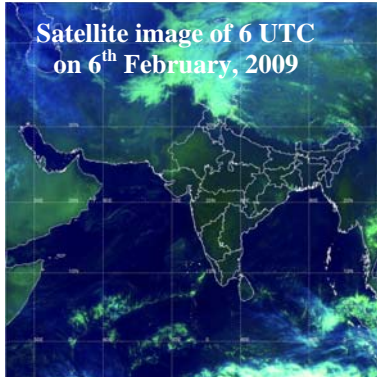




National Agromet Advisory Bulletin

Thursday, 5th February, 2009

(For the period 5th to 9th February, 2009)



Satellite image of 6 UTC
on 6th February, 2009

Chief Synoptic Feature (Based on 1430 hours IST observations of 5th February, 2009)

- The western disturbance lies over Jammu & Kashmir and neighborhood. Induced upper air circulation lies over Punjab and neighborhood extending upto 2.1 Km above mean sea level. Under their influence, fairly widespread precipitation is likely over western Himalayan region till tomorrow and decrease thereafter. Isolated rain/thundershowers are also likely over adjoining plains of northwest India during the same period.
- Minimum and maximum temperatures are 6-8^o C above normal over parts of Rajasthan and 3-4^o C above normal over remaining parts of northwest, west and central India.
- In view of prevailing southwesterly winds, minimum and maximum temperatures are likely to remain appreciably above normal till tomorrow. They are likely to decrease on 7th & 8th February.

Advisories for cold injury

- Due to possibility of low minimum temperature in Srinagar and Rajouri divisions in Jammu and Kashmir, protect vegetable crops, mustard and gram from cold injury by arranging smoke around the fields. Provide thatches in young orchards of mango, litchi, guava, citrus and papaya.

Advisories for irrigation

- As rain / snow is likely to occur at many places in Jammu & Kashmir, postpone irrigation to the crops.
- As there was no significant rain in remaining 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:
- Powdery mildew in peas in Himachal Pradesh and Delhi.
- White rust in mustard in Punjab, Middle Gujarat region and west Rajasthan.
- Collar rot in gram in Jammu division.
- Thrips 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.imdagrimet.org>) of the Division

Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks

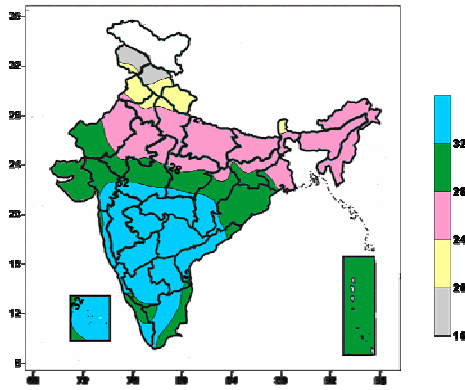
Sub-division	Cumulative Rainfall (% Dep.) for the period				
	7 th January	14 th January	21 st January	28 th January	4 th February
A & N Islands	-14	-97	-100	-99	-96
Arunachal Pradesh	-62	-100	-94	16	-71
Assam and Meghalaya	-90	-100	-99	49	-95
NNMT	-100	-100	-100	-100	-100
SH West Bengal & Sikkim	-46	-96	-99	-100	-99
Gangetic West Bengal	-64	-51	-100	-100	-100
Orissa	-100	-99	-100	-100	-100
Jharkhand	-80	132	-100	-100	-100
Bihar	-68	-83	-100	-100	-100
East Uttar Pradesh	-99	-98	-100	-100	-100
West Uttar Pradesh	-97	-64	-99	-100	-100
Uttarakhand	-79	-100	-87	-100	-100
Haryana, Chandigarh & Delhi	-94	-100	-17	-87	-100
Punjab	-85	-100	74	-100	-100
Himachal Pradesh	-11	-84	10	-81	-95
J & K	-36	-69	223	-15	-96
West Rajasthan	-99	-100	-53	-100	-100
East Rajasthan	-100	-100	-97	-100	-100
West M. P.	-100	25	-100	-100	-100
East M. P.	-82	71	-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	-88	-100	-100	-100
Marathwada	-100	-100	-100	-100	-100
Vidarbha	-100	-100	-100	-100	-100
Chhattisgarh	-75	-77	-100	-100	-100
Coastal A. P.	-99	-100	-100	-100	-100
Telangana	-100	22	-100	-100	-100
Rayalseema	-100	-60	-100	-100	-100
TamilNadu & Pondicherry	-88	-64	-60	106	-98
Coastal Karnataka	-100	-100	-100	-100	-100
N. I. Karnataka	-100	-100	-100	-100	-100
S. I. Karnataka	-100	-90	-99	-100	-100
Kerala	-100	-97	-100	-7	-100
Lakshadweep	-77	-100	-74	4	-100

The subdivisions like Nagaland, Manipur, Mizoram, Tripura, West Bengal, Sikkim, 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; Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Jharkhand, Haryana, Chandigarh, Delhi, Punjab, Madhya Pradesh, Telangana, Tamil Nadu & Pondicherry, Kerala and Lakshadweep Islands received scanty / deficient rain in 4 out of last 5 weeks; 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.



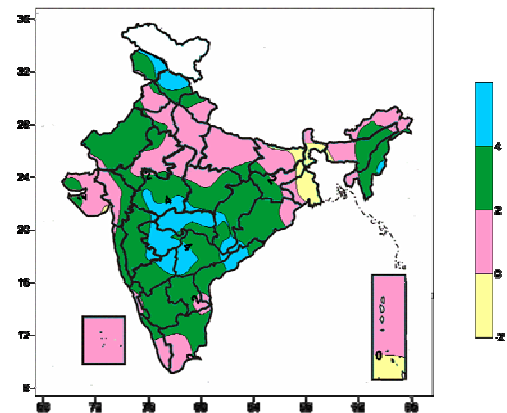
Contour maps for the week ending 04.02.09

Actual Mean Maximum Temperature (°C) In India for the week ending 4.02.09



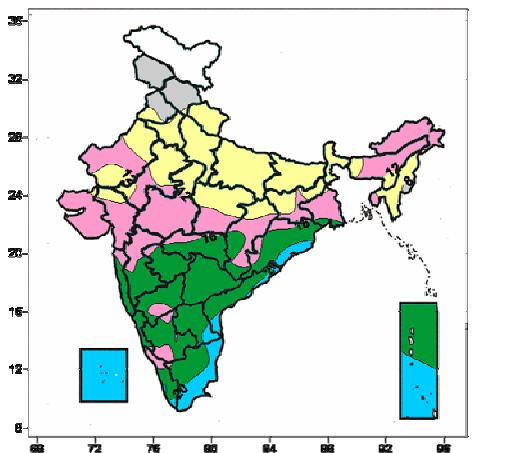
Actual Mean Maximum temperature ranged between 32 to 36⁰C over most parts of Maharashtra, Andhra Pradesh, Karnataka and Lakshadweep, over some parts of Orissa, Gujarat, South Madhya Pradesh, Chhattisgarh, Kerala, Tamil Nadu, 28 to 32⁰C over most parts of the Gujarat, Madhya Pradesh, Orissa, Andaman & Nicobar Islands some parts of Rajasthan, Chattisgarh, Jharkhand, Gangetic West Bengal, Coastal Andhra Pradesh, Kerala, Tamil Nadu and Lakshdweep Island, 20 to 24⁰C over most parts of Punjab, Uttarakhand, Sikkim, over some part of Jammu & Kashmir, Himachal Pradesh, Haryana and West Uttar Pradesh, 16 to 20⁰C over most parts of Jammu & Kashmir, some parts of Himachal Pradesh, 24 to 28⁰C over remaining parts of the Country.

Maximum Temperature (°C) Anomaly In India for the week ending 4.02.09



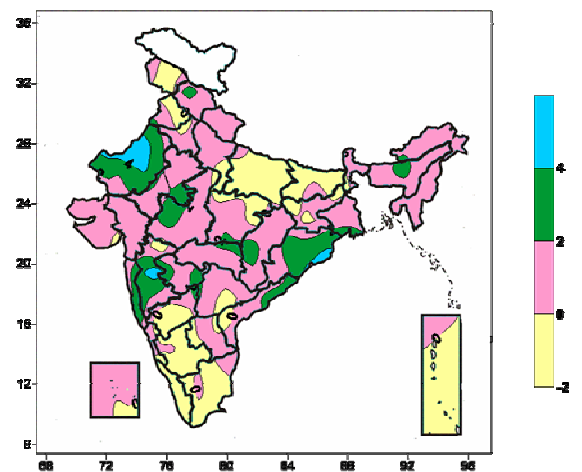
Actual Mean Maximum temperature anomaly ranged between 4 to 6⁰C over most parts Marathwada, Vidarbha, some parts of the Jammu & Kashmir, Himachal Pradesh, South Madhya Pradesh, Madhya Maharashtra, Chhattisgarh, Telangana, Coastal Andhra Pradesh, North Interior Karnataka, Manipur, 0 to 2⁰C over most parts of Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, Arunachal Pradesh, Tripura, Gujarat, Saurashtra & Kutch, Lakshdweep, Andaman and Nicobar Islands, some parts of Uttarakhand, Jharkhand, West Bengal, Orissa, Assam & Meghalaya, Rajasthan, Coastal Karnataka, Kerala, Tamil Nadu, Coastal Andhra Pradesh, Rayalaseema, -2 to 0⁰C over most parts of West Bengal, some parts of Bihar, Jharkhand, Assam, Andaman & Nicobar Islands, 2 to 4⁰C over remaining parts of the country.

Actual Mean Minimum Temperature (°C) In India for the week ending 4.02.09



Actual Mean Minimum Temperature ranged between 20 to 24⁰C over most parts of Coastal Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Orissa, Coastal Andhra Pradesh, Rayalaseema and Kerala, 18 to 20⁰C over most parts of Central Orissa, Maharashtra, Andhra Pradesh, Karnataka, Interior Tamil Nadu and Central Kerala and Andaman

Minimum Temperature (°C) Anomaly in India for the week ending 4.02.09

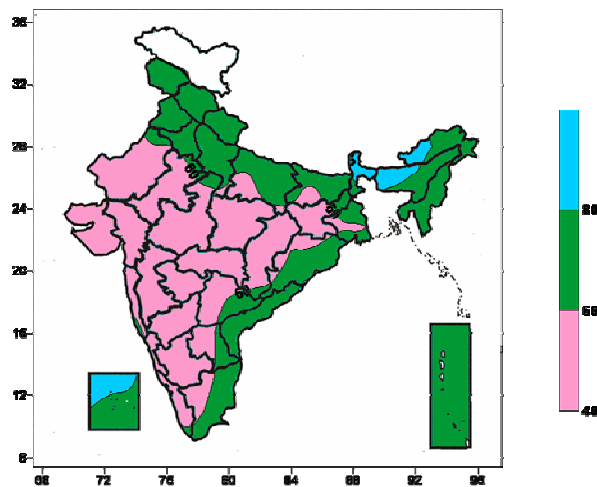


Minimum Temperature anomaly ranged between 4 to 6⁰C over some parts of West Rajasthan, Orissa and Madhya Maharashtra, 2 to 4⁰C over most parts of Orissa, West Rajasthan, Madhya Maharashtra, Konkan & Goa, some parts of Himachal Pradesh, Punjab, Assam, Arunachal Pradesh, Gangetic West Bengal, Sikkim, East Rajasthan, Madhya Pradesh,

& Nicobar Islands, some parts of Gangetic West Bengal and Chhattisgarh, 8 to 12⁰C over most parts of Uttarakhand, Haryana, Delhi, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram, Uttar Jharkhand, Rajasthan and North Madhya Pradesh, some parts of Punjab, Assam, Gujarat, Saurashtra & Kutch and Chhattisgarh, 4 to 8⁰C over most parts of Jammu & Kashmir, Himachal Pradesh and Punjab, some parts of Manipur, 12 to 16⁰C over remaining parts of country.

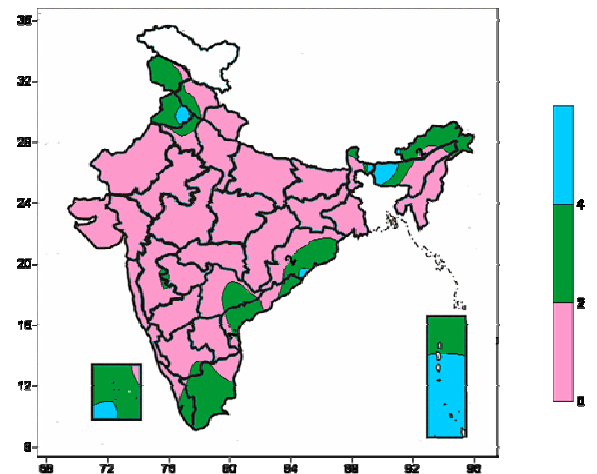
Chhattisgarh, Marathwada, Vidarbha, Coastal Andhra Pradesh and North Interior Karnataka, -2 to 0⁰C over most parts of Jammu & Kashmir, Punjab, East Uttar Pradesh, Bihar, Interior Karnataka, Tamil Nadu, Kerala and Andaman and Nicobar Islands, some parts of Haryana, East Uttar Pradesh, Jharkhand, Sub-Himalayan West Bengal, Saurashtra & Kutch, Madhya Maharashtra, Madhya Pradesh, Andhra Pradesh, Coastal Karnataka and Lakshdweep Islands, 0 to 2⁰C over most parts of Interior Karnataka, some parts of Telangana, Raylaseema and Kerala, 2 to 4⁰C over remaining parts of the Country.

Relative Humidity (%) over India for the week ending 4.02.09



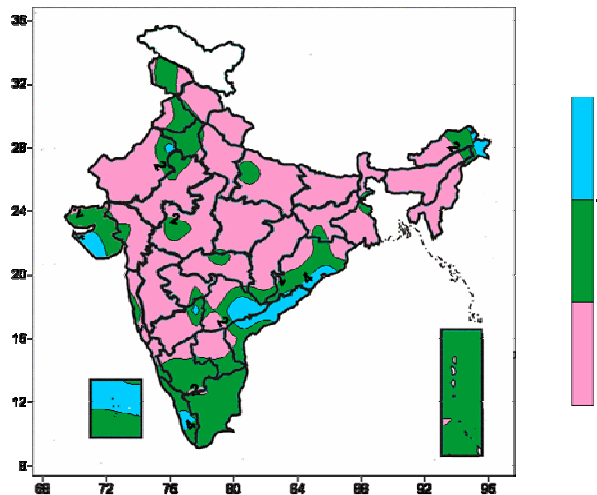
Relative humidity ranged from 80 to 100% over most parts of Sub-Himalayan West Bengal and Sikkim, some parts of Assam, Arunachal Pradesh and Lakshadweep Islands, 60 to 80% over most parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Delhi, Uttarakhand, Uttar Pradesh, Bihar, West Bengal, North East India, Orissa, Coastal Andhra Pradesh, Coastal Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Jharkhand, Rajasthan, Konkan & Goa, West Madhya Pradesh, Chattisgarh, Telangana, Rayalaseema and Kerala, 40 to 60% over remaining parts of the country.

Cloud amount (okta) over India for the week ending 4.02.09



Cloud amount ranged from 4 to 6 okta over most parts of Andaman & Nicobar Islands, some parts of Punjab, Sub-Himalayan West Bengal, Assam, Orissa, Laskadweep Island, 2 to 4 okta over most parts of Jammu & Kashmir, Punjab, Sikkim, Arunachal Pradesh, Coastal Orissa, Coastal Andhra Pradesh, Tamil Nadu, Lakshdweep Islands, some parts of Himachal Pradesh, Haryana, Assam, Madhya MAharashtra, Marathwada, Telengana, South Interior Karnataka, Kerala, Andaman & Nicobar Insland, 0 to 2 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 4.02.09

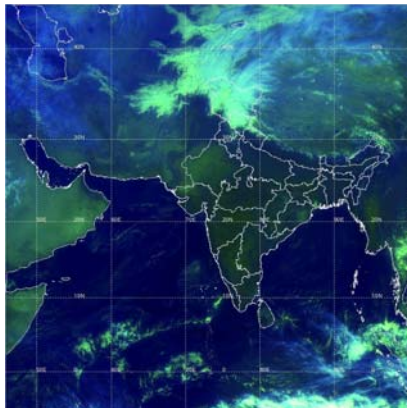


Wind speed ranged between 4 to 6 knots over most parts of Coastal Andhra Pradesh and Lakshadweep Islands, some parts of Arunachal Pradesh, Orissa, West Rajasthan, Saurashtra & Kutch, Telengana, North Interior Karnataka and Kerala, 2 to 4 knots over most parts of Jammu & Kashmir, Punjab, Haryana, Delhi, Central Orissa, Saurashtra & Kutch, South Interior Karnataka, Kerala, Tamil Nadu, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Uttar Pradesh, West Bengal, Jharkhand, Extreme North East India, Rajasthan, Gujarat, Konkan, Marathwada, Vidarbha, West Madhya Pradesh, Chhattisgarh, Coastal Karnataka, North Interior Karnataka, Andhra Pradesh, Lakshadweep Islands, 0 to 2 knots over remaining parts of the country.

Chief Synoptic Feature (Based on 1430 hours IST observations of 5th February, 2009)

- The western disturbance lies over Jammu & Kashmir and neighborhood. Induced upper air circulation lies over Punjab and neighborhood extending upto 2.1 Km above mean sea level. Under their influence, fairly widespread precipitation is likely over western Himalayan region till tomorrow and decrease thereafter. Isolated rain/thundershowers are also likely over adjoining plains of northwest India during the same period.
- Minimum and maximum temperatures are 6-8° C above normal over parts of Rajasthan and 3-4 °C above normal over remaining parts of northwest, west and central India.
- In view of prevailing southwesterly winds, minimum and maximum temperatures are likely to remain appreciably above normal till tomorrow. They are likely to decrease on 7th & 8th February.

Satellite image of 6 UTC on 6th February, 2009



Zone-wise Forecast

NORTHWEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP] (Forecast valid upto 1430 hours IST of 8th February, 2009)

- Rain/snow is likely at many places over Jammu & Kashmir during next 24 hours and decrease thereafter.
- Rain/snow is likely at isolated places over Himachal Pradesh and Uttarakhand during next 36 hours and mainly dry weather thereafter.
- Isolated rain/thundershower is likely over Punjab, north Haryana and Chandigarh during next 36 hours and mainly dry weather thereafter.
- Mainly dry weather is likely over the rest region

Quantitative District Weather Forecast for next five days:

- Moderate to rather heavy rainfall / snowfall is likely to occur over Jammu Kashmir during next 24 hours & decrease thereafter.
- Light rain / snow is likely to occur over Himachal Pradesh and Uttarakhand during next 48 hours and mainly dry weather thereafter.
- Light rainfall is likely to occur over Punjab, Haryana and Chandigarh during next 48 hours and mainly dry weather thereafter.

EAST INDIA [EAST UP, JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM] (Forecast valid upto 1430 hours IST of 8th February, 2009)

- Isolated rain/thundershower is likely over sub-Himalayan west Bengal.
- Mainly dry weather is likely over the rest region.

Quantitative District Weather Forecast for next five days:

- Light to rather moderate rainfall is likely to occur over sub-Himalayan west Bengal and Sikkim.
- Mainly dry weather is likely over the region.

NORTHEAST INDIA [Arunachal Pradesh, NMM & T, Assam, Meghalaya] (Forecast valid upto 1430 hours IST of 8th February, 2009)

- Isolated rain/thundershower is likely over Arunachal Pradesh.
- 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.
- 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 8th 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 8th 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 8th 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.

Warning:

Isolated heavy snowfall is likely over Jammu & Kashmir during next 24hours.

Weather Outlook from 1430 IST of 8th February, 2009 to 1430 IST of 10th February, 2009 (Based on numerical weather products):

- A fresh western disturbance is likely to affect northwest India from 9th causing snowfall over hills and light rain/thundershowers over plains of northwest India.

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 lettuce, methi, palak, dhania etc. (vegetative).
- As there was no significant rain during last week in most of the districts of the State and there is no possibility of significant rain during next five days, apply irrigation to the crops.
- As weather condition is favourable, it is optimum time for sowing of Chari, bajra and maize in low hills.
- For seed crop of berseem and oats one cut can be taken. Apply urea to irrigated crop of oat where first cut has been taken.
- As there is less possibility of rain, earthing up can be undertaken in potato crop.
- Considering less possibility of rain, termite affected plots may be treated with 80 ml chloropyriphos mixed with 1kg of sand for one kanal area of plot. Farmers are also advised to spray glyphosate 1% solutions in the grasslands / pastures having lantana bushes with 2-3 leaves stage.
- Under prevailing weather it is advised for nursery sowing of tomato, chilli, capsicum and brinjal in lower plain areas. It is also optimum time for sowing of radish. In mid hills nursery sowing of cucurbits in poly houses can be done.
- Weather is congenial for production of white button mushroom in the closed room. Maintain room temperature at 18-22⁰C and relative humidity around 85% for successful cultivation. For Oyster mushroom 16-22⁰C 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.
- There is chance of attack of leaf miner in citrus. For its control spray 10ml matasystox or Malathion in 10 litre of water.

- 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.

- 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.

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

- Even though the night temperature is rising, still the same 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), potato (tuber formation), mustard, chickpea and lentil (flowering / pod formation), 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 chilli 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. 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), *spring* sugarcane (early vegetative), potato (vegetative), 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 no significant rainfall is likely for the next five days, apply irrigation to the standing *rabi* crops.
- Farmers are advised to complete sowing of sunflower and transplanting of chilly, tomato, brinjal and onion. Undertake sowing of cucurbits in polythene bags for raising early crop.
- Undertake field preparation for planting of sugarcane. Start planting of sugarcane from second fortnight of this month. Details of crop varieties are mentioned in Annexure I.
- Farmers are advised to undertake planting of deciduous fruit crops like pear, grapes and phalsa in first fortnight of February. Pruning in grapes may be completed by mid-February. In citrus, irrigation may be given before sprouting in February. Ber trees should also be watered so that fruits can develop good size.
- Undertake layering of litchi trees and side grafting of mango for their propagation.

- The weather is congenial for alternaria leaf blight and white rust in mustard, the farmers are advised to protect the crop by spraying Indofil M-45 @ 250 g in 100 litres of water.
- 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 chaffed barseem mixed with wheat straw to avoid aphara (Tympany).

Haryana

- **Major Standing Crops:** Spring sugarcane (early vegetative), vegetable crops (seedling/early vegetative), wheat (elongation/heading) and oilseeds(flowering/pod formation).
- 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.
- Continue sowing of sunflower and berseem. Details of crop varieties are mentioned in Annexure I.
- Complete transplanting of tomato and continue transplanting of onion. Pruning in grapes may be completed.
- 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 / fruiting / harvesting), mustard (capsule formation), potato (tuber formation / tuber 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 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.
- In view of prevailing dry weather farmers are advised to apply third irrigation to timely sown wheat and second irrigation to late sown wheat.
- Farmers are also advised to apply irrigation to mustard wherever crops are at capsule formation stage.
- As weather condition is favourable, transplanting of mature seedlings of cucurbitaceous crops can be done in next two days. In view of forecasted unfavourable temperature condition transplanting is not advised at the end of this week.
- Weather conditions are also ideal for transplanting of fresh seedlings of chilli and brinjal.
- Farmers are also advised for field preparation for transplanting of ladies finger during next week.
- Prevailing high humidity condition is highly conducive for powdery mildew infestation in peas. Spraying of Carathene @ 2 g per litre of water (700 litres / ha) is advised where infection is observed.
- In view of favourable weather conditions for aphid infestation in tomato, spraying of Malathion @ 1 ml per litre (700 litres / ha) is recommended in those fields where crop is at flowering 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 high infestation farmers are advised to apply Rogor or Malathion @ 2 ml / litre of water.
- Weather conditions are highly favourable for thrips, stem filial and purple blight in onion. Spraying of Mencozeb @ 2 g + Metasystox @ 2 ml per litre of water (700 litres / ha) with a sticking agent is advised for blight and thrips.

Uttar Pradesh

- **Major Standing crops:** Sugarcane (grand growth / cane formation), mango (fruit setting), rai, mustard, gram, pea and lentil (pod formation), potato(vegetative) and wheat (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 planting of orchard tree saplings in Jammu and sowing of vegetable crops in nursery in Rajouri divisions.
- As rain / snow is likely to occur at many places, postpone irrigation to the crops.
- Due to possibility of low minimum temperature in Srinagar and Rajouri divisions, protect vegetable crops, mustard and gram from frost by arranging smoke around the fields. 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 after spells of rain 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, chilli 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 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;
 - 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 (flowering / cob formation), pulses (pod formation), potato (tuber formation) and sunflower (head formation), wheat (heading) and *boro* rice (seedling / transplanting / 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. Apply 3rd irrigation to late sown wheat crop which is in 60 to 65 days age. 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 and *boro* rice.
- Farmers are advised to continue the field preparation for planting of sugarcane crop.

- 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 (pod formation).
- 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 @ 22 kg / ha.
- Undertake transplanting of onion in the main field.
- Undertake sowing of bitter gourd, sponge gourd, ridge gourd, bhindi and water melon.
- Farmers are advised to undertake intercultural operations in early sown summer rice, potato, oilseeds and wheat to keep the fields weed free.

Orissa

- **Major Standing crops:** Sugarcane (harvesting), sunflower and mustard (flowering / pod formation), vegetables (vegetative / flowering / fruiting / harvesting), wheat (tillering), potato (vegetative / tuber formation), onion (vegetative), summer rice (seedling / transplanting / early vegetative) 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 nursery sowing of ragi and sowing of groundnut in river banks. Details of crop varieties are mentioned in Annexure I.
- Continue sowing of summer moong, sunflower, maize, sesame and planting of marigold variety Ceracol.
- Undertake planting of sugarcane. Dip the sugarcane seed material (setts) in Bavistin solution (1.5 g / 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 burying under soil or by burning.

West Bengal

- **Major Standing Crops:** Sugarcane (cane development / cane maturity), mustard, gram and lentil (flowering / pod formation), wheat (tillering / ear initiation), 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 no significant rain is likely to occur 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.
- 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 / flowering), mustard (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 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. in medium and low hills to conserve moisture.
- Continue harvesting of orange and vegetable crops depending upon the market demand.
- 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), mustard, lentil and pea (pod formation), *toria* (maturity), wheat (tillering / ear initiation), potato (tuber formation / maturity) 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 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 potato and *toria* under present weather.
- 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.
- As present weather condition is favourable, farmers may go for cultivation of summer vegetables like ladies finger, bottle gourd, pumpkin, ridge gourd, cucumber etc. as growing of early summer vegetable crops will fetch more income.
- 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.

- Low temperature during late night hours is harmful for the poultry birds as it affects the egg production and growth rate of birds. So artificial lighting may be provided inside the poultry shade to increase the temperature at late night hours.

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 (flowering / pod formation), *rabi* maize (grain 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 irrigation to mustard, pea and *rabi* maize.
- Farmers are advised to undertake intercultural operations in late sown crops.
- Regular monitoring for pest and disease attack in mustard 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 chilli (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.
- **Animal Husbandry:** There are chances of occurrence of FMD in cattle, sheep pox in sheep and ranikhet in poultry. Consult veterinarian and undertake vaccination.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
 - leaf miner and rust in groundnut, stem borer and blast in rice, yellow vein mosaic in bhindi and thrips, mite and dieback in chilli 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 chilli in Guntur;
 - ring spot and rust in sugarcane, powdery mildew and thrips in chilli, *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) and *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 prevailing 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.
- Farmers in Udipi and Dakshin Kannada districts are advised to undertake intercultural operations and application of fertilizers and pesticides in plantation crops.
- Farmers in Shimoga are advised to undertake harvesting of rice and maize. Arrange proper storage for harvested produce.
- Undertake harvesting of rice in Uttar Kannada as dry weather prevails. After the harvest of rice, undertake sowing of rice fallow pulses like green gram, black gram and cowpea.
- 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;
 - blight and anthracnose in pomegranate, *Sigatoka* leaf spot in banana and sucking pests in mango in Bijapur;
 - quick wilt in pepper in Uttar Kannada,
 - powdery mildew in mango in Raichur;
 - Undertake plant protection measures.

Kerala

- **Major Standing Crops:** *Mundakan* rice (grain development / maturity) and vegetable (vegetative / flowering / fruiting). 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 vegetable crops like *Amaranthus*, bottle gourd, bitter gourd, cucumber, water melon and snake gourd in Wayanad district.
- Complete harvesting of *mundakan* rice and sowing of *puncha* rice in nursery 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. 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.
- 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.
 - aphids and mealy bug in vegetables in Thiruvananthapuram.

- fruit fly and powdery mildew in gourds and bacterial wilt in tomato, brinjal and chilli 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) and *rabi* crops like rice, pulses, millets and oilseeds (grain formation / development / maturity).
- As there was no significant 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 groundnut in Western region.
- Sowing and transplanting of vegetable crops such as bhindi, tomato, cowpea, dolichos and chilli may be taken up with irrigation facilities.
- Complete harvesting of 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 -
 - leaf spot in turmeric in Erode;
 - blast in rice in Namakkal;
 - boll worm in cotton and fruit borer and tip rot in chilli 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 in Pune, Nashik, Latur and Kolhapur divisions and grain formation / grain maturity in other divisions), *rabi* sunflower (seed formation / seed maturity in Kolhapur and seed formation in other divisions), maize (tasseling and silking / cob initiation), gram (pod maturity / harvesting in Pune, Nashik and pod formation in other divisions), wheat (dough / maturity in early sown crop in Pune, Aurangabad and Latur divisions and flowering / milking in other divisions), safflower (seed maturity in Pune, Kolhapur, Latur & Amravati and 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 crops of jowar, safflower & gram.
- 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.
- 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 start 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.
- Details of crop varieties are mentioned in Annexure I.
- **Plant protection**

- Present weather condition is favourable for infestation of powdery mildew in green gram, pea and black gram crops at Eastern Vidarbha zone. Spray water soluble Sulphur @ 25 gm or Carathane @ 10 ml in 10 liters of water to control the disease.
- 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 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 and powdery mildew in mango in North Saurashtra region. 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.
- As weather condition is favourable for infestation of white rust in mustard in Middle Gujarat region, spray Mencozeb @ 25 g in 10 litres of water. It is advisable to spray twice in 10-12 days interval.

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.
- 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, Rajma, potato, gram from frost damage, spray diluted sulphuric acid @ 1% (1 litre H₂SO₄ 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.

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 Dimethoate 30 E.C.or methyl-demeton 300ml/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 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 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, spray Uqinolphos 25 EC or Chloropyriphos 20 EC or Endosulphan 35 EC or Methyl Parathian 50 EC @ 600 ml dissolve in 500 L of 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 / maturity), wheat (tillering / jointing), gram, pea, mustard, berseem, pigeon pea and linseed (flowering / pod formation), potato (tuber formation), vegetables (vegetative / flowering / fruiting / harvesting), summer vegetables (sowing).
- In view of no significant rain during last few weeks over the State and possibility of mainly dry weather 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 Japani 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

Orissa:

- **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.
- **Summer moong:** PDM 11, PDM 54, K 851 and TARM 1.

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

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.

Jammu

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

Himachal Pradesh

- **Raddish:** Pusa Himani.

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.

Maharashtra

- **Groundnut:** Improved varieties like TAG-26, TG-37, TAG-24 & SB-11.
- **Sugarcane (*Suru*):** Co-86032, Co-94012, Co-M-0265.
- **Bajra:** Shraddha, Saburi, ICTP 8203 and ICMV – 211.
- **Summer sunflower:** EC-68414, Morden & PKVSF-9.

Uttar Pradesh

- **Sunflower:** High yielding varieties like MSFS-8, NSFH-9, Ranjha, Heer, Badshah etc. and hybrid varieties like Morden and Paradobic.
- **French bean:** Pant Anupama, Pant Bean-2, VL Vonibean-1 and Pusa Parvati etc.