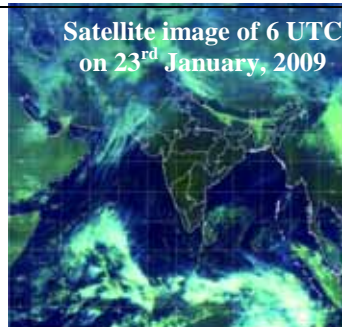




National Agromet Advisory Bulletin

Thursday, 22rd January, 2009
(For the period 23rd to 26th January, 2009)



Chief Synoptic Feature (Based on 1430 hours IST observations of 22nd January, 2009)

- A fresh western disturbance is likely to affect western Himalayan region during next 4 days with main activity on 24th and 25th January. Isolated to scattered rain/thundershowers are also likely over plains of northwest India on 24th and 25th January.
- Current Meteorological conditions suggest that minimum temperatures are likely to increase gradually over northwest and adjoining central India during next 3-4 days.
- The lowest minimum temperature of 3.6°C was recorded at Halwara (Punjab) in the plains of northwest India.

Advisories for cold injury

- Due to low temperature cold injury may occur in the crops in Jammu and Kashmir, Punjab, Haryana, Delhi, Himachal Pradesh and Uttarakhand. Farmers are advised to arrange for smoking in these States to protect the crops from cold injury.

Advisories for irrigation

- As rain/snow is likely to occur at isolated places during next 48 hours and fairly widespread thereafter, in Jammu & Kashmir and Himachal Pradesh, postpone irrigation to the crops.
- As there was no significant rain in Delhi, Uttar Pradesh, Bihar, Jharkhand, Orissa, West Bengal, Sikkim, Maharashtra, Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Assam, Arunachal Pradesh, Tamil Nadu, Kerala, Andhra Pradesh and Karnataka during last week and no significant rain is likely to occur for next five days, farmers are advised to apply irrigation to the crops.

Advisories for pest and disease

- Weather conditions are favourable for the incidence of pest and diseases in the following States:
 - Aphids in mustard in Assam, Rajasthan, Madhya Pradesh, West Bengal, Jammu & Kashmir and Punjab
 - Thrips in onion in Maharashtra.
 - Late blight in potato in Jammu division.
 - Spotted pod borer and powdery mildew in black gram, green gram and red gram in Andhra Pradesh.
- Monitor the crops for the pests and diseases and undertake plant protection measures if required.

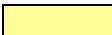
Issued by

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

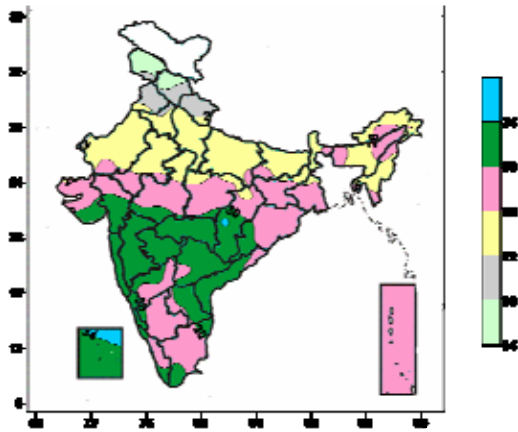
Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks					
Sub-division	Cumulative Rainfall (% Dep.) for the period				
	24 th December	31 st December	7 th January	14 th January	21 st January
A & N Islands	-92	46	-14	-97	-100
Arunachal Pradesh	-32	-87	-62	-100	-94
Assam and Meghalaya	-86	-59	-90	-100	-99
NNMT	-100	15	-100	-100	-100
SH West Bengal & Sikkim	-89	163	-46	-96	-99
Gangetic West Bengal	-100	-100	-64	-51	-100
Orissa	-100	-100	-100	-99	-100
Jharkhand	-100	-100	-80	132	-100
Bihar	-95	-100	-68	-83	-100
East Uttar Pradesh	-100	-100	-99	-98	-100
West Uttar Pradesh	-100	-100	-97	-64	-99
Uttarakhand	-33	-100	-79	-100	-87
Haryana, Chandigarh & Delhi	-100	-100	-94	-100	-17
Punjab	-66	-100	-85	-100	74
Himachal Pradesh	122	-100	-11	-84	10
J & K	173	-100	-36	-69	223
West Rajasthan	52	-100	-99	-100	-53
East Rajasthan	-100	-100	-100	-100	-97
West M. P.	-100	-100	-100	25	-100
East M. P.	-100	-100	-82	71	-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	-88	-100
Marathwada	-100	-100	-100	-100	-100
Vidarbha	-100	-100	-100	-100	-100
Chhattisgarh	-100	-100	-75	-77	-100
Coastal A. P.	-94	-80	-99	-100	-100
Telangana	-100	-100	-100	22	-100
Rayalseema	-100	-100	-100	-60	-100
TamilNadu & Pondicherry	-72	-95	-88	-64	-60
Coastal Karnataka	-100	-100	-100	-100	-100
N. I. Karnataka	-100	-100	-100	-100	-100
S. I. Karnataka	-100	-100	-100	-90	-99
Kerala	-96	-100	-100	-97	-100
Lakshadweep	290	-100	-77	-100	-74

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

	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall		** Data not available

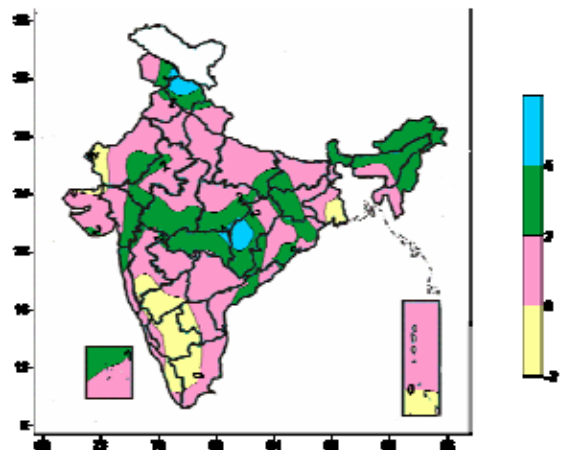
Contour maps for the week ending 21.01.09

Actual Mean Maximum Temperature (°C) in India for the week ending 21.01.09



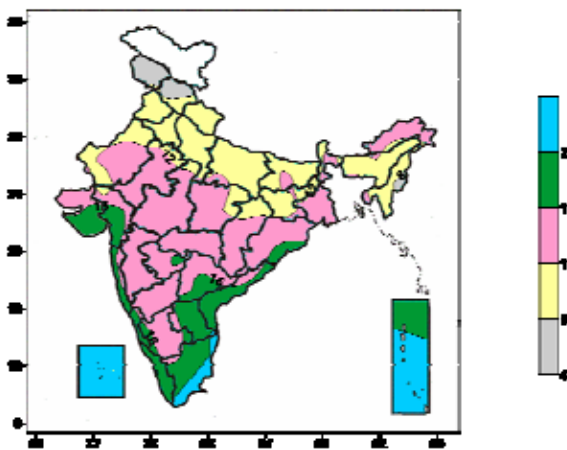
Actual Mean Maximum Temperature ranged between 34 to 40°C over some parts of Chhattisgarh and Lakshadweep, 30 to 34°C most parts of South Gujarat, South Madhya Pradesh, Maharashtra, South Chattisgarh, Andhra Pradesh, Coastal Karnataka, Lakshadweep some parts of Orissa, Kerala, Interior Karnataka, Tamil Nadu, 26 to 30°C over most parts of North Gujarat, Central Madhya Pradesh, Jharkhand, Gangetic West Bengal, Orissa, South Interior Karnataka, Tamil Nadu, Kerala, Andaman & Nicobar Islands, some parts of Rajasthan, East Uttar Pradesh, Bihar, Sub Himalayan West Bengal, Northeast India, Chhattisgarh, Andhra Pradesh, North Interior Karnataka, 18 to 22°C over most parts of Punjab, Himachal Pradesh, Uttarakhand, some parts of Jammu & Kashmir, Haryana, 14 to 18°C over most parts of Jammu & Kashmir, some parts of Himachal Pradesh and 22 to 26°C in remaining parts of the country.

Maximum Temperature (°C) Anomaly in India for the week ending 21.01.09



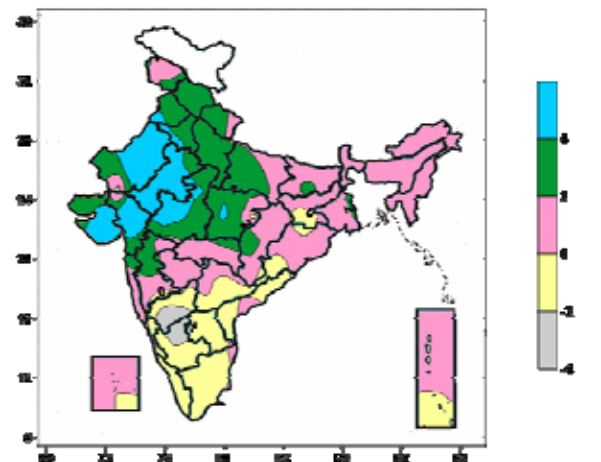
Maximum Temperature anomaly ranged between 4 to 6°C over some parts of Jammu & Kashmir, Himachal Pradesh, Vidarbha, East Madhya Pradesh, Chattisgarh, 2 to 4°C over most parts of Central India, Sub Himalayan West Bengal, Sikkim, North East India, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Uttarakhand, East Uttar Pradesh, Bihar, Jharkhand, West India, Coastal Andhra Pradesh, Lakshadweep, -2 to 0°C over most parts of Interior Karnataka, some parts of West Rajasthan, Saurashtra & Kutch, Gangetic West Bengal, Madhya Maharashtra, Rayalaseema, Tamil Nadu, Kerala, Andaman & Nicobar Islands, 0 to 2°C over remaining parts of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 21.01.09



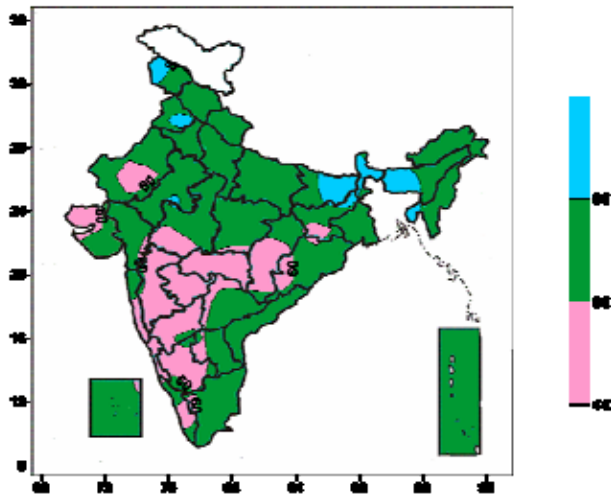
Actual Mean Minimum Temperature ranged between 20 to 24°C over most parts of Coastal Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, 16 to 20°C over most parts of South Gujarat, South Saurashtra & Kutch, Konkan & Goa, Coastal Andhra Pradesh, Rayalaseema, Coastal Karnataka, Interior Tamil Nadu and Kerala, some parts of Orissa, Marathwada, Telangana, South Interior Karnataka, Andaman & Nicobar Islands, 8 to 12°C over most parts of Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Jharkhand, Sikkim, Assam, Nagaland, Manipur and Mizoram, some parts of Himachal Pradesh, Sub-Himalayan West Bengal, Arunachal Pradesh, Tripura, Rajasthan, Gujarat, Madhya Pradesh and Chhattisgarh, 4 to 8°C over most parts of Jammu & Kashmir and Himachal Pradesh, 12 to 16°C over remaining parts of the country.

Minimum Temperature (°C) Anomaly in India for the week ending 21.01.09



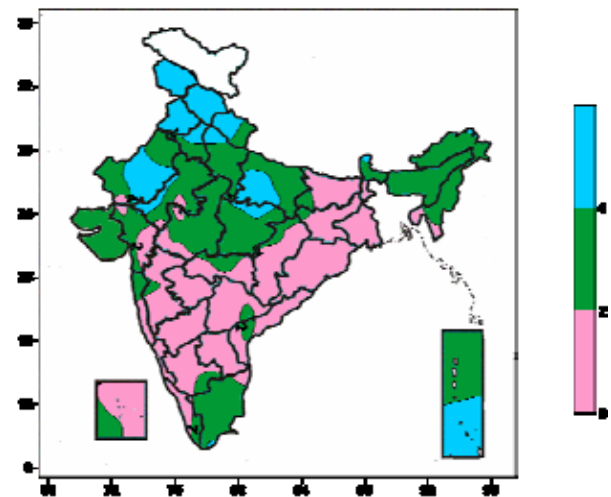
Minimum Temperature anomaly ranged between 4 to 6°C over most parts of Rajasthan, South Gujarat, South Saurashtra & Kutch, some parts of Punjab, Haryana, Madhya Pradesh, 2 to 4°C over most parts of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Punjab, Haryana, Delhi and Madhya Pradesh, some parts of Jammu & Kashmir, Bihar, Gangetic West Bengal, Rajasthan, Gujarat, Saurashtra & Kutch, Maharashtra and Chhattisgarh, -2 to 0°C over most parts of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, some parts of Jharkhand, Orissa, Madhya Maharashtra, Lakshadweep, Andaman & Nicobar Islands, -4 to -2°C over some parts of Interior Karnataka, 0 to 2°C over remaining parts of the country.

Relative Humidity (%) over India for the week ending 21.01.09



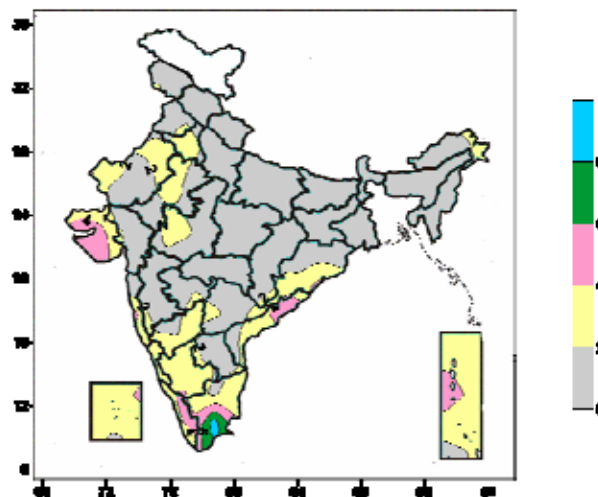
Relative humidity ranged from 80 to 100% over most parts of Sub Himalayan West Bengal & Sikkim, some parts of Jammu & Kashmir, Punjab, East Rajasthan, Bihar, Jharkhand, Assam & Meghalaya, Tripura, 40 to 60% over most parts of Karnataka, Maharashtra, some parts of West Rajasthan, Saurashtra & Kutch, South Madhya Pradesh, Chattisgarh, Jharkhand, Orissa, Telangana, Rayalaseema, Kerala and 60 to 80% over remaining parts of the country.

Cloud amount (okta) over India for the week ending 21.01.09



Cloud amount ranged from 4 to 6 oktas over most parts of Punjab, Himachal Pradesh, some parts of Jammu & Kashmir, Haryana, Uttarakhand, Uttar Pradesh, Rajasthan, East Madhya Pradesh, Sikkim, Andaman Nicobar Islands, 2 to 4 oktas over most parts of Rajasthan, Saurashtra & Kutch, Madhya Pradesh, Uttar Pradesh, North East India, Tamil Nadu, some parts of Gujarat, Konkan & Goa, Madhya Maharashtra, Vidarbha, Bihar, Jharkhand, Gangetic West Bengal, Coastal Andhra Pradesh, Telangana, South Interior Karnataka, Kerala, Andaman Nicobar, Lakshadweep Islands, 0 to 2 over remaining parts of the country.

Wind speed (knots) over India for the week ending 21.01.09



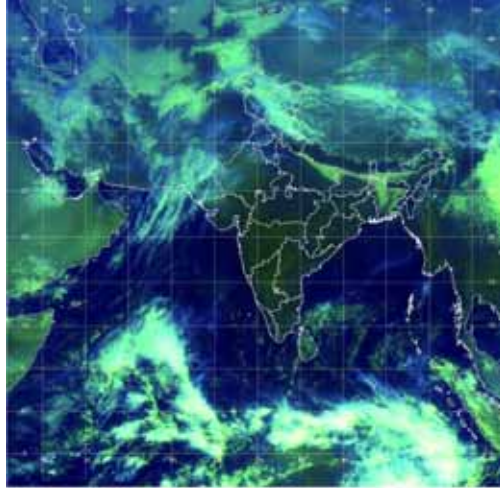
Wind speed ranged between 6 to 10 knots over some parts of Tamil Nadu, 4 to 6 knots over most parts of Saurashtra and Kutch, Kerala some parts of Coastal Andhra Pradesh, Tamil Nadu, Andaman and Nicobar Islands, Lakshadweep, 2 to 4 knots over most parts of Konkan & Goa, Karnataka, Lakshadweep, Andaman Nicobar Islands, some parts of Haryana, Punjab, Rajasthan, West Madhya Pradesh, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Orissa, Andhra Pradesh, Tamil Nadu, Arunachal Pradesh, 0 to 2 knots over remaining parts of the country.

Chief Synoptic Feature (Based on 1430 hours IST observations of 22nd January, 2009)

- A fresh western disturbance is likely to affect western Himalayan region during next 4 days with main activity on 24th and 25th January. Isolated to scattered rain/thundershowers are also likely over plains of northwest India on 24th and 25th January.

- Current Meteorological conditions suggest that minimum temperatures are likely to increase gradually over northwest and adjoining central India during next 3-4 days.
- The lowest minimum temperature of 3.6° C was recorded at Halwara (Punjab) in the plains of northwest India.

Satellite image of 6 UTC on 23rd January, 2009



Zone-wise Forecast

NORTHWEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP] (Forecast valid upto 1430 hours IST of 25th January, 2009)

- Isolated rain/snow is likely over Jammu & Kashmir and Himachal Pradesh during next 48 hours and fairly widespread thereafter.
- Isolated rain/snow is likely over Uttarakhand after 48 hours.
- Rain/thundershowers are likely at a few places over Punjab and isolated over North Haryana and Chandigarh from 24th January onwards.
- 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 Jammu Kashmir, Himachal Pradesh, Uttarakhand and Punjab.
- Mainly dry weather is likely over the rest region.

EAST INDIA [EAST UP, JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM] (Forecast valid upto 1430 hours IST of 25th January, 2009)

- Mainly dry weather is likely over the region.

Quantitative District Weather Forecast for next five days:

- Mainly dry weather is likely over the region.

NORTHEAST INDIA [Arunachal Pradesh, NMM & T, Assam, Meghalaya] (Forecast valid upto 1430 hours IST of 25th January, 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.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS] (Forecast valid upto 1430 hours IST of 25th January, 2009)

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

WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT, RAJASTHAN] (Forecast valid upto 1430 hours IST of 25th January, 2009)

- Isolated rain/thundershowers are likely over west Rajasthan from 24th onwards.
- Mainly dry weather is likely over the rest region.

Quantitative District Weather Forecast for next five days:

- Light rainfall is likely to occur over West Rajasthan.
- Mainly dry weather is likely over the rest region.

CENTRAL INDIA [M.P., CHHATTISGARH, VIDARBHA] (Forecast valid upto 1430 hours IST of 25th January, 2009)

- Mainly dry weather is likely over the region.

Quantitative District Weather Forecast for next five days:

- Mainly dry weather is likely over the region.

Weather Outlook from 1430 IST of 25th January, 2009 to 1430 IST of 27th January, 2009 (Based on numerical weather products):

- Decrease in precipitation activity and fall in minimum temperatures is likely over northwest India from 26th January onwards.
- 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 (early vegetative / CRI / tillering), barley, oat and oil seeds (early vegetative / vegetative), cabbage, cauliflower and broccoli (early vegetative / vegetative), pea and knoll-khol (early vegetative / vegetative), carrot, raddish, turnip and the leafy vegetables like lettuce, methi, palak, dhania etc. (early vegetative / vegetative).
- As rain/snow is likely to occur at isolated places during next 48 hours and fairly widespread thereafter, postpone irrigation to the crops.

- As low minimum temperature is prevailing, arrange for smoking against cold injury.
- Under prevailing weather conditions, undertake sowing of potato in mid hills region. Procure the healthy and disease free bulbs for planting.
- The transplanting of onion may be completed within this week. Drench the crop field with Dithane M-45 @ 2 g and Bavistin @ 1 g for the control of damping off. It is also optimum time for sowing of radish.
- The nursery sowing of chilly and brinjal may be taken up in the poly houses. Planting of stone fruits like peach, pear, plum almonds, apricot and apple may also be carried out.
- It is also optimum time for transplanting of strawberry in raised beds. Also undertake planting of peach, pear, plum almonds, apricot and apple.
- Weather is congenial for production of white button mushroom in the closed room. Maintain room temperature at 18-22⁰C 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.
- White wash the stems of the trees like apple and other orchard crops with 10 kg Chuna + 100 gm of Copper oxichloride + 25 liters of water to protect the plants from diseases and direct sun radiation.
- Undertake intercultural operations, spraying of pesticides after spells of rain.
- Details of crop varieties are mentioned in Annexure I.

Poultry

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

Honeybees

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

Animal Husbandry

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

Uttarakhand

- **Major Standing Crops:** Sugarcane (harvesting), wheat (tillering) and mustard (vegetative), chickpea, potato, pea and lentil (vegetative).
- As there was no significant rainfall in most of the districts during last few weeks and no significant rainfall is likely for the next five days, apply irrigation to the standing *rabi* crops.
- Farmers are advised to protect the seedlings of potato and onion crops from cold injury by arranging smoking around the field. Protect small trees of mango, guava, litchi and lemon from cold injury by covering them with rice straw.
- Farmers are advised to complete transplanting of onion and chilly seedlings.
- Undertake harvesting of toria
- Farmers are advised to undertake field preparation and sowing of sunflower. Sow certified seeds of high yielding varieties like MSFS-8, NSFH-9, Ranjha, Heer, Badshah etc.(hybrids), Morden and Paradobic.

- Farmers are also advised to undertake sowing of french bean with varieties like Pant Anupama, Pant Bean-2, VL Vonibean-1 and Pusa Parvati etc.
- Provide balanced feed to animals and continue to keep them inside the shed to protect them from cold.

Punjab

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

Haryana

- **Major Standing Crops:** Sugarcane (harvesting), *spring* sugarcane (early vegetative), Horticulture crops (vegetative), wheat (elongation/heading), 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.
- In view of fall in temperature, cold injury may occur in sugarcane and vegetables. Provide rice straw / polythene cover or arrange for smoking around the field to save the plants from cold injury.
- Continue sowing of sunflower.
- Complete transplanting of tomato and continue transplanting of onion.
- 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), mustard (capsule formation), potato (vegetative / tuber formation), gram (vegetative / flowering), wheat (CRI / tillering), *rabi* onion and very late maturing cauliflower (transplanting).
- As dry weather is prevailing for last few weeks and likely to prevail for next five days, farmers are advised to apply light and frequent irrigation to wheat, vegetables, mustard, potato, gram etc. Also arrange for smoking for protecting the crops from cold injury. Protection of newly transplanted crops of vegetable with rice straw and wherever possible with polyethylene is recommended.
- In view of gradual diminishing of fog and cloud cover, bright sunshine hours and daily temperatures are expected to increase; hence farmers are advised to undertake transplanting of onion seedlings. Also, they are advised to apply light irrigation to the recently sown crops.
- Those farmers who postponed transplanting of brinjal and chilly crops last week due to continuous decrease in minimum temperature, they are advised to start the process as weather condition is favorable now.
- It is advisable for the farmers growing vegetable seedlings in polyethylene bags to maintain warm environment by using electric blower to maximize the germination rate.

- Those farmers who grow cucurbitaceous crops in the banks of river and drains are advised to prepare the field for sowing as temperature is highly favourable for sowing of the crop.
- Under the present weather conditions, second irrigation to the timely sown wheat crop is advised.
- In view of increasing temperature chances of infestation of late blight in potato is decreasing, however, regular monitoring of crop is recommended. Preventive spraying of Mancozeb (Indofil M-45 or Dithane M-45) @ 600-800 ml mixed in 200 – 250 litres of water is advised.
- Keeping in view the forecasted weather, farmers are advised to apply fertilizers and light irrigation to the orchards. Newly transplanted saplings need extra care. It is advised to cover the saplings with polyethylene sheets carefully.
- Farmers are advised to apply light irrigation to the mustard crop, as this is the transition stage from flowering to pod formation of the crop. Moisture stress conditions reduce the yield of the crop.
- In grapes, training and pruning should be done at the earliest.

Uttar Pradesh

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

J & K

- **Major Standing Crops:** Wheat (vegetative), pulses (vegetative), mustard (vegetative). This is proper time for transplanting of tomato and onion in Jammu.
- As rain/snow is likely to occur at isolated places during next 48 hours and fairly widespread thereafter, postpone irrigation to the crops.
- Due to forecast of night temperature at subzero levels in all the zones, protect vegetable crops, mustard and gram from frost by arranging smoke nearby the field. Provide thatches in young orchards of mango, litchi, guava, citrus and papaya.
- Undertake intercultural operations in brown sarson, pulses and wheat in Srinagar, mustard in Jammu division 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 beet, mongol and spinach in Leh division.
- Due to decrease in minimum and maximum temperature protect the pregnant and milch animals from cold and feed them mineral mixture regularly. Cover the poultry shed with gunny bags in order to protect the birds from cold weather.
- Weather conditions are congenial for mild incidences of
- aphids in mustard, collar rot and root rot in pulses and leaf eating caterpillar in vegetable crops in Rajouri division;
- wilt and rot in peas and late blight in potato in apple in Jammu division;
- monitor the crops for the pests and diseases and undertake plant protection measures.

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

Bihar

- **Major Standing Crops:** Sugarcane (vegetative), *rabi* maize, pulses, potato and sunflower (vegetative), wheat (heading).

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

Jharkhand

- **Major Standing Crops:** Arhar and maize (harvesting), wheat (heading), *rabi* oilseeds (vegetative).
- 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.
- Undertake transplanting of onion in the mainfield.
- Undertake sowing of bitter gourd, sponge gourd, ridge gourd and water melon.
- Farmers are advised to raise the nursery of summer rice. Select the varieties like IR36, IR64 and Lalat.
- Farmers are advised to undertake weeding, intercultural operations in potato, oilseeds and wheat.

Orissa

- **Major Standing crops:** Sugarcane (harvesting), sunflower, mustard (flowering), vegetables (vegetative / flowering / fruiting), wheat (tillering), potato, onion (vegetative) and summer rice (seedling).
- As there was no significant rainfall in the State during last few weeks and mainly dry weather is likely for the next five days, apply irrigation to the standing *rabi* crops.
- Farmers are advised to undertake nursery sowing of ragi and sowing of groundnut in river banks. Details of crop varieties are mentioned in Annexure I.
- Continue sowing of maize, summer rice and undertake transplanting of summer rice. Undertake planting of marigold.
- Undertake planting of sugarcane. Dip the sugarcane seed material (sett) in Bavistin solution (1.5g/lit) for 20-30 minutes before planting.
- Undertake intercultural operations, application of fertilizers and pesticides in *rabi* crops.
- Prevailing weather may favour the egg laying of stem borer in rice in the main field. To attract the butterflies, place 4 pheromone trap /acre, collect the adult and destroy them by burning them under soil or by burning.

West Bengal

- **Major Standing Crops:** Sugarcane (cane development), mustard, gram and lentil (branching / flowering / pod formation), wheat (CRI / tillering), potato (vegetative / tuber formation) and *boro* rice (transplanting).
- As there was no significant rain during last few weeks in most of the districts of the State and mainly dry weather is likely to prevail during next five days, apply irrigation to mustard, gram, lentil, wheat, vegetables and potato.
- As there is no possibility of rainfall, farmers are advised to undertake intercultural operation to keep the fields weed free.
- Irrigate the seedbed of *boro* rice regularly to maintain 2-3 cm stagnant water in the bed. Undertake preparation of the main field for transplanting of *boro* rice in Hooghly, Nadia, Burdwan, Murshidabad and South 24 Parganas. Start transplanting of 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 in Coastal Saline Zone. Well filled kernels of groundnut should be selected and treated with 5 g of Thiram or 3 g of Captan per kg of kernels. 18-20 kg healthy and well developed pods of groundnut are required per bigha. 600 to 800 g of well filled plump seeds of sunflower are required to cover one bigha land.
- As the soil temperature is increasing day by day, there is a chance of lower tuber development in potato. To get higher yield, cover the field with rice straw mulch.
- In the foggy weather, attack of blight disease (late blight in potato and early blight in tomato) is becoming severe in New Alluvial zone. To control the disease, apply 2.5 gm Mancozeb per litre of water.
- Under the prevailing weather condition aphid infestation is remaining high in mustard in New Alluvial zone and Coastal Saline zone. Apply 1.5 ml metasystox per litre of water to control the pest.
- Details of crop varieties are mentioned in Annexure I.

Sikkim

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

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

Assam

- **Major Standing crops:** Arhar (pod formation / maturity), sugarcane (harvesting), vegetables (vegetative / flowering / fruiting), mustard, lentil and pea (flowering / pod formation), wheat (crown root initiation / tillering stage), potato (vegetative / tuber formation) and *boro* rice (nursery preparation / transplanting).
- As there was no significant rain over the State during last few weeks and mainly dry weather is likely 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 no possibility of occurrence of rain, farmers are advised to undertake intercultural operation to keep the fields weed free. Second earthing up should be done in case of two months old crop of potato.
- Under prevailing dry weather condition, farmers are advised to undertake harvesting of sugarcane.
- As the temperature is favourable for germination, complete preparation of nursery bed and sowing of *boro* rice seeds in nursery bed. Transplanting of *boro* rice may also be undertaken if the seedlings are ready.
- Under prevailing weather condition farmers are advised to undertake planting of late varieties of cauliflower, cabbage and knoll khol and sowing of sunflower. Also undertake sowing of bhindi and ridge gourd.

- Prevailing weather condition is favourable for the infestation of leaf curl virus and late blight in potato. Crop should be sprayed with Malathion 50 EC @ 2 ml / litre of water against insect vector of leaf curl virus and Dithane M 45 @ 2.5 g / litre against late blight disease.
- As weather condition is favourable, farmers should be vigilant for the attack of aphids at flowering stage of rapeseed and mustard. If the number of aphids is more than 30 in the main shoot, then application of either Malathion 50 EC @ 2 ml / litre or Dimethoate 30 EC @ 1 ml / litre is essential to control the pest.
- Details of crop varieties are mentioned in Annexure I.

Poultry

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

Fishery

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

Arunachal Pradesh

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

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

Andhra Pradesh

- **Major Standing Crops:** sugarcane (grand growth), gram (grain formation/development/maturity), wheat, mustard and sunflower (grain/seed formation/development) and chilly (fruit formation/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 start transplanting rice seedlings in the main field.
- Farmers in Anantapur are advised to undertake intercultural operations in rice and groundnut.
- Farmers in high altitude regions of Srikakulam, East Godavari, Vijayanagaram, Visakappattinam and Khammam are advised to complete harvesting of red gram. Continue transplanting the seedlings of rice and ragi.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- thrips in chilly, leaf spot in turmeric, wilt in chick pea, 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 and red gram, Spodoptera in gram, sucking pests in cotton and white fly and fruit rot in chilly in Guntur;
- undertake plant protection measures to control the pests and diseases.

Karnataka

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

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

- *Heliothis* in gram and red gram, thrips and mites in sorghum and jassids and powdery mildew in mango in Dharwad;
- sucking pests and powdery mildew in tomato, brinjal and chilly in Bidar,
- blight and anthracnose in pomegranate, *Sigatoka* leaf spot in banana and sucking pests in mango in Bijapur;
- undertake plant protection measures.

Kerala

- **Major Standing Crops:** *Mundakan* rice (grain formation), vegetable (vegetative/flowering/fruitletting) and plantation crops (Coconut, Arecanut, Pepper and Cashew). This is proper time for sowing *rice fallow/summer* vegetable crops.
- As there was no rainfall during last few weeks in the state and mainly dry weather is likely to prevail over the state for the next five days, farmers are advised to apply irrigation to the crops.
- High wind speed leading to more evaporation is likely in and around Thrissur and Kasargod districts. Apply mulches in orchard trees to conserve moisture. Provide mechanical support to banana to prevent from lodging.
- Undertake sowing of vegetable crops like *Amaranthus*, bottle gourd, bitter gourd, cucumber, water melon and snake gourd in Wayanad district.
- Complete nursery sowing of *puncha* rice in Malappuram, Kasargod, Kozhikode and Kannur districts.
- Undertake sowing of *summer/rice fallow* pulses in and around Thrissur. Also undertake raising of coconut nursery.
- Provide thatches to young plants of arecanut in Wayanad and coconut in Thiruvananthapuram to prevent from sun scorching.
- Continue harvesting/plucking of arecanut, coconut, pepper, banana, ginger, cardamom and coffee in Wayanad and turmeric, ginger and pepper in Thrissur as conducive weather conditions prevail during these days.

- Undertake intercultural operations and application of fertilizers and pesticides in banana in Thrissur and in coconut and banana in Thiruvananthapuram and plantation crops (coconut, arecanut, pepper and cashew), in general, as conducive weather conditions prevail.

Plant Protection:

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

Tamilnadu

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

Plant Protection: Present weather is conducive for mild incidences of

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

WEST INDIA [GOA, MAHARASHTRA, GUJARAT, RAJASTHAN]

Maharashtra

- **Major Standing Crops:** Sugarcane (pre-seasonal & *suru*) (cane maturity / harvesting), *rabi* jowar (grain formation /grain maturity in Pune, flowering in other divisions), *rabi* sunflower (head formation), maize (vegetative / tasseling & silking), gram (pod formation/pod maturity in Amravati, flowering/pod formation in other divisions), wheat (tillering /ear head emergence), safflower (seed formation/ maturity in Pune & seed formation 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.
- 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 + Rogar 30 % @ 265 ml in 100 liters of water for 5-10 minutes. 15 to 20 cm distance may be kept between two cane setts.
- Sowing of water melon and musk melon may also be carried out.
- As weather condition is favourable, transplanting of summer rice and ragi may be completed with 30 to 35 days old seedlings at a distance of 20 x 20 cm or 15 x 15 cm in Sindhudurga district. Also complete sowing of groundnut at 30 x 10 cm distance.
- Details of crop varieties are mentioned in Annexure I.
- **Plant protection**

- Present weather condition is favourable for increase in infestation of thrips on onion crop, spray Trizophos + Deltamethrin @ 20 ml or 25 % Cypermethrin @ 5 ml in 10 liters of water to control the pest.
- Under prevailing weather condition, there is possibility of increase in incidence of hoppers and powdery mildew on newly emerged inflorescence of mango. Spray Imidacloprid 17.8 EC @ 3 ml per 10 liters of water against hoppers. Mix water soluble Sulphur @ 20 g or Hexaconazole @ 5 g during insecticidal spray for controlling powdery mildew.

Gujarat

- **Major Standing Crops:** Sugarcane (maturity / harvesting), *Kharif* cotton (boll formation / boll maturity / picking), castor (spike formation / maturity / picking), mustard (flowering / pod formation), vegetables (vegetative / flowering / fruiting), potato (vegetative / tuber formation) and wheat (CRI / 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 *kharif* cotton, castor, 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 prepare land and complete nursery sowing of summer rice. Also undertake transplanting in the main field if seedlings are ready in nurseries.
- Under prevailing weather condition farmers are advised to prepare land and undertake sowing of summer groundnut and pearl millet in middle Gujarat region.
- As dry weather is likely to prevail, farmers are advised to apply top dressing of Nitrogen @ 40 kg / ha in late sown wheat followed by light irrigation.
- As weather condition is favourable for fruit borer in vegetable crops like brinjal and okra, farmers are advised to spray Endosulphan @ 20 ml in 10 liters of water.
- As there is chance of attack of pod borer in gram in South Gujarat and Saurashtra region due to favourable weather condition, apply Endosulphan 35 EC or Monocrotophos 35 EC @ 20 ml in 10 liters of water for effective control of pod borer.
- Under prevailing weather condition there is chance of attack of thrips in chilly and pod borer in gram in Surendra Nagar, Amreli, Jamnagar and Rajkot districts and sucking pests in mustard in Banaskantha, Gandhinagar, Patan and Sabarkantha districts. Undertake plant protection measures to control the pests.

Poultry

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

Rajasthan

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

East Rajasthan

- Undertake intercultural operations in mustard, gram, onion and garlic in Alwar, Bharatpur, Dholpur, Karauli and Sawai Madhepur districts and in cumin, fenugreek, isabgol, garlic and radish in Ajmer, Dausa, Jaipur and Tonk districts as conducive weather conditions prevail.
- To protect sensitive crops like mustard, Rajmash, potato, gram from 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%.
- aphids in mustard, barley, cauliflower and radish in Ajmer, Dausa, Tonk and Jaipur districts; spray Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 litre per hectare. Mealy bug in mango, guava and pomogranate, spray Quinophose 1.5% or Endosulphon 4% powder in 50-100g per tree.
- powdery mildew in rose in Ajmer, Dausa, Tonk and Jaipur districts, spray of Karathion LC @ 1.0 ml per litre water

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 metaleczyl (ridomil MZ) 0.2% 2 g/ha, in Sriganganagar and Hanumangarh districts.
- fruit fly in ber in Pali; spray Monocrotophos @ 1 ml + Endosulphan @ 1 ml/litr of water.
- sucking pest (mahu) in mustard and cumin in Barmer, Jodhpur, Pali, Churu and Jalore districts, spray Endosulphon 35 EC 2ml/lit water or Melathion 50 E.C. or Methyl Dematon 1ml in 1 lit water.

CENTRAL INDIA [M.P., CHHATTISGARH]

Madhya Pradesh

- **Major Standing Crops:** Sugarcane (grand growth), soyabean (pod maturity), maize (cob development/maturity), cotton (boll development) and vegetable crops (transplanting/ 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.
- 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.
- army worm in wheat and red gram in Damoh, Bhopal, Sagar, Raisen, Sehore and Vidisha districts. Spray Quinolphos 1 litre or Prophenophose one and half litre in 500-600 litre water. Spray Quinolphose one and half % or Methyl parathion 2% 25 kg powder per ha by spraying machine.

- 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.
- fruit fly in ber in Pali; spray Endosulphan 35 EC in 2 ml/lit of water.
- aphid in mustard & vegetable crops if attack use dusting of Methyl Parathian 2% dust 20-25 kg/ha in Jhabua and Dhar districts.
- leaf cutting weevil in mango; spray 0.1% Malathion or 0.05% Endosulphan 35EC in Jhabua and Dhar districts.
- sucking pest on chilly, tomato, brinjal, spray Dimethoyte 1 ml/lit of water or Phosphomedon 3 ml/litre of water in Damoh, Bhopal, Sagar, Raisen, Sehore and Vidisha.
- fruit borer in gram, tomato and brinjal, spray endosulphan 35 EC 2 ml in 1 litre of water in Chattarpur and Datia.

Chattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), pigeon pea (pod maturity), wheat (CRI / tillering), gram, pea, mustard, berseem, pigeon pea and linseed (vegetative / flowering / pod formation), potato (vegetative / tuber formation), vegetables (vegetative / flowering / fruiting).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail during next five days, apply irrigation to the standing crops.
- As mainly dry condition is likely to prevail, undertake intercultural operation to keep the field weed free. Apply top dressing of Nitrogen to potato followed by earthing up and irrigation. Fertilizer application followed by irrigation should also be carried out in sunflower after weeding.
- Wheat crop sown during second fortnight of December is at crown root initiation stage. This stage of the crop is critical for moisture and nutrient stress. Hence, as dry condition is likely to prevail, farmers are advised to go for first top dressing of N followed by irrigation.
- Presently mustard and gram are at branching / flowering stage. Irrigation at this stage is required for proper growth of these crops. Avoid water logging in the fields. Use of sprinkler should be encouraged for irrigation.
- Weather conditions are favourable for planting of onion. Hence planting should be done at the earliest.
- Weather conditions are favourable for sowing of leafy vegetables and transplanting onion during this week.
- There is possibility of infestation of leaf curl virus in chilli under prevailing weather condition. Farmers are advised to apply Metasystox or Rogor.
- Under present weather condition, incidences of fruit borer in brinjal and leaf eating caterpillar in gram may appear. Spray Endosulphan 35 EC @ 2 ml/litre of water to control brinjal fruit borer and use pheromone trap to control leaf eating caterpillar in gram.

Annexure I

Crop varieties

Orissa:

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

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.

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, UC-68414 / 68415 and hybrid varieties like Jwalamukhi, Arun, B.S.H.-1, M.S.H.F.-17, Surya-52.

Rajasthan

East Rajasthan:

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

West Rajasthan:

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

Assam

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

- **Late varieties of:**
 - **Cauliflower:** Snow Ball K-1.
 - **Cabbage:** Drum Head.
 - **Knol khol:** Purple Vienna.

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, UC-68414 / 68415 and hybrid varieties like Jwalamukhi, Arun, B.S.H.-1, M.S.H.F.-17, Surya-52.

Himachal Pradesh

- **Raddish:** Pusa Himani.

Maharashtra

- **Groundnut:** Improved varieties like TG-26, TG-37, TAG-24.
- **Sugarcane (*Suru*):** Co-86032, Co-94012, Co-M-0265.
- **Water melon:** Sugar baby, HW-11, MSW-7.
- **Musk melon:** Hara madhu, Panjab sunhara.