-99	49	-95	-100	-96
NNMT	-100	-100	-100	-100	-69
SH West Bengal & Sikkim	-99	-100	-99	-100	-83
Gangetic West Bengal	-100	-100	-100	-100	-70
Orissa	-100	-100	-100	-100	-100
Jharkhand	-100	-100	-100	-100	-100
Bihar	-100	-100	-100	-68	-53
East Uttar Pradesh	-100	-100	-100	19	-100
West Uttar Pradesh	-99	-100	-100	-2	-100
Uttarakhand	-87	-100	-100	182	20
Haryana, Chandigarh & Delhi	-17	-87	-100	270	-87
Punjab	74	-100	-100	29	-32
Himachal Pradesh	10	-81	-95	167	-79
J & K	223	-15	-96	-50	-39
West Rajasthan	-53	-100	-100	-96	-39
East Rajasthan	-97	-100	-100	-100	-100
West M. P.	-100	-100	-100	-100	-100
East M. P.	-100	-100	-100	-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	-100	-100	-100
Marathwada	-100	-100	-100	-100	-100
Vidarbha	-100	-100	-100	-100	-100
Chhattisgarh	-100	-100	-100	-100	-100
Coastal A. P.	-100	-100	-100	-100	-100
Telangana	-100	-100	-100	-100	-100
Rayalseema	-100	-100	-100	-100	-100
TamilNadu & Pondicherry	-60	106	-98	-100	-100
Coastal Karnataka	-100	-100	-100	-100	-100
N. I. Karnataka	-100	-100	-100	-100	-100
S. I. Karnataka	-99	-100	-100	-100	-100
Kerala	-100	-7	-100	-100	-65
Lakshadweep	-74	4	-100	-100	-63

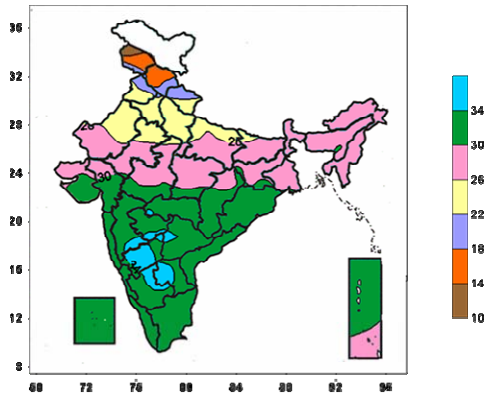
The subdivisions like Andaman & Nicobar Islands, Nagaland, Manipur, Mizoram, Tripura, West Bengal, Sikkim, Orissa, Bihar, Rajasthan, Madhya Pradesh, Gujarat, Saurashtra & Kutch, Maharashtra, Chhattisgarh, Andhra Pradesh and Karnataka received scanty / deficient rain in all the 5 weeks; Arunachal Pradesh, Assam & Meghalaya, Jharkhand, Uttar Pradesh, Tamil Nadu & Pondicherry, Kerala and Lakshadweep Islands received scanty / deficient rain in 4 out of last 5 weeks; Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Jammu & Kashmir and Himachal Pradesh received scanty / deficient rain in 3 out of last 5 weeks.

 (20% or more) excess rainfall  
 (-19 to +19%) normal rainfall  
 (-20 to -59%) deficient rainfall

 (-60 to -99 %) scanty rainfall  
 (-100%) no rainfall  
 \*\* Data not available

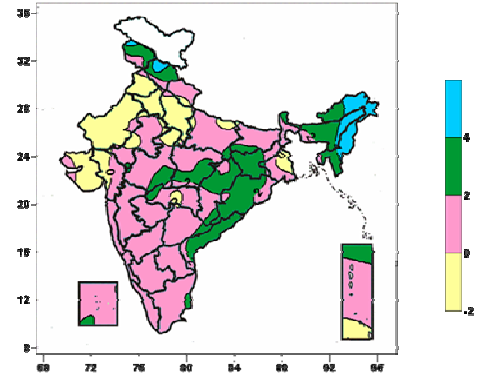
## Contour maps for the week ending 18.02.09

Actual Mean Maximum Temperature (°C) in India for the week ending 18.2.09



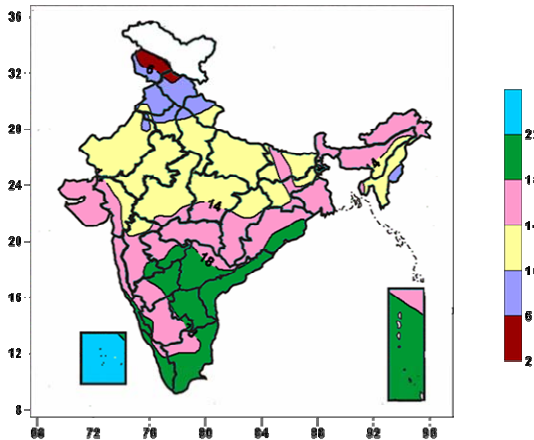
Actual Mean Maximum temperature ranged between 34 to 38°C over most parts of North Interior Karnataka, some parts of Marathwada, Telangana, Rayalaseema, South Interior Karnataka, 26 to 30°C over most parts of Rajasthan, East Uttar Pradesh, North Madhya Pradesh, Bihar, Jharkhand, North East India, West Bengal, some parts of Gujarat, Chattisgarh, Andaman & Nicobar Islands, 22 to 26°C over most parts of Haryana, New Delhi, West Uttar Pradesh, some part of, Punjab, Uttarakhand, East Uttar Pradesh, Rajasthan, Bihar, West Madhya Pradesh, 18 to 22 °C over some parts of Jammu & Kashmir, Punjab, Himachal Pradesh, Uttarakhand, 14 to 18°C over some parts of Jammu & Kashmir, Himachal Pradesh, 30 to 34°C over remaining parts of the Country.

Maximum Temperature (°C) Anomaly in India for the week ending 18.2.09



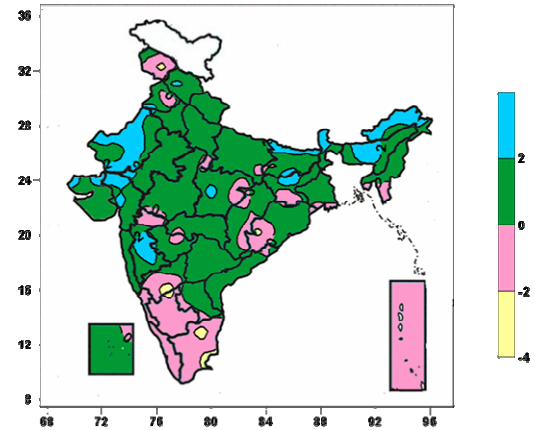
Actual Mean Maximum temperature anomaly ranged between 4 to 6°C over most parts Arunachal Pradesh, Nagaland, Manipur, some parts of the Jammu & Kashmir, Himachal Pradesh, Assam, 2 to 4°C over most parts of Jharkhand, Orissa, Coastal Andhra Pradesh, some parts of Jammu & Kashmir, Himachal Pradesh Bihar, Central India, North East India, Telangana, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, -2 to 0°C over most parts of Punjab, Haryana Delhi, West Uttar Pradesh, West Rajasthan, Saurashtra & Kutch, over some parts of Gujarat, East Rajasthan, North Madhya Pradesh, Uttarakhand, East Uttar Pradesh, Gangetic West Bengal, Vidarbha, Andaman Nicobar Island, 0 to 2°C over remaining parts of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 18.2.09



Actual Mean Minimum Temperature ranged between 22 to 26°C over most parts of Lakshadweep Island, 18 to 22°C over most parts of Coastal Orissa, Andhra Pradesh, Coastal Karnataka, Tamil Nadu, Kerala and Andaman & Nicobar Islands, some parts of Madhya Maharashtra, Marathwada and Interior Karnataka, 10 to 14°C over most parts of Uttar Pradesh, Bihar, Jharkhand, Nagaland, Manipur, Mizoram, Tripura, East Gujarat, Madhya Pradesh and North Chhattisgarh, some parts of Punjab, Haryana, Uttarakhand, Assam and North Madhya Maharashtra, 6 to 10°C over most parts of Punjab and Himachal Pradesh, some parts of Jammu & Kashmir, Haryana, Uttarakhand, West Uttar Pradesh, Manipur and West Rajasthan, 2 to 6°C over most

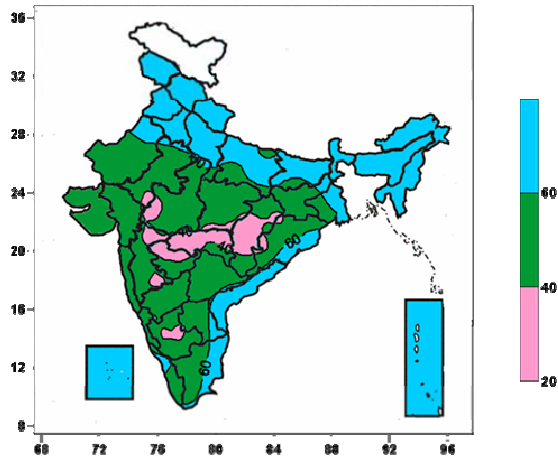
Minimum Temperature (°C) Anomaly in India for the week ending 18.2.09



Minimum Temperature anomaly ranged between 2 to 4 °C over most parts of Sikkim, Arunachal Pradesh and West Rajasthan, some parts of Punjab, Himachal Pradesh, Bihar, Jharkhand, Assam, East Rajasthan, Gujarat, Saurashtra & Kutch, Madhya Maharashtra and East Madhya Pradesh, -2 to 0°C over most parts of Jammu & Kashmir, Mizoram, Karnataka, Tamil Nadu, Kerala and Andaman & Nicobar Islands, some parts of Punjab, Uttar Pradesh, Jharkhand, Orissa, Gangetic West Bengal, Tripura, Madhya Maharashtra, Marathwada, Vidarbha, Madhya Pradesh, Chhattisgarh, Coastal Andhra Pradesh and Lakshdweep Islands, -4 to -2 over some parts of Jammu & Kashmir, Orissa, Interior Karnataka and Tamil

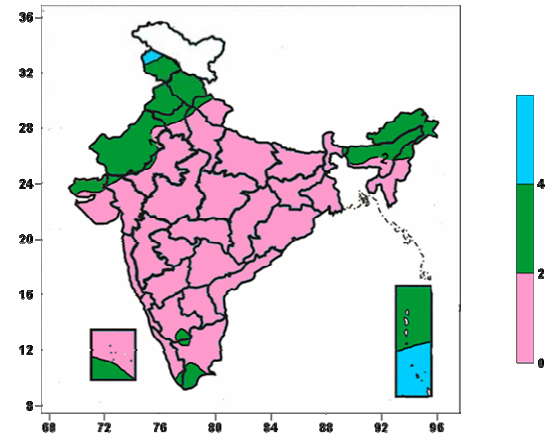
parts of Jammu & Kashmir, some parts over Himachal Pradesh, 14 to 18°C over remaining parts of country. Himachal Pradesh, 0 to 2°C over remaining parts of the Country.

**Relative Humidity (%) over India for the week ending 18.2.09**



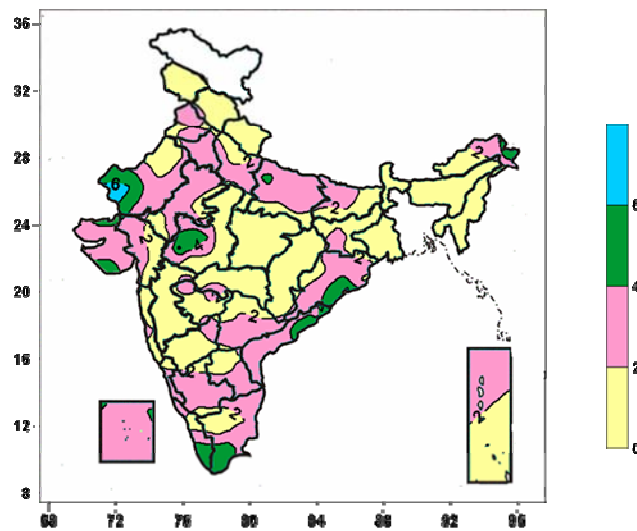
Relative humidity ranged from 60 to 80% over most parts of North India, Bihar, West Bengal, Sikkim, North East India, Coastal Orissa, Coastal Andhra Pradesh, Coastal Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Jharkhand, Rajasthan, West Madhya Pradesh and Kerala, 20 to 40 % over most parts of North Marathwada, Vidarbha and central Chhattisgarh, over some parts of Orissa, Madhya Maharashtra, Madhya Pradesh and south Interior Karnataka, 40 to 60% over remaining parts of the country..

**Cloud amount (okta) over India for the week ending 18.2.09**



Cloud amount ranged from 4 to 6 okta over some parts of Jammu & Kashmir, Andaman Nicobar Islands, 2 to 4 okta over most parts of Jammu & Kashmir, Punjab, Himachal Pradesh, Assam, Arunachal Pradesh, Nagaland, West Rajasthan and Andaman & Nicobar Islands, some parts of Haryana, Delhi, Uttarakhand, West Uttar Pradesh, Gujarat, Saurashtra & Kutch, South Interior Karnataka, Tamil Nadu, Kerala and Andaman & Nicobar Islands, 0 to 2 okta over remaining parts of the country.

**Wind speed (knots) over India for the week ending 18.2.09**



Wind speed ranged between 6 to 8 knots over some parts of West Rajasthan, 4 to 6 knots over some parts of East Uttar Pradesh, Arunachal Pradesh, Orissa, West Rajasthan, Saurashtra & Kutch, West Madhya Pradesh, Coastal Andhra Pradesh, Tamil Nadu and Kerala, 2 to 4 knots over most parts of Punjab, Haryana, Delhi, Uttar Pradesh, North Bihar, Orissa, Rajasthan, Gujarat, Saurashtra & Kutch, Andhra Pradesh, Coastal Karnataka, South Interior Karnataka, Tamil Nadu and Lakshdweep Island, some parts of Jharkhand, Arunachal Pradesh, Maharashtra, West Madhya Pradesh, North Interior Karnataka, Kerala and Andaman & Nicobar Islands, 0 to 2 knots over remaining parts of the country.

### **Chief Synoptic Feature (Based on 1430 hours IST observations of 19<sup>th</sup> February, 2009)**

- A feeble western disturbance is likely to affect Western Himalayan region during next 48 hours. Under its influence scattered rain/snow is likely over western Himalayan region during next 48 hours.
- The minimum temperatures are above normal by 2-4<sup>0</sup>C over parts of west and central India. The meteorological analysis suggests that a gradual rise in minimum and maximum temperatures is likely over many parts of northwest, west and central India during next 3-4 days.
- Numerical Weather Prediction Models suggest strong northwesterly winds likely to prevail over Indo-Gangetic plain during next 3-4 days.

### **Satellite image of 6 UTC on 20<sup>th</sup> February, 2009**



### **Zone-wise Forecast (Forecast valid upto 1430 hours IST of 22<sup>nd</sup> February, 2009)**

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

- Rain/snow is likely at a few places over Jammu & Kashmir during next 48 hours and at isolated places thereafter.
- Isolated rain/thundershowers are likely over Himachal Pradesh and Uttarakhand during next 48 hours and mainly dry weather thereafter.
- Mainly dry weather is likely over the rest region.
- Gradual rise in temperatures.

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

- Mainly dry weather is likely over the region.

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

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

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

- Isolated rain/thundershowers are likely over Nicobar Islands.
- Mainly dry weather is likely over the rest region.

#### **WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT, RAJASTHAN]**

- Mainly dry weather is likely over the region.

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



- Mainly dry weather is likely over the region.

**Weather Outlook from 1430 IST of 22<sup>nd</sup> February, 2009 to 1430 IST of 24<sup>th</sup> February, 2009 (Based on numerical weather products):**

- Another feeble western disturbance is likely to affect Western Himalayan region from 22<sup>nd</sup> February.
- Isolated to scattered rain/thundershowers are likely over Arunachal Pradesh, Assam and Meghalaya.

## **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 (heading / flowering), barley, oat and oil seeds (vegetative / flowering), cabbage, cauliflower and broccoli (vegetative / head formation), pea (vegetative / flowering), carrot, raddish, turnip and the leafy vegetables like letuce, methi, palak, dhania etc. (vegetative).
- As there was no significant rain during last week and no significant rain is likely to occur for next five days over the State, apply irrigation to the crops.
- For seed crop of berseem and oats one cut can be taken. As there is less possibility of rain, apply urea to irrigated crop of oat where first cut has been taken.
- Earthing up can be undertaken in potato crop. It is also optimum time for sowing of potato in mid hills region.
- As mainly dry weather is prevailing, termite affected plots may be treated with 80 ml chloropyriphos mixed with 1kg of sand for one kanal area of plot.
- Under prevailing weather it is advised for nursery sowing of tomato, chilli, capsicum and brinjal in lower plain areas. Summer squash crop should be raised in poly tubes in the poly houses so that plant may be ready after 15 days for transplanting in the field. The transplanting of onion may be finished within week.
- Weather is congenial for production of white button mushroom in the closed room. Maintain room temperature at 18-22<sup>o</sup>C and relative humidity around 85% for successful cultivation. For Oyster mushroom 16-22<sup>o</sup>C temperature may be maintained.
- Under present weather the training and pruning work of peach, plum and apricot may be completed at the earliest.
- 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.
- 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.

#### **Poultry**

- Replace the poultry houses with fresh litter to avoid wetting and keep the houses clean and ensure clean drinking water to the birds.

#### **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

- Still the night temperature is low enough to protect the newly born calves. Pregnant and lactating cows and buffaloes should be given 2 kg feed for their body maintenance and additional 1 kg for developing calves with mineral mixture @ 15-30 g per day. For milch animals 2 kg feed + one kg additional feed per 2.5 kg milk production should be given.

## Uttarakhand

- **Major Standing Crops:** Sugarcane (harvesting), wheat (heading/flowering) and potato (tuber formation), mustard, chickpea and lentil (flowering/pod formation) and cabbage, onion, garlic and tomato (vegetative).
- As there was no significant rainfall in most of the districts during last few weeks and no significant rainfall is likely for the next five days, apply irrigation to the standing *rabi* crops.
- Farmers are advised to complete transplanting of onion and chilly seedlings.
- Undertake field preparation and planting of sugarcane.
- Undertake harvesting of matured crops of potato and *toria*.
- Farmers are advised to undertake field preparation and sowing of sunflower.
- Farmers are also advised to undertake sowing of french bean.
- Details of varieties are given in Annexure I.

## Punjab

- **Major Standing Crops:** Horticultural crops (vegetative), Spring sugarcane (early vegetative), potato (tuber formation), wheat (heading / flowering), gram and lentil (flowering / pod formation), pea and vegetable crops like chilly, tomato, brinjal and onion (seedling / transplanting / early vegetative / vegetative), oilseeds (pod formation).
- Farmers are advised to complete sowing of sunflower and transplanting of chilli, tomato, brinjal and onion. Undertake sowing of cucurbits in polythene bags for raising early crops.
- As there was no significant rainfall in most of the districts during last week and mainly dry weather is likely during next five days, apply irrigation to the standing crops.
- Undertake field preparation and planting of sugarcane.
- Farmers are advised to undertake field preparation and nursery sowing of bhindi.
- Farmers are advised to raise nurseries of muskmelon, pumpkin, chillies and capsicum.
- Planting of citrus, guava and ber may be undertaken during late February.
- Farmers are advised to undertake planting of deciduous fruit crops like pear, grapes and phalsa. Pruning in grapes may be completed.
- Undertake layering of litchi trees and side grafting of mango for their propagation.
- Farmers are advised to cover the side of poultry sheds to maintain the temperature inside the shed.
- Farmers are advised to keep the animals under roof in night and in the sun during the day time. Newly born calves need special care in cold weather, since they are susceptible to pneumonia. Protect young calves from cold weather by providing dry bedding and clothing (Jhull). Fix pallis/tat/plastic cover if required in the shed. Give well chopped barseem mixed with wheat straw to avoid aphara (Tympany).
- Details of crop varieties are mentioned in Annexure I.

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

- aphid in mustard crop, spray with 40 Actara 25 WG or 400 ml of Metasystox 25 EC Rogor 30 EC or Thiodan 35 EC or Ekalux 25 EC or 600 ml of Dursban 20 EC in 80-125 litres of water per acre or apply 4 kg Thimet 10 G (Phorate) or 13 kg Furadan 3 G followed by light irrigation. This spray must be carried out in the afternoon when the pollinators are less active.

## Haryana

- **Major Standing Crops:** Spring sugarcane (early vegetative), vegetable crops (seedling/early vegetative), wheat (heading / flowering) and oilseeds (pod formation).
- As there was no significant rainfall in most of the districts during last week and mainly dry weather is likely during next five days, apply irrigation to the standing crops.
- Complete sowing of sunflower and berseem. Details of crop varieties are mentioned in Annexure I.
- Farmers are advised to prepare the field and start sowing of cucurbits.
- Complete transplanting of tomato and continue transplanting of onion. Pruning in grapes may be completed.
- Farmers are advised to give 50grams Iodized salt alongwith 50 to 100 grams mineral mixture daily to keep calves and adult animals healthy.
- **Plant Protection:** Weather conditions are favourable for mild incidence of
- aphid in the mustard crop and hence farmers are advised to monitor the aphid build up and spray the crop with 250 to 400 ml Metasystox 25 EC or Rogor 30EC per acre as weather is expected to be clear.

### Delhi

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), mustard (capsule formation), potato (tuber formation / tuber maturity), gram (pod formation), wheat (heading / flowering), *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 dry weather is likely to prevail, farmers are advised to continue harvesting of already matured crops of potato. Also stop irrigation to the potato crops which will be ready for harvest within two weeks.
- In view of prevailing dry weather and increasing temperature farmers are advised to apply irrigation to wheat in the afternoon of 20<sup>th</sup> or 21<sup>st</sup> as wind velocity will be low on these days.
- Farmers are also advised to apply irrigation to mustard wherever crops are at capsule formation stage.
- Farmers are advised for field preparation for transplanting of ladies finger during this week.
- Under present weather farmers are also advised to sow sunflower.
- As weather condition is favourable for pesticide application, spraying of Metasystox @ 1.5 ml / litre of water is advised in those wheat fields where aphid population has crossed threshold level.
- Prevailing weather condition is conducive for powdery mildew infestation in pea and other pulses. Spraying of Carathene @ 2 g per litre of water (700 litres / ha) is advised where infestation is observed.
- In view of favourable weather conditions for aphid infestation in tomato, late mustard and cabbage, spraying of Confidor (Imidacloprid) @ 0.25 % solution is advised.
- 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 high infestation farmers are advised to spray Endosulfan 0.07% when the population crosses Economic Threshold Level (ETL).
- Farmers are advised for regular monitoring against fungal disease on flower panicle of mango.
- Details of crop varieties are mentioned in Annexure I.

### Uttar Pradesh

- **Major Standing crops:** Sugarcane (grand growth / cane formation), mango (fruit setting), rai, mustard, gram, pea and lentil (pod formation), potato (tuber formation) and wheat (heading / flowering).
- 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.
- Sowing/transplanting of onion may be carried out.
- Farmers are advised to harvest the matured crops of sugarcane and *toria*.
- Sowing of *zaid* maize at seeds rate 18-20 kg / hectare may be done after preparing field and purification of seeds.
- Prepare field for sowing of summer vegetables, sunflower and urd.
- Weather conditions are favourable for mild incidences of hopper in mango and leaf eating caterpillar in *summer* vegetable crops. Monitor the crops for the pests and undertake plant protection measures to control the pests.

## J & K

- **Major Standing Crops:** Wheat (tillering), pulses (late vegetative), mustard (late vegetative). This is proper time for planting of orchard tree saplings in Jammu and sowing of vegetable crops in nursery in Rajouri divisions.
- As rain/thundershowers is likely to occur at a few places during next 48 hours and isolated thereafter, apply irrigation to the crops.
- Due to possibility of low minimum temperature in Srinagar, Udhampur, Kathua and Rajouri divisions, protect vegetable crops, mustard and gram from cold injury by arranging smoke nearby the field. Provide thatches in young orchards of mango, litchi, guava, citrus and papaya.
- As there is possibility of rain during next two days, apply fertilizers and plant protection measures after that.
- 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. Undertake planting of saplings in orchard.
- Undertake sowing of tomato, brinjal, chilly and capsicum in nursery and raising of poly bags for bottle gourd, cucumber, pumpkin, sponge gourd and bitter gourd in Rajouri division.
- Due to decrease in minimum 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;
  - collar rot in gram 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 (cob formation), pulses (pod formation), potato (tuber formation) and sunflower (head formation), wheat (heading / flowering) and *boro* rice (early vegetative).
- 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. Avoid moisture stress in wheat 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 and *boro* rice.
- Farmers are advised to continue the field preparation for planting of sugarcane crop.
- As dry weather is prevailing, farmers are also advised to harvest the matured potato, rapeseed and mustard crops.
- **Plant Protection:** Weather conditions are favourable for mild incidence of
  - litchi mite and borer in litchi orchards. Spray Rogor @ 1.5 to 2.0 ml/litre of water against borer insects immediately.
  - aphid infestation in the late sown mustard/*toria* crop. Spray Endosulphan@1.5 ml per litre of water to protect the crops.

### Jharkhand

- **Major Standing Crops:** Arhar and maize (harvesting), wheat (heading / flowering), *rabi* oilseeds (pod formation).
- As there was no significant rainfall during last few weeks in the State and mainly dry weather is likely for the next five days, apply irrigation to the standing crops.
- Undertake transplanting of onion and sowing of bitter gourd, sponge gourd, ridge gourd, bhindi and water melon in the main field.
- Farmers are advised to undertake weeding, intercultural operations in early sown summer rice, potato, and oilseeds.

### Orissa

- **Major Standing crops:** Sugarcane (harvesting), sunflower, mustard (pod formation/maturity), vegetables (vegetative / flowering / fruiting / harvesting), wheat (heading / flowering), potato (tuber formation / early maturity), onion (vegetative) and summer rice (early tillering / tillering) and summer sunflower (seedling / early vegetative).
- 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 sowing of groundnut, summer moong, sunflower, maize, sesame and planting of marigold.
- Farmers are advised to undertake sowing of summer cowpea and planting of papaya.
- Undertake planting of sugarcane. Dip the sugarcane seed material (setts) in Bavistin solution (1.5 g / litre of water) for 20-30 minutes before planting.
- Complete sowing of summer green gram. Also complete transplanting of rice. Apply 16 kg N / ha wherever the rice crops are at tillering stage. After 48 hours of application of fertilizer maintain 3 – 5 cm water in the field.
- As dry weather is prevailing, undertake intercultural operations in *rabi* crops and early sown summer groundnut to keep the fields weed free.
- Early sown summer sunflower is at 25 days. Thin out plants keeping one healthy plant at one point.
- Details of crop varieties are mentioned in Annexure I.
- **Plant Protection:** Weather conditions are favourable for mild incidence of
  - yellow stem borer in rice. Install light trap or yellow stem borer pheromone trap to monitor yellow stem borer population. If incidence is more in the field (5% DH), apply phorate 10 G @ 4 kg / acre or Cartap hydrochloride 4G @ 5 kg / acre ensuring no leakage of water through the bunds.
  - aphids and leaf webber in late sown mustard crop. Spray the crop with Quinalphos @2 ml/lit.
  - shoot and fruit borer in brinjal. Clip all the infested terminal shoots and destroy them. Immediately after clipping, spray the crop by Fenvalerate @1 ml / litre of water if sucking insects are not there. If sucking insects are present along with fruit and shoot borer, spray the crop with Actara 25WG @1 g / 4 litres of water or Spinosad 45 SC @ 0.5 ml / litre of water.

## West Bengal

- **Major Standing Crops:** Sugarcane (cane maturity / harvesting), mustard, gram and lentil (pod formation / seed formation), wheat (heading / flowering), potato (early maturity / maturity) and *boro* rice (early vegetative / tillering).
- 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 and vegetables.
- As there is no possibility of rainfall, farmers are advised to undertake intercultural operation to keep the fields weed free.
- Timely transplanted crop is now at tillering stage. Maintain 3-5 cm depth of standing water at tillering stage. As dry weather is prevailing, apply 20 kg of urea per bigha as top dressing after 21 days of transplanting.
- Stop application of irrigation 15 days before harvesting of potato. Dehaulm the upper portion of the crop so that infestation of tuber from virus can be checked.
- Harvest timely sown mustard.
- Under present weather condition, undertake preparation of land and complete 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 weather condition is favourable, prepare sandy-loam and well drained land for sesamum cultivation. It can also be sown after harvesting of potato. The seed rate varies from 400 to 700 gm per bigha.
- Due to variation of temperature between day and night and fog, rice plant may be infected by blast and brown spot diseases. Spray the crop with Ediphenphos 50 EC @ 1 ml / litre or Carbendazim 50 WP @ 1 g / litre or Tricyclozole 75 WP @ 0.6 g / litre of water when the above disease symptoms appear. Decide number of spray depending on the severity of infection.
- Due to high humidity and fog, gram, lentil and *Lathyrus* may be infected by blight and rust diseases. Thus spray *Tricoderma* @ 4 g / litre or carbendazim 50 WP @ 1 g / litre of water, if the disease symptoms appear. There is also chance of attack of pod borer. Spray Deltamethrin + Triazophos @ 2 ml / litre or Endosulphan @ 2 ml / litre or B.T. @ 1 ml / litre of water, if the attack is noticed.
- Details of crop varieties are mentioned in Annexure I.

## Sikkim

- **Major Standing Crops:** Orange (maturity/picking), large cardamom (vegetative), *rabi* wheat (heading/ flowering), mustard (capsule formation), vegetable crops (flowering/fruitletting/harvesting), potato (maturity)
- 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 vegetable crops, wheat, orange and large cardamom in medium and low hills.
- Undertake intercultural operations and application of mulches in mustard, wheat and vegetable crops like cabbage, cauliflower, carrot, Chinese cabbage, knol-khol, garden peas, radish, turnip, lettuce, celery, spinach, etc., to conserve moisture.
- Maintain large cardamom sucker nursery; apply FYM and undertake intercultural operations.
- **Plant Protection:** Weather conditions are congenial for mild incidences of 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 / harvesting), mustard, lentil and pea (pod formation / early maturity), *toria* (maturity), wheat (heading / flowering / grain formation), potato (tuber formation / maturity) and *boro* rice (early vegetative / tillering).
- 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 possibility of dry weather, farmers are advised to undertake intercultural operation to keep the fields weed free.
- Under prevailing dry weather condition, farmers are advised to undertake harvesting of sugarcane. Farmers are also advised to harvest already matured crops of arhar, potato and *toria* under present weather.
- Under present weather top dressing of N @ 3 kg urea per bigha may be carried out in *boro* rice at the tillering stage. Also maintain 3-5 cm stagnant water in *boro* rice field.
- Sowing of direct seeded *ahu* rice may be started as the weather is likely to be fair & dry in the next week. Transplanted *ahu* rice may also be raised where irrigation facilities are available. Sowing of seeds in nursery beds for this purpose may be started now.
- As weather condition is favourable, start sowing of black gram and green gram. Sowing may be done from 15<sup>th</sup> February to 15<sup>th</sup> March.
- As present weather condition is favourable, farmers may go for cultivation of summer vegetables like ladies finger, bottle gourd, pumpkin, ridge gourd, cucumber, bitter gourd, snake gourd etc. as growing of early summer vegetable crops will fetch more income.
- Rust in field pea has been observed in some locality and is likely to be increased. To prevent the spread of this disease Calixin @ 1-2 ml / litre of water may be applied depending on the disease intensity.
- Details of crop varieties are mentioned in Annexure I.

### Fishery

- Due to gradual decline of water level in ponds, fishery owners are advised to take out excess fishes from their ponds.

## Arunachal Pradesh

- **Major Standing crops:** *Rabi* vegetables, pea and potato (harvesting), wheat (flowering / grain formation), mustard (pod formation / seed formation), *rabi* maize (grain formation / maturity).
- 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 irrigation to mustard, wheat and *rabi* maize.
- As there is no possibility of significant rain, farmers are advised to undertake intercultural operations in late sown crops.
- Also undertake harvesting of matured vegetables, pea, potato and *rabi* maize.

## 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 undertake ratoon or new planting after harvesting of sugarcane.
- 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 high altitude regions of Srikakulam, East Godavari, Vijayanagaram, Visakappattinam and Khammam are advised to complete harvesting of red gram. Complete 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, Spodaptera 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* and *rice fallow* 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, apply irrigation to the crops.
- Farmers in Gulbarga and 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. As sorghum and safflower crops are at grain filling stage, conserve moisture in the soil to overcome stress conditions.
- Undertake sowing of *summer* crops like water melon, snake gourd and ribbed gourd.
- After the harvest of *rabi* crops, farmers are advised to undertake deep ploughing to conserve moisture and to control weeds and soil borne pathogens.

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

- *Heliothis* in gram and red gram and jassids and powdery mildew in mango in Dharwad;
- blast in rice, flower drop in arecanut and powdery mildew in pulses and mango;
- undertake plant protection measures.

### Kerala

- **Major Standing Crops:** *Mundakan* rice (maturity), 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 for the next five days, farmers are advised to apply irrigation to the crops.
- Undertake sowing of *puncha* rice in nursery in Malappuram, Kasargod, Kozhikode and Kannur districts.
- Undertake sowing of rice and *summer* vegetable crops in and around Thrissur.
- Details of varieties are given in Annexure I.
- Provide thatches to young plants of arecanut in Wayanad and coconut in Thiruvananthapuram to prevent from sun scorching. Undertake coating of bottom portion of rubber trees with lime.

- 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. Collect and store seed nuts for new planting.
- Undertake planting of ginger in Wayanad district and pepper in poly bags in Thrissur district.

#### **Plant Protection:**

- Weather conditions are favourable for the attack of
- red palm weevil, rhinoceros beetle, stem bleeding, leaf eating caterpillars and leaf rot in coconut, *Sigatoka* leaf spot, bunchy top and rhizome weevil in banana, white stem borer in coffee and powdery mildew, leaf spot, shoot and fruit borer in vegetable crops in Wayanad.
- fruit fly and powdery mildew in gourds and bacterial wilt in tomato, brinjal and chilly in Malappuram, Kasargod, Kozhikode and Kannur districts;
- pseudo stem weevil, rhizome weevil and bunchy top in banana and tea mosquito bug in cashew.
- 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 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.
- Complete sowing of irrigated safflower, gingelly and groundnut in Western region and undertake transplanting of vegetable crops such as bhendi, tomato, cowpea, dolichos and chilly may be taken up with irrigation facilities. Details of varieties are given in Annexure I.
- Complete harvesting matured crops of jowar, maize, cotton, oilseed crops 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 boll worm in cotton and fruit borer and tip rot in chilly in southern region; undertake plant protection measures.

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

#### **Maharashtra**

- **Major Standing Crops:** Sugarcane (pre-seasonal and *suru*) (cane maturity / harvesting), *rabi* jowar (grain maturity / harvesting), *rabi* sunflower (seed maturity / harvesting), maize (cob maturity), gram (pod maturity / harvesting), wheat (milk / dough), safflower (seed maturity), summer rice (transplanting / early tillering in Konkan), summer groundnut (vegetative in Konkan & sowing / germination 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 summer rice & groundnut in Konkan.
- As dry weather is prevailing, farmers are advised to undertake harvesting of sugarcane and continue harvesting of already matured crops of jowar, safflower, sunflower & gram and start harvesting of matured maize.
- As weather condition is favourable, planting of sugarcane (*suru*) may be completed 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.
- Under prevailing weather, 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 Konkan & also continue transplanting of summer rice in East Vidarbha. Also undertake sowing of summer groundnut (30 x 10 cm spacing),



summer bajra (30 X 10 cm spacing) and summer sunflower, summer ridge gourd (1.5 X 1 m spacing), summer tomato (90 x 30 cm spacing in row & furrow) and summer ladies finger (30 x 20 or 30 X 15 cm spacing).

- Under present situation, apply a dose of Nitrogen @ 40 kg / ha to summer rice after 30 days from transplanting in Konkan.
- As dry weather is prevailing, apply third dose of 330 g Nitrogen (700 g urea) and 330 g Potash (550 g murate of potash) per plant of coconut of age 5 years and more and also apply 75 g Nitrogen (160 g urea) and 75 g Potash (125 g Murate of potash) per plant of arecanut of age 3 years and more followed by irrigation.
- Details of crop varieties are mentioned in Annexure I.
- **Plant protection**
- There is chance of attack of thrips on cashew in Konkan, for control spray 50% prophanophos @ 10 ml or 5 % Lamdacylothrin @ 6 ml / 10 liters of water. There is also chance of attack of nut borer in cashew, spray D.D.V.P. @ 1 ml / 1liter of water.
- Infestation of thrips on onion crop is likely to be increased in Western Maharashtra scarcity zone during second fortnight of February. For control spray Trizophos + Deltamethrin @ 20 ml or 25 % Cypermethrin @ 5 ml in 10 liters of water.

## Gujarat

- **Major Standing Crops:** Sugarcane (maturity / harvesting), *Kharif* cotton (boll maturity / picking), castor (maturity / picking), mustard (pod formation), vegetables (vegetative / flowering / fruiting / harvesting), potato (tuber formation / maturity) and wheat (heading / flowering).
- 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 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 other summer crops like green gram, black gram, cow pea, cluster bean and pearl millet.
- 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 chilli in North Saurashtra region and powdery mildew in mango in North Saurashtra, South Gujarat and Bhal and Coastal regions. For control of thrips in chilli, spray triphose @ 15 ml / 10 litres of water. To control powdery mildew in mango spray sulphur 80 WP @ 30 gm or dinocap @ 10 ml / 10 litres of water.

## 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.
- Undertake sowing of groundnut, cucurbits like as Bitter gourd, water melon, pumpkin (kaddu), cucumber, round gourd (tinda), Ridged Gourd (turai), loki, muskmelon in Bhilwara, Sirohi, Udaipur and Chittorgarh. Select varieties like TAG-24, SB-11, DH-86 and GG-2. A seed rate of 100-120 kg/ha for groundnut.

## 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.
- Undertake sowing summer Okra in Ajmer, Dausa, Tonk and Jaipur. Use varieties like Pusa sawani, Pusa Makhmali, Parbhani, Kranti, Ark Abhay & Arka Anamika and treat seed with 1 gm Carbendizim & 3 gm Thiram per kg of seed.
- Undertake sowing of cucurbits, zaid pearl millet fodder, zaid sorghum fodder, zaid green gram and okra.K-851 (60-70 days), PDM-11 (60-65 days), Pusa Baisakhi (60-80 days), RMG-268 (65-70 days) are improved varieties of green gram in Ajmer, Dausa, Tonk and Jaipur.
- To protect sensitive crops like mustard, Rajmash, potato, gram from frost damage, 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%.
- purple blotch disease in onion in Alwar, Dholpur, Bharatpur, Karauli and Sawai Madhepur, spray 2-3 times 0.25% solution of Dithane M 45 at 15 days interval to manage purple blotch disease.
- 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.
- heliothis in gram in Bikaner and Jaisalmer, spray any of insecticides i.e.endosulphan @300ml./bigha or endoxacrab@50 ml/bigha or spinosid @.33ml/liter or emamectin benzoite @0.4gm/liter of water
- aphids in fenugreek and mustard Bikaner and Jaisalmer, spray Daimethoate 30 E.C.or methyl-demeton 00ml/bigha or Thiomethocxam 25 WG @25 gm./bigha.

### 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, summer okra, summer moong and urd in the pit in Jhabua and Dhar
- Undertake sowing of summer vegetables like cucurbits, brinjal, cucumber and bhendi in Chattarpur and Datia
- Undertake sowing of moong and urad in Khandwa, Khargone and Harda
- 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, Mandasaur, 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, Mandasaur, 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.
- mahu in tomato, cabbage and coriander in Chattarpur and Datia, spray methyl Dematon 25 EC 2 ml/lit of water
- aphid in mustard & vegetable crops if attack use dusting of Methyl Parathion 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.
- caterpillar in gram in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi, Chattarpur and Datia, spray Uquinolphos 25 EC or Chloropyriphos 20 EC or Endosulphan 35 EC or Methyl Parathion 50 EC @ 600 ml dissolve in 500 L of water.
- sucking pest on chilly, tomato, brinjal, spray Dimethoate 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 / maturity), wheat (heading / flowering), gram, pea, mustard, berseem, pigeon pea and linseed (pod formation), potato (tuber formation / early maturity), vegetables (vegetative / flowering / fruiting / harvesting), summer vegetables (sowing).

- Due to above normal temperatures, the evaporation rates has increased during past week (5-6 mm/day) and thereby the water requirement of rabi crops has also increased. Therefore, it advised to reduce the interval between two irrigations (particularly in wheat crop) to maintain proper soil-moisture and micro-climate within the crop canopy, so that the adverse effect of higher temperature or thermal stress can be minimised. The farmers who have drip irrigation system for vegetables and plantation crops should regulate the water discharge rate accordingly to maintain proper soil moisture around root zone.
- 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.
- Now the temperature conditions are suitable for proper germination of sugarcane to be sown during the last week of February and first week of March. Hence, it is advised to prepare well pulverized field for planting of sugarcane. Intercropping of summer moong, early maturing crops or leafy vegetables can also be done for additional income.
- As weather condition is favourable, it is time for sowing of some cucurbitaceous crops, like pumpkin, bitter gourd, bottle gourd, okra etc. Hence, the sowing of these vegetables should be completed at the earliest.
- As weather condition is congenial, intercultural operation and weeding are advised in sunflower and groundnut. Complete final intercultural operation in groundnut within flowering stage. Fertilizer application followed by irrigation should also be done in sunflower after weeding.
- Complete the transplanting of summer rice at the earliest.
- Presently mango crop is at flowering / fruit setting stage and at this stage there is chance of infestation of powdery mildew, which causes poor fruit setting and later on fruit dropping. Hence, it is advised to keep watch over the crops and whenever the symptom appears, spray Carbendizim (Bavistin) @ 1.5 g or Sulphex @ 3 g per litre of water.

## Annexure I

### Crop varieties

#### Uttarakhand:

- **Sugarcane:** Co- Pant 84211, COS-95255, COS-8436, COS-88230, COS-96268 and Moderate to late varieties like Co-Pant 97222, Co-Pant-96219, Co-Pant-84212, Co-Pant-90223.
- **Sunflower:** MSFS-8, NSFH-9, Ranjha, Heer, Badshah etc.(hybrids), Morden and Paradobic (varieties).
- **French bean:** Pant Anupama, Pant Bean-2, VL Vonibean-1 and Pusa Parvati

#### Punjab:

- **Sugarcane:**  
**Early maturing:** CoJ-85, CoJ-83 CoJ-64, **mid-season:** CoJ-88 CoS-8436, and **late maturing variety:** CoJ-89 and Co-1148
- **Bhindi:** Punjab Padmini, Punjab 7, Punjab 8 and Pusa sawni.

#### Uttar Pradesh:

- **Sunflower:** Modern, Sankar, Surya, Jwalamukhi

#### Orissa:

- **Maize:** Hybrid varieties-MRM-3838, MRM-3765, Shaktiman 1, Bio 9681, Cargil 633, Deccan 105, K.H. 510 , Composite varieties – Navjot, Arun, Kiran.
- **Sesame:** Uma, Usha, Kalika, Nirmala, Prachi and Amrit.
- **Summer moong:** PDM 11, PDM 54, K 851 and TARM 1.
- **Cowpea:** Bush type- Pusa Phalguni, Pusa Komal, and runner type- American long, and Banarasi long, other improved varieties like Russian Giant, EC-4316, NP-3, C-152, UPC-286,UPC-5286 and IGFI-450 can be grown.
- **Papaya:** Honey dew, Kurg honey dew, Coimbatore-1, Coimbatore-2, Pusa delicious, Pusa Majestic, Pusa Dwarf and Pusa Giant.

#### Haryana:

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

#### Jammu

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

#### 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.

#### **Kerala:**

- **Bhindi:** Arka anamica, Arka Abhay, Susthira

#### **Tamil Nadu:**

- **Groundnut:** TMB-13, VRI-6 and VRI-7
- **Gingelly:** SVPR-1, TMB-5, 6 and VRI-2.

#### **Rajasthan:**

- **Green gram:** K-851 (60-70 days), PDM-11 (60-65 days), Pusa Baisakhi (60-80 days), RMG-268 (65-70 days)

#### **Assam**

- **Direct seeded *ahu* rice:** Luit, Kapili,disang, Pusa-2-21, Culture-1 etc.
- **Direct seeded *ahu* rice:** Lachit, Chilarai, Govind, IR-50, Rachi, Jaya etc.
- **Boro rice:** Jyotiprasad, Bishnuprasad, Jaymoti, Kanaklata, Boro-1 and Boro-2.
- **Ridge Gourd:** Pusa Nasder, Surekha etc.
- **Bitter gourd:** Monsoon Monarch, Long green Monsoon, Coimbatore long etc.
- **Pumpkin:** Arka Suryyamukhi, Arka-Chandan, Large green etc.
- **Snake gourd:** Long green, Long white, Extra long etc.
- **Cucumber:** – Chinese Green, Pusa Sonjog, AAUC-I, AAUC-2, AAUC-3, UC-4 etc.

#### **West Bengal**

- **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.
- **Sesame:** Rama, Tilottoma.

#### **Maharashtra**

- **Groundnut:** Improved varieties like TAG-26, TG-37, TAG-24 & SB-11.
- **Sugarcane (*Suru*):** Co-86032, Co-94012, Co-M-0265.
- **Summer ridge gourd:** Pusa Nasdar, Konkan Harita.
- **Summer sunflower :** EC-68414, Morden & PKVSF-9.
- **Summer tomato:** Dhanshri, Phule-Raja.



- **Summer ladies finger:** Parbhani Kranti, Parbhani Utkarsha, Akola Bahar, Arka Anamika, Arka Abhay & Phule Kriti.
- **Summer bajra :** Shardha and Saburi or I.C.T.P-8203, I.C.M.V.-211.

#### **Delhi**

- **Sunflower:** Modern.