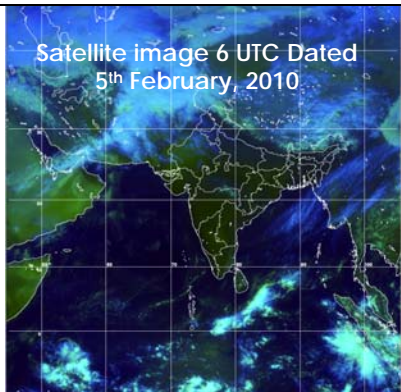




National Agromet Advisory Bulletin

Thursday, 4th February (For the period 4th to 8th February, 2010)



Satellite image 6 UTC Dated
5th February, 2010

Rainfall Forecast valid upto 1430 hours IST of 7th February, 2010

- **Many places:** Jammu & Kashmir.
- **Few Places:** Himachal Pradesh.
- **Isolated Places:** Arunachal Pradesh, Uttarakhand, Punjab, Madhya Pradesh, Vidarbha, Chhattisgarh.
- **Dry:** Nagaland-Manipur-Mizoram & Tripura, Gangetic West Bengal, Orissa, Jharkhand, Bihar, Uttar Pradesh, Haryana, Chandigarh & Delhi, East Rajasthan, Gujarat Region, Saurashtra, Kutch & Diu, Konkan & Goa, Madhya Maharashtra, Marathwada, Andhra Pradesh, Tamil Nadu & Puducherry, Karnataka, Kerala, Lakshadweep.
- **Mainly dry:** Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, West Rajasthan, Andaman & Nicobar Islands.

Major features of weather forecast (upto 1430 hours IST of 7th February, 2010).

- Increase in minimum and maximum temperatures by 2-4°C over northwest India during next 3 days.
- Light to moderate rain/snow will occur at a few places over Jammu & Kashmir and Himachal Pradesh from tomorrow and over Uttarakhand from 6th onwards.
- Isolated rain/thundershowers would occur over Madhya Pradesh, Vidarbha and Chhattisgarh during next 24 hours.
- Dry weather conditions over remaining parts of the country.

Warning : (for 7th and 8th February)

- Heavy to very heavy snowfall would occur at a few places over Jammu & Kashmir and at isolated places over Himachal Pradesh.
- Isolated hailstorm may occur over Jammu division, Punjab, Himachal Pradesh, Uttarakhand and Haryana.

Weather Outlook (upto 1430 hrs IST of 9th February, 2010)

- Widespread rain/snow with heavy to very heavy falls at a few places will occur over Jammu & Kashmir and isolated heavy falls will occur over Himachal Pradesh.
- Light to moderate rainfall will occur over plains of northwest India.
- Dry weather conditions will prevail over remaining parts of the country.

Advisories for cold/frost injury in Jammu & Kashmir, Punjab, Haryana, Himachal Pradesh, Uttar Pradesh and Madhya Pradesh

- Farmers in Punjab, Haryana, Uttar Pradesh and Madhya Pradesh are advised to undertake the following measures to safeguard the crops from cold injury:
 - Apply irrigation to the crops in the early morning hours to overcome adverse effects of low night temperature.
 - Arrange for burning farm waste materials around the field to reduce the impact of low temperature.
- Farmers in Jammu & Kashmir and Himachal Pradesh are advised to arrange for burning farm waste materials around the field to protect the standing crops from cold injury.
- There are chances of occurrence of frost in some pockets of Northwest India and Arunachal Pradesh. Farmers are advised to spray sulphuric acid or thiourea @ 0.1% or carbendazim @ 0.05% on frost sensitive crops.

Advisory for hailstorm

- Farmers in Jammu & Kashmir and Himachal Pradesh are advised to use hail-nets in orchards to protect the fruit trees from hails in view of occurrence of hailstorm on 7th and 8th February.

Advisories for the irrigation

- As rainfall is likely to occur in Jammu & Kashmir and Himachal Pradesh during next five days, farmers are advised to postpone irrigation to the standing crops.
- As there was no significant rain in the country during last week and mainly dry weather is likely to prevail in most of the remaining States during next five days, farmers are advised to apply need based irrigation to the standing crops.

Advisories for pest and disease

- Due to favourable weather condition, there are chances of pest and disease incidences in the following regions:
 - aphids in mustard and blight in potato in Jammu & Kashmir.
 - downey mildew in cabbage and cauliflower and powdery mildew in peas in Himachal Pradesh.
 - powdery mildew in pea, *Alternaria* blight, downy mildew and white rust in rapeseed and mustard, early and late blight in potato, aphids in sarson and raya in Punjab.
 - rust in wheat, pod borer in gram and pea, thrips and purple blotch in onion, late blight in potato and white rust in late sown mustard in Delhi.
 - leaf miner and *Spodoptera* in groundnut, pod borer and leaf webber in red gram and blast in rice in Andhra Pradesh.
 - thrips in groundnut, pod borer in gram and aphids in safflower in Karnataka.
- Farmers are advised to undertake plant protection measures, if required.

Issued by

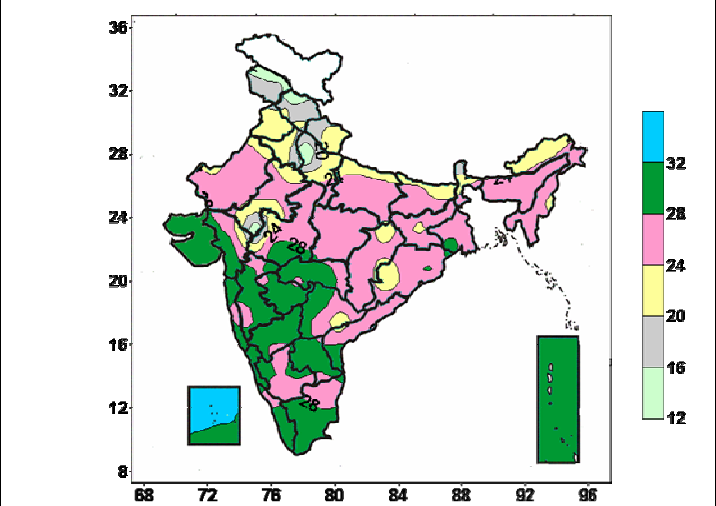
National Agrometeorological Advisory Service Centre,

Agricultural Meteorology Division, India Meteorological Department, Shivajinagar, Pune.

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

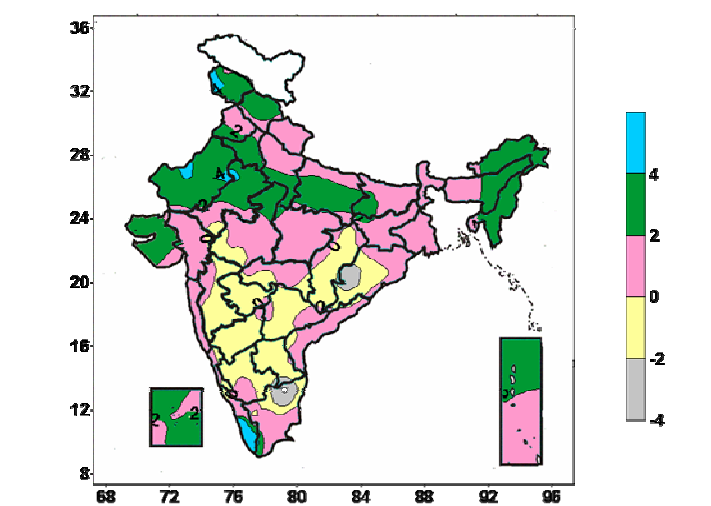
Contour maps for the week ending 03.02.10

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 03.02.10



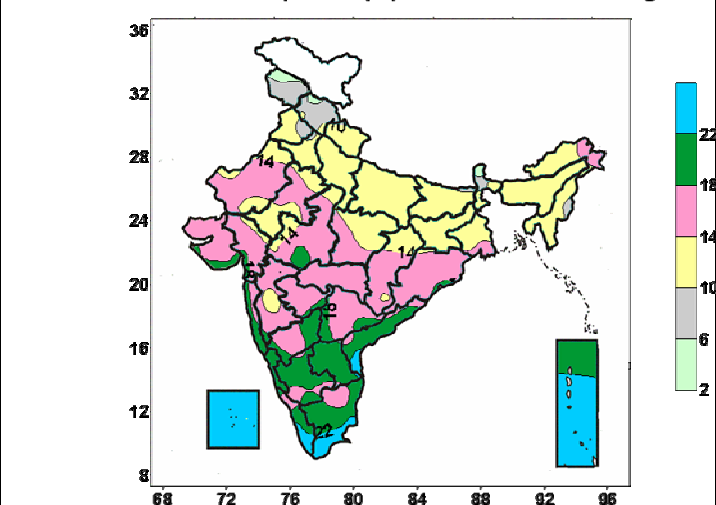
Actual Mean Maximum temperature ranged between 32°C and above over most parts of Lakshadweep Island, 28 to 32°C over most parts of Saurashtra & Kutch, Maharashtra, Coastal & North Interior Karnataka, Kerala, Tamil Nadu, Rayalaseema, Andaman & Nicobar Islands, some parts of Gujarat, Gangetic West Bengal, Madhya Pradesh, South Interior Karnataka, Coastal Andhra Pradesh, Telangana, Lakshadweep Islands, 20 to 24°C over most parts of Punjab, Haryana, Uttarakhand, Arunachal Pradesh, some parts of Himachal Pradesh, Uttar Pradesh, Bihar, Jharkhand, Rajasthan, Gujarat, West Madhya Pradesh, Chattisgarh, Orissa, Sub-Himalayan West Bengal, Manipur, Coastal Andhra Pradesh, Telangana, 16 to 20°C most parts of Jammu & Kashmir, Himachal Pradesh, Sikkim, some parts of Uttarakhand, Punjab, Haryana, West Uttar Pradesh, East Rajasthan, Gujarat, West Madhya Pradesh, 12 to 16°C over some parts of Jammu & Kashmir, Himachal Pradesh, West Uttar Pradesh, East Rajasthan, 24 to 28°C and above over remaining parts of the country.

Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 03.02.10



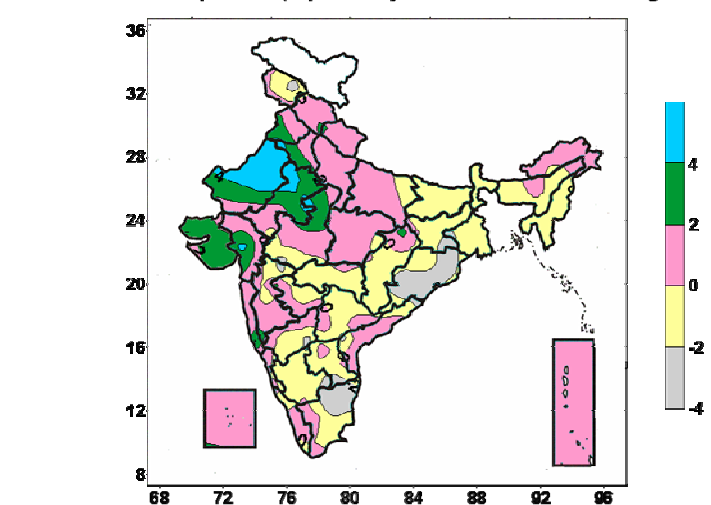
Actual Mean Maximum temperature anomaly ranged between 4°C and above over some parts of Jammu & Kashmir, Rajasthan, Kerala, 2 to 4°C over most parts of Jammu & Kashmir, Himachal Pradesh, Haryana, Delhi, Rajasthan, Uttar Pradesh, North East India, Saurashtra & Kutch, Lakshadweep Islands, some parts of Punjab, Bihar, Jharkhand, Madhya Pradesh, Kerala Tamil Nadu, Andaman & Nicobar Islands, -2 to 0°C over most parts of Chhattisgarh, Orissa, Telangana, Rayalaseema, South & North Interior Karnataka, Madhya Maharashtra, Marathwada, some parts of East Rajasthan, West Madhya Pradesh, Vidarbha, Coastal Andhra Pradesh, Coastal Karnataka, Tamil Nadu, Kerala, -4 to -2 over some parts of Orissa, Rayalaseema, Tamil Nadu, South Interior Karnataka, 0 to 2°C over remaining parts of the country.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 03.02.10



Actual Mean Minimum Temperature ranged between 22°C and above over most parts of Lakshadweep, Andaman & Nicobar Islands, some parts of Coastal Andhra Pradesh, Kerala, Tamil Nadu, 18 to 22°C over parts of Coastal Andhra Pradesh, Kerala, Tamil Nadu, Karnataka, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu, some parts of Gujarat, Kutch, West Madhya Pradesh, Madhya Maharashtra, Marathwada, Telangana, Orissa, Kerala, Andaman & Nicobar Islands, 10 to 14°C over most parts of Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, East Rajasthan, Bihar, Jharkhand, Gangetic West Bengal, Northeast

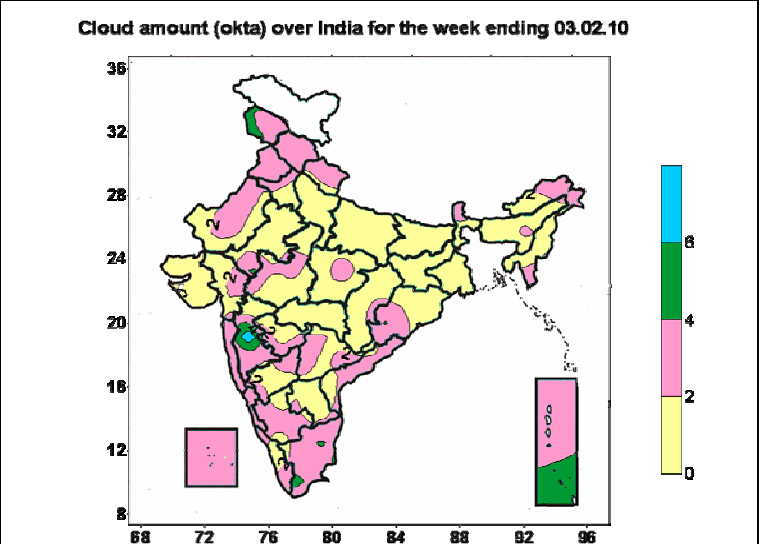
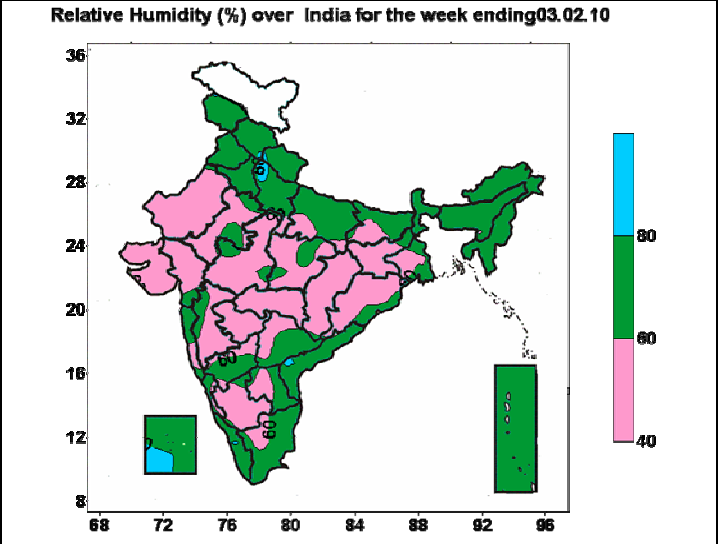
Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 03.02.10



Minimum Temperature anomaly ranged between 4°C and above over most parts of West Rajasthan, some parts of Haryana, East Rajasthan, West Madhya Pradesh, Gujarat, 2 to 4°C over most parts of East Rajasthan, Saurashtra & Kutch, some parts of Punjab, Haryana, West Rajasthan, West Madhya Pradesh, Chhattisgarh, Gujarat, Konkan & Goa, Madhya Maharashtra, -2 to 0°C over most parts of Bihar, Jharkhand, West Bengal, Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Vidarbha, Chhattisgarh, North & South Interior Karnataka, Telangana, Rayalaseema, some parts of Jammu & Kashmir, East Uttar Pradesh,

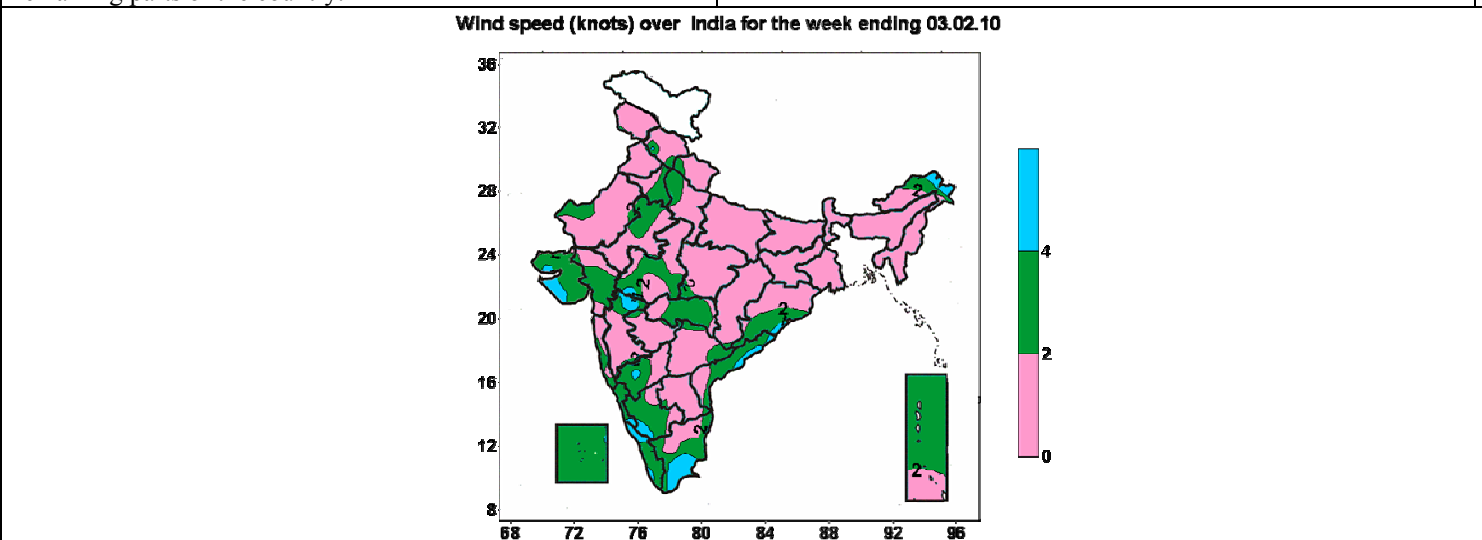
India, some parts of West Rajasthan, Sub-Himalayan West Bengal, Madhya Pradesh, Chhattisgarh, Orissa, Gujarat, Madhya Maharashtra, 6 to 10°C over most parts of Jammu & Kashmir, Himachal Pradesh, some parts of Punjab, Haryana, Bihar, Sub-himalayan West Bengal, Manipur, 2 to 6°C over some parts of Jammu & Kashmir, Himachal Pradesh, 14 to 18°C over remaining parts of the Country.

East Rajasthan, Arunachal Pradesh, Madhya Pradesh, Orissa, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh, Kerala, Tamil Nadu, -4 to -2°C over most parts of Orissa, some parts of Jammu & Kashmir, Jharkhand, Gangetic West Bengal, West Madhya Pradesh, North Madhya Maharashtra, North & South Interior Karnataka, Rayalaseema, Tamil Nadu, 0 to 2°C over remaining parts of the Country.



Relative humidity between 80% and above over some parts of Himachal Pradesh, Uttarakhand, West Uttar Pradesh, Coastal Andhra Pradesh, Lakshdweep Islands, 60 to 80% most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, Sikkim, North East India, Andhra Pradesh, North Interior Karnataka, Kerala, Tamil Nadu, Andaman & Nicobar, Lakshadweep Islands, some parts of Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, Orissa, Gangetic West Bengal, Gujarat, Konkan & Goa, Madhya Maharashtra, Coastal Karnataka, South Interior Karnataka, , 40 to 60% over remaining parts of the country.

Cloud amount 6 okta and above over some parts of Madhya Maharashtra, 4 to 6 okta over some parts of Jammu & Kashmir, Madhya Maharashtra, Tamil Nadu, Andaman & Nicobar Islands, 2 to 4 okta over most parts of Himachal Pradesh, Uttarakhand, Punjab, West Rajasthan, Sikkim, Konkan & Goa, Madhya Maharashtra, Coastal Andhra Pradesh, Karnataka, Tamil Nadu, Lakshdweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Haryana, East Rajasthan, Assam & Meghalaya, Arunachal Pradesh, Mizoram, Gujarat, Madhya Pradesh, Chhattisgarh, Orissa, Marathwada, Telengana, Rayalaseema, Kerala, 0 to 2 okta over remaining parts of the country.



Wind speed ranged between 4 knots and above over some parts of Arunachal Pradesh, Saurashtra & Kutch, West Madhya Pradesh, Orissa, Madhya Maharashtra, Karnataka, Coastal Andhra Pradesh, Tamil Nadu, Kerala, 2 to 4 knots over most parts of Haryana, Delhi, Gujarat, Saurashtra & Kutch, Vidarbha, South Orissa, Karnataka, Coastal Andhra Pradesh, Kerala, Lakshdweep, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Uttarakhand, West Uttar Pradesh, Rajasthan, Arunachal Pradesh, Madhya Pradesh, Chhattisgarh, Konkan & Goa, Madhya Maharashtra, Marathwada, Telengana, Rayalaseema, Tamil Nadu, 0 to 2 knots over remaining parts of the country.

Zonewise Agromet Advisories

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

Himachal Pradesh

- **Realised Rainfall:** There was no significant rainfall in most of the districts of the State during last week.
- **Rainfall Forecast:** Isolated to scattered rain is likely to occur over the State during the period.
- **Major Rabi Crops:** Wheat (tillering), gram and lentil (flowering / pod formation) and vegetables.
- **Advisory:**
 - Farmers are advised to undertake the following measures to safeguard the crops from cold and frost injury.
 - Arrange for burning farm waste materials around the field to reduce the impact of low temperature.
 - It is optimum time for nursery sowing of tomato, brinjal, chillies and capsicum crops in poly house. Summer squash crop should be raised in poly tubes in the poly house so that plant may be ready after 15 days for transplanting in the field.
 - It is time for sowing of potato in mid hills region. Procure the healthy and disease free bulbs for planting. The cut bulbs may be treated with Dithane M-45 @ 0.5% solution for 20-25 minutes and dry them in shadow. Ensure that each cut potato bulbs should contain three eyes (buds) and weight should be 30-50 g.
- **Major Seasonal Crop:** Fruit crops, floral crops and Vegetables.
- **Advisory:**
 - Pruning work can be carried out in the tea orchards. The large trees causing shadow may be lopped so that enough sunshine can be received by tea plants. Start the seed stratification of tea seeds so that it can be planted during February and March.
 - The intercultural operations and weeding can be done in the flower beds. Burn the dried leaves or grass or inert material in the garden so that ill effects of frost can be avoided.
 - Start transplanting the fruit plants of good & right varieties in already made pits.
 - Complete the work of preparation basins in temperate fruits. Complete the training and pruning in stone fruits and apple.
 - In apple plants of more than ten years apply well rotten FYM (100 kg), Super phosphate (2 kg once in two years) and 1 kg of Potash.
 - For nursery raising stratify the seeds of temperate fruits by placing seeds and sand in alternate layers in a wooden box. Keep the material moist and it will be ready for sowing after one month.
- **Plant Protection:**
 - These days weather is conducive for attack of stored grain pests like rice weevil, lesser grain borer and rice moth. In Grain store bins put one pouch of celhpos (3g) or quickphos (12g) or Fumino pouch in a wet cloth in the middle of bin and keep the bin airtight for some time. This will protect the wheat grains from stored grain pests.
 - Weather conditions are favourable for mild incidences of –
 - downy mildew in Cole crops, spray Dithane M-Z @ 2-3 g per litre of water at an interval of 10-15 days.
 - powdery mildew in peas, spray sulfex @ 25 g per 10 litres of water or karathane @ 5 ml per 10 litres of water.
 - aphids in flowers, spray malathion / metasystox @ 0.1% for the control.
 - root borer in apple, irrigate the basins after removing the upper soil with 10-15 liters of the solution of Chlorpyrifos 20 E.C. @ 5 ml per liter of water.
 - powdery mildew in cauliflower, spray Dithane M-45 (500 g) or Redomil MZ (500 g) per 200 liters of water. If need arises repeat the spray after 12-15 days.
- **Animal Husbandry:**
 - The newly born calves may be protected against the cold as the weather is conducive for white scour, naval ill and pneumonia. 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 + 1 kg additional feed per 2.5 kg milk production should be given. Mineral mixture supplement should be given to animals and local veterinarian should be contacted immediately.
- Carry out regular vaccination of animals. Put uromin bricks for licking to animals for 5 minutes in the morning and evening.
- **Poultry:**
 - Replace the poultry houses with fresh litter to avoid wetting and keep the houses clean and ensure clean drinking water to the birds.
 - The temperature of the poultry enclosures is rising. Hence, ensure ventilation during day time. Give normal feed.
- **Fisheries:**
 - With the advancement of the winter the metabolic activity of the fish falls and as a result the quality of the fish meat is improving and it is becoming tastier and can fetch a better price and may be sold at premium rates.
 - It is also time to disinfect the fish tank by draining out the water and exposing the bottom floor of the tank to direct sunlight.
- **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.

Uttarakhand

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry/mainly dry weather is likely over the State during next 48 hours, isolated rainfall thereafter.
- **Major Rabi crops:** Wheat (vegetative/ear head emergence), mustard, lentil, gram(vegetative/flowering), pea, rajmah(vegetative)
- **Advisory:**
 - Farmers are advised to undertake the following measures to safeguard the crops from cold injury.
 - Arrange for burning around the field using farm waste materials to reduce the impact of low temperature.
 - Farmers are advised to top dress Urea @ one kg per Nali in wheat to boost the ear head emergence with facilities of irrigation.
 - Complete weeding and intercultural operations and top dress 1/2 kg Urea per Nali in mustard crop.
 - Undertake weeding and intercultural operations in other standing crops like pea, chickpea, rajmah etc. for their better growth.
 - Complete harvesting and threshing operations of matured toria crop during this week.
- **Major Seasonal Crop with stage:** Sugarcane (early vegetative), cabbage, cauliflower, garlic, tomato (vegetative), french bean (early vegetative), potato(vegetative/tuber formation)
- **Crop Condition:** Good
 - **Advisory:**
 - Continue harvesting of matured crop of sugarcane and complete sowing of winter sugarcane.
 - Farmers are advised to undertake weeding in early sown garlic crop for better crop growth. Apply straw mulch in between rows for moisture conservation and to protect the crops from cold injury.
 - Continue digging of matured potato crop as per maturity of tubers.
 - Farmers are advised to sprinkle water in early nursery of tomato, onion and other vegetable crops like coriander, spinach, radish, mentha etc. during this week by sprinkler method.
 - Farmers are advised to protect the newly planted orchard from cold by providing thatches around the seedling and arrange smoking around the field.
 - Continue sowing of tomato varieties and capsicum under optimum soil moisture in nursery.
 - Continue digging of potato crop on maturity of tubers and then take them to the market for selling.

- Apply irrigation in onion and other vegetable crops like coriander, spinach, radish, mentha etc. during this week.
- Undertake weeding, hoeing and mulching in cauliflower, cabbage and Shimla mirchi.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
 - white rust in pea, spray 0.5 % solution of Carbendazim immediately at an interval of 10 days.
 - aphids in mustard. If the aphids are seen in 10 % population, then spray 200 SL Imidachlorpid @ 3 ml per 10 litre of water.

Punjab

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely during next 24 hours and isolated rainfall thereafter over the State.
- **Major Rabi Crops with stage:** Wheat(tillering/vegetative), raya, rapeseed and mustard (vegetative), potato(vegetative)
- **Advisory:** Farmers are advised to undertake the following measures to safeguard the crops from cold/frost injury.
 - Apply light and frequent irrigation to the crops in the early morning.
 - Arrange for burning around the field using farm waste materials.
 - Farmers are advised apply second irrigation to wheat.
 - Undertake intercultural operations in early sown wheat, raya, taramira, lentil and chickpea.
 - To early sown raya, apply 45 kg urea per acre with first irrigation.
 - Weeding operation in timely sown rapeseed and mustard crops may be undertaken.
- **Major Seasonal crop with stage:** Sugarcane (early vegetative/vegetative), vegetable crops (vegetative)
- **Crop Condition:** Good
 - **Advisory:** Farmers are advised to protect the non seed and seed sugarcane crop from frost by frequent and light irrigation. Start preparation of field for spring sugarcane and planting can be done from second fortnight of this month. Apply irrigation to *autumn* planted crop as per need of intercrops and sugarcane.
 - Farmers are advised not to take two cuttings of oats where heavy infestation of poa grass is there.
 - Farmers are advised to remove the sarkanda cover from the vegetables. After removing sarkanda, earthing up of soil should be done.
 - Farmers are advised to undertake sowing of early crop of muskmelon, watermelon, bottle gourd and pumpkin in poly bags. This technique is suitable for raising early crops of all the cucurbits in the kitchen gardens and for commercial cultivation of muskmelon, water melon, pumpkin, ash gourd and bottle gourd. Use seed rate of 200-500 g to raise seedlings for one acre.
 - Pruning of deciduous fruit trees like peach, plum and pear may be carried out. The fruit plants like peach, plum and ber may be planted. Old unproductive pear trees can be rejuvenated during this period.
 - Harvest the kinnow fruits as the best time for harvesting kinnow fruits starts from 15th January. For the fruits intended to be consumed after more than 10 days, individual seal packing may be done. Use high density polyethylene (HDPE) bags for individual packing of kinnow fruits and seal the open end by heating or with rubber band after narrowing and twisting it.
 - Farmers are advised to undertake field preparation and sowing of arbi and turmeric.
- **Advisory for Plant Protection:** Weather conditions are favourable for mild incidences of –
 - aphids on vegetables, spray recommended pesticides.
 - yellow rust on wheat, spray tilt @ 200 ml per acre in 200 litre of water.
 - alternaria blight/downy mildew/white rust in rapeseed and mustard. Spray the crop with 250 g Blitox or Dithane M 45 in 100 litres of water per acre for the control. Start sprays when the crop is 75 days old and repeat spray at 15 days interval.
 - early and late blight of potato, spraying the crop with Dithane M 45 @ 500-700 g/acre.
 - powdery mildew in pea, spray the crop with Karathane @ 80 ml/acre or Suflex @ 600 g/acre.
 - aphid in sarson/ raya, spray the crop with 40 g Actara 25 WG or 400 ml of Metasystox 25 EC in 100 litres of water per acre.
 - powdery mildew in ber. Spray Karathane 20 EC @ 0.05%.

- **Animal Husbandry:** Vaccinate animals against FMD and repeat after six months or yearly as required. Deworming should be done in calves especially against ascariasis/ malap with piperazine liquid @ 4 ml/ 10 kg body weight. New born calves need special care in cold weather. They are susceptible to pneumonia and large number of them die due to this disease. Keep the animals warm by providing clean and dry bedding. Give them vitamin 'A' concentrate @ 1 ml daily in milk for three days and to be repeated after a month.

Haryana

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely over the State.
- **Major Rabi Crops:** Wheat(tillering/vegetative), raya and mustard(vegetative)
- **Advisory:**
 - Farmers are advised to undertake the following measures to safeguard the crops from cold injury.
 - Apply light and frequent irrigation to the crops in the early morning to overcome chilling injury.
 - Arrange for burning around the field using farm waste materials to reduce the impact of low temperature.
 - Apply the irrigation in timely sown raya/mustard crop.
 - Farmers are advised to prepare field and complete sowing of sunflower hybrids varieties like MSFH-8, KBSH-1, KBSH-44, PAC-36, HSFH-848 and PCHS-234 by 15th February. Treat the seed with Bavistin 2 g or Thiram 3 g/kg seed.
 - Undertake sowing of recommended varieties of maize like HM-4 and HQPM-1 by first week of February. Treat the seed with Imidacloprid or Thiomethoxam @ 6 ml/kg seed to protect from shoot fly.
- **Major Seasonal crop with stage:** Sugarcane (early vegetative/vegetative), vegetable crops (vegetative)
- **Crop Condition:** Good
- **Advisory:**
 - Apply light irrigation to autumn planted sugarcane crop. Cover the soil with stubbles of harvested crop as trash mulch in ratoon crop.
 - Continue sowing desi varieties of radish (Punjab Pasand & Punjab Safed), turnip (L-1 & 4-white) and carrot (No. 29 PC-34 and Sel. 21), pea, potato and palak (Punjab Green). Transplant fully developed seedlings (4-6 week old) of main season varieties of cauliflower. Sowing of late season varieties of cauliflower i.e. Snow-Ball-16, Pusa Snow ball 1 & Pusa Snow ball K-1 can be continued.
 - This is suitable time for planting of evergreen fruit plants like sweet orange, mandarin, lime, lemon, guava and ber. For checking pre-harvest fruit drop, spray the trees with 10 ppm of 2, 4-D and 0.3% of Zinc sulphate. In citrus, leaf miner can be checked by spraying 500 ml of Sumicidin 20 EC or 1000 ml Ripcord 10 EC or 1250 ml Hostathion 40 EC in 500 litres of water. In grapes, spray the vines with Bavistin @ 400g/400 litres of water to control anthracnose.
 - Farmers are advised to undertake weeding and hoeing and intercultural operations in tomato, onion and chilli.
- **Advisory for Plant Protection:** Weather conditions are favourable for mild incidences of –
 - white rust and saw fly in mustard, farmers are advised to monitor the crop and spray 600 grams Mancozeb/Dithane M-45 in 250 to 300 liters of water per acre to control white rust, if required. Spray Malathion 50 EC @ 200 ml or Endosulphan 35EC @ 400 ml in 200 lit. of water/acre to control saw fly.
 - bacterial blight in guar, farmers are advised to spray the crop with 400ml blitox and 30 grams of streptocyclin in 200 liters of water per acre.
- **Animal Husbandry:** Farmers are advised to protect animals against from cold winds. Farmers are advised to give the 50grams Iodized salt and 50 to 100 grams mineral mixture daily to keep them healthy.

Delhi

- **Realised Rainfall:** Weather was mainly dry during last week.
- **Rainfall Forecast:** Mainly dry weather is likely over the State.
- **Major Rabi Crops:** Wheat (tillering); pea and gram (flowering / pod formation); vegetable crops (vegetative / flowering / fruiting / harvesting).

- **Advisory:**

- In present weather conditions farmers are advised to apply light irrigation to tomato, potato, chilli, cole crops and all other seedlings to protect the crops against cold injury.
- To control broad leaf weeds in wheat spraying of 2,4-D @ 0.5-0.75 kilogram active ingredients per hectare is recommended.
- Intercultural operations should be undertaken in cole crops and also in late sown carrot, radish, turnip and sweet potato. Harvesting of timely sown carrot, radish, sweet potato and turnip is advised.
- Application of a light irrigation is advised in rapeseed mustard crop where pod (siliqua) formation has started.
- Light irrigation should be given after each harvest of berseem.
- In view of probable incidence of cold injury, farmers are advised to postpone transplanting of summer chilli crop for this week.
- Sowing of spinach (Jyoti), coriander (Pant Haritma) (one-time-cutting purpose), fenugreek (PEB, AM-1) may be carried out in present weather conditions. Foliar spray of 20 kg urea in 400 litre of water per acre may be done to maintain foliage health.
- For sowing of early ladies finger crop, A-5 and Parbhani Kranti cultivars are recommended. Seed rates should be 10-15 kilogram per acre. High seed rates should be because of low germination at present temperature.
- As dry weather prevailed over the State during last week and mainly dry weather is likely to prevail during the period, the farmers are advised to apply need based irrigation to the standing crops.

- **Plant Protection:**

- Due to probable chance of increase in the temperature during the week there may be chances of infection of diseases in wheat. Constant monitoring of the crop against rust disease is advised. If symptoms of black, brown or yellow rust appears spraying of crops with Dithane M 45 @ 2.5 grams per litre of water is advised.
- As weather is dry and congenial, application of Chlorpyrifos @ 1 litre mixed in 50 kg of sand in the evening hours for control of termite in wheat is recommended followed by subsequent irrigation.
- Weather conditions are favourable for mild incidences of –
 - pod borer in gram, installation of Pheromone traps @ 3-4 traps per acre is advised to monitor pod borer population. “T” shaped bird perches in and around crop field may be installed.
 - diamond back moth in cole crops, installation of Pheromone traps @ 3-4 traps per acre to monitor the pest population of diamond back moth is advised.
 - thrips in onion, constant monitoring of timely sown onion crop against attack of thrips should be done. Spraying of Carbaryl @ 2 grams per litre of water is advised.
 - purple blotch disease in onion, monitoring of crop against infection of purple blotch should be done. Need based spraying of Diethane M -45 @ 3 grams per litre of water is advised (400-500 litres/hectare).
 - white rust in late sown mustard crops, removal of older leaves near surface and spraying of Sulfex is advised.
 - pod borer in pea and fruit borer in tomato, constant monitoring of pea against pod borer and tomato against fruit borer with installation of pheromone traps @ 3-4 traps per acre is advised. Spraying of Bt formulation is advised.

Uttar Pradesh

- **Realised Rainfall:** Weather was mainly dry over the State during last week.
- **Rainfall Forecast:** Dry weather is likely over the State.
- **Major *rabi* crops:** Wheat (tillering/vegetative), maize(vegetative), gram, pea, and lentil (vegetative/flowering).
 - As there was no rainfall in most of the districts and dry weather is likely for the next five days, the farmers are advised to apply irrigation to the standing *rabi* crops. Farmers are advised to save *rabi* crops

from frost / fog and severe cold by arranging smoke around the field along with light watering and spray the solution of Bavistin.

- Weeding and hoeing and application of second irrigation may be done in wheat.
- Undertake weeding, intercultural operation and top dressing in barley, gram, pea, rai, mustard and lentil.
- Weeding, hoeing, watering as per requirement, application of recommended fertilizers may be done in pea, lentil, winter vegetables, vegetable pea, turmeric, potatoes, mango, lemon, mustard, alsic crops.
- **Major Seasonal Crop with stage:** Sugarcane (grand growth), winter sown sugarcane(early vegetative), vegetables (vegetative/fruited), mango (fruit setting).
- **Crop Condition:** Good
- **Advisory**
 - Undertake weeding, intercultural operations and application of fertilizers in the standing crops like sugarcane, vegetables and mentha.
 - Undertake first cutting of fodder barseem.
 - Sowing of garlic may be done after purification of seeds at the seed rate 500- 700 kg seeds/ hectare at distance of 15 x 7.5 cm.
 - Weeding, hoeing raise of soil use of recommended fertilizers along with watering as per requirement may be done in sown winter crops of sugarcane.
 - Farmers are advised to make smoke around the mango garden along with light watering to save from frost / fog.
 - Harvesting of early varieties of potato and turmeric may be done and weeding, hoeing and watering as per requirement may be done.
 - Harvesting, marketing of winter vegetable may be done along with watering as per requirement.
 - Weeding, hoeing watering as per requirement in garlic in interval of 15 days may be done.
 - Transplant the ready seedlings of Onion in the main field.
 - Undertake interculturing by ploughing in between rows and watering as per requirement in interval of 15 days may be done in banana garden and to save from frost / fog make smoke around the garden along with light watering.
 - Undertake interculturing by ploughing in between rows and application of recommended fertilizers along with watering as per requirement may be done in mango garden and to save from frost/ fog make smoke around the garden along with light watering.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
 - sawfly in mustard, spray the solution of Endosulphon 35 EC @ 1.25 litre per hectare in 600 – 800 litre of water.
 - mal formation disease in mango, spray the solution of Naphthalene Acetic acid @ 200 ppm or 4ml. Planofix in 9 litre of water.
 - cankers disease in lemon, spray the solution of Blitox 3-4 gram/litre of water.
 - fruit borer in tomato and brinjal, spray the solution of Carbaryl @ 2 g / litre of water.

J & K

- **Realised Rainfall:** Anantnag, Pulwama districts received excess rainfall and Doda, Kupwara, Sringar received excess rainfall during last week.
- **Rainfall Forecast:** Rainfall is likely to occur at a few places over the State during next 48 hours and at isolated places there after.
- **Major Rabi crops:** Wheat, barley, brown sarson (late vegetative), vegetables (flowering/ fruited).
- **Advisory:**
 - Farmers are advised to undertake the following measures to safeguard the crops from cold injury.
 - Arrange for burning around the field using farm waste materials to reduce the impact of low temperature.
 - In orchards cover fruit plants with sarkanda or other such materials in order to protect from cold/ frost.
 - Undertake transplanting of tomato and onion crop in Jammu division during these days.

- Undertake intercultural operations, application of fertilizers and pesticides in mustard, gram, field peas and other cole vegetable crops after spells of rain.
- Farmers can go for sowing of sunflower crop in fallow fields during this period.
- Undertake hoeing and weeding in transplanted crops like cabbage, cauliflower, kale and other standing crops after spells of rain.
- **Plant Protection:**
 - Due to dry weather conditions, there are chances of termite incidences in wheat and barley crop. To control spray Endosulphan 35 EC @ 2.285 liters/ha or Chloropyriphos 20EC @ 4.0 liters/ha.
 - The prevailing weather condition may likely to increase the infestation of aphid in early sown mustard crop. To control spray Metasystox @ 0.03 per cent or Chloropyriphous @ 0.05 per cent & repeat the spray after 15 –20 days interval.
 - Right time for organize rat control campaign around barley and wheat field.
 - Rogue out collar affected plants from gram and root rot affected plants from pea crop.
 - Weather is congenial for infestation of late blight in potato farmers are advised to go for spray of mancozeb @ 0.25 % or copper oxychloride @ 0.3 %.
 - Spraying of chemicals may be undertaken after spells of rain
- **Animal Husbandry:** Due to decrease in temperature cover the poultry shed with gunny bags in order to protect the birds from cold weather. Protect the pregnant and milch animals from cold and feed them mineral mixture regularly.

Rajasthan

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry/mainly dry weather is likely to prevail over the State.
- **Major Seasonal Crop with stage:** wheat, gram, mustard (late vegetative/flowering) vegetable crops (flowering / fruiting / harvesting)
- **Crop Condition:** Good
- **Advisory:**
 - Undertake intercultural operations in sweet gourd, cucumber, pumpkin, bitter gourd, tinda, tomato and ladies finger.
 - Sow seeds in nursery for raising seedling of autumn vegetables. Use following improved varieties for nursery sowing:
 - Tomato: Pusa Rubi, Pusa Early and Vihar.
 - Brinjal: Pusa Summer Prolific Round, Pusa Summer Prolific Long, Meghdoot, Navin and Arka Bahar,
 - Cucumber: Balam and Pusa Sahyog.
 - Smooth gourd: Chikni and Nasdar.
 - Start transplanting of vegetable seedlings in the main field.
 - Start preparation of field for the sowing of cluster bean, cowpea & early cucurbits like muskmelon, watermelon, ridge gourds, bitter gourds etc.
 - Apply irrigation and top dress nitrogen in late sown wheat crop.
 - Undertake sowing of summer Okra. Select varieties among Pusa sawani, Pusa Makhmali, Parbhani, Kranti, Ark Abhay & Arka Anamika.
- **Animal Husbandry:**
 - Vaccinate animals against FMD and BQ in consultation with local veterinarian. Arrange for curtains in poultry in Bharatpur region.
- **Plant Protection:** Weather conditions are favourable for
 - hopper in mango. To control this insect spray Melation 50 EC @ 1.0 ml or Endosulfan 35 EC @ 1.5 ml per litre water.
 - aphids in mustard, spray Dimethioate 30 EC @ 1.0 l/ha or Malathion 50 EC @ 1250 ml/ha.

- leaf curl & Mosaic diseases may affect papaya crop. At the initial appearance of these disease uproot & burn the affected plants & to check further spread of disease spray Dimethoate 30 EC or Methyl demeton 25 EC @ 1.0 ml per litre water & repeat spray after an interval of 15 days.
- aphids in cumin & coriander, spray Dimethoate 30 EC or Melathion 50 EC @ 1.0 ml per litre water.
- Alternaria blight (black spot) in mustard crop in some pockets, destroy the plants infested with the disease. Spray Iprodione or Mencozeb @ 2 kg/800 litre solution. Repeat the spray in 15 days interval.
- pod borer attack in gram, dust Melathion 5% or Methyl Parathion 2% @ 20-25 kg/ha before flowering and pod formation.
- soft rot/ black rot of cabbage, spray steptocycline@ 200 mg or copper oxychloride 2 g/lit of water.
- sucking pests in floriculture crops, spray Dimethoate 30 EC @ 2 ml/litre or Imidacloprid 17.8 SL @ 0.5 ml/litre water to control.

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

Bihar

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State.
- **Major Rabi Crops:** Wheat (vegetative), maize, (vegetative), potato (vegetative), gram, pea, and lentil (flowering/pod formation).
 - As there was no rainfall in the State and dry weather is likely for the next five days, the farmers are advised to apply irrigation to the standing *rabi* crops.
 - Farmers are advised to provide second/third irrigation in wheat for better growth of crop and also provide irrigation in wheat crop during in panicle formation stage and may be last top dressed with urea @ 88 kg /ha. Apply Nitrogen @ 40 kg/ha after irrigation in December sown wheat.
 - Undertake weeding, intercultural operation and top dressing in barley, gram, pea, and lentil.
 - Farmers are advised to apply irrigation and last dose of nitrogen for better growth and yield of Oat.
 - Provide weeding and earthing up in *rabi* maize crop. Apply last dose of Nitrogen(40 kg/ha) at the time of tasseling and cob formation stage.
 - Prepare the field and undertake sowing of vegetables and fodder crops.
 - Farmers are advised to provide the irrigation in potato at the interval of 10 to 15 days to protect from cold weather.
 - Prepare the field for sowing of sunflower, maize and transplanting of onion seedling.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
 - Blight in gram, lentil and pea, spray Mancozeb @ 2kg/ha in 750 liter of water.
 - late blight in potato, spray Dithane M-45 or Ridomil @ 2gm/liter of water for control of late blight of potato.
 - aphid in mustard and rai, apply metasystox (25 EC), monocrotophos @ 2gm per liter of water to protect the crop.
 - powdery mildew in peas. Apply Sulfex @2gm/liter of water or Bavistin @1gm/ liter of water or Kara thane @ 1gm /liter of water for control of the disease.
 - stem borer, pod borer in peas, gram. Spray Endosulphan (35EC) @1.5 ml/liter of water at 15 days of intervals.
 - powdery mildew disease in mango, spray Metasystox @ 1.0 ml or Sulphex @ 2.0 gm per litre of water + Planofix @ 1.0 ml./4.5liter of water.
- **Major Seasonal Crop with stage:** Sugarcane (grand growth) and vegetables (vegetative/fruitletting), mango (fruit setting).
- **Crop Condition:** Good
- **Advisory**
 - Undertake weeding, intercultural operations and application of fertilizers in the standing crops like sugarcane, vegetables and mentha.
 - Provide irrigation and undertake cutting of lucerne fodder at regular intervals.

- Undertake land preparation for sowing of summer vegetable like brinjal, chillies and tomato etc. Transplanting of onion seedling may be done.
- Sowing of garlic may be done after purification of seeds at the seed rate of 500- 700 kg seeds/ hectare at distance 15 x 7.5 cm.
- Apply irrigation, top dressing with urea and plant protection measures must be done as per need in vegetable crops like tomato, brinjal, cauliflower and cabbage etc.
- Apply irrigation in potato at an interval of 10 to 15 days to protect from cold weather and pala.
- Apply irrigation to newly planted fruits trees to protect from the cold weather, if the fruit trees are in flowering, then not apply irrigation to the garden.

Jharkhand

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State.
- **Major Rabi Crops:** Wheat(tillering/vegetative), rai, toria, gram, potato, mustard(vegetative/flowering), peas(vegetative/pod formation).
- **Crop Condition:** Good
- **Advisory:**
 - As there was no significant rainfall in most of the districts and dry weather is likely for the next five days, the farmers are advised to apply irrigation to the standing *rabi* crops.
 - Apply second irrigation to crops sown in the month of November and third irrigation may be given at the interval of 15 to 20 days. Rest of the urea may be given before flowering. Farmers are advised to do interculturing at regular interval.
 - Farmers are advised to apply urea 20 to 25 kg/acre at the time of flowering of mustard. Apply first irrigation at the time of flowering and second irrigation at pod formation. During the time of flowering, farmers are advised to top-dress urea @ 20 to 25 kg per acre two days after irrigation. During grain formation, farmers are suggested to give irrigation as per need and spray with salicylic acid @ 1 gm /10 litre of water.
 - Undertake weeding, intercultural operations and top dressing in early sown *rabi* crops.
 - Undertake field preparation for sowing of summer paddy. Farmers are advised to take up sowing up to the February middle.
- **Major Seasonal Crop with stage:** Sugarcane (vegetative/grand growth), vegetables(vegetative)
- **Crop Condition:** Good
- **Advisory:**
 - Farmers are advised to spray ammonium molybdate 1gm/litre of water in cauliflower to manage the deficiency of molybdenum and to maintain the quality of cauliflower. Apply required irrigation in morning.
 - Farmers who seeded potato crops in early November may apply urea 50 kg /acre. Farmers are advised to give irrigation at 10 to 15 days interval. Farmers who have taken early potato may go for onion in fallow land after harvesting of potato. Irrigate the crop to protect the crops from cold.
 - Farmers are advised to apply top dressing of urea to tomato only when the moisture is available in the soil. Apply need based irrigation at the interval of 10 to 15 days.
 - Farmers are advised to stop irrigation and digging of potato may be done, if potato is in matured condition.
 - Apply irrigation and undertake interculture operations in tomato crop.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
 - aphid and blight in mustard and rai, apply metasystox (25 EC), monocrotophos @ 2gm per liter of water for aphid and Dithane M 45 @ 2.5gm/litre of water for blight.
 - fruit borer in brinjal, Spray emidochloropid @ 1.0 ml/liter of water.
 - powdery mildew in early pea. Spray cairathane @ 1ml/litre of water or sulfex 3gm/litre of water.
 - blight disease in tisi, spraying of mancozeb @ 2ml/litre of water is recommended.

- leaf folder in arhar, spray Endosulfan @ 2ml/litre of water. To protect the plant from aphid spray the plant with Methyl Demeton @ 1.0 ml/litre of water.
- tikka disease in late sown groundnut. Farmers are advised to spray Sitara @1 ml/ litre of water.
- leaf folder and pod borer in arhar, apply endosulfan @ 2ml/litre of water. Spray with monocrotophos @1 ml/litre of water to control pod borer.

Orissa

- **Realised Rainfall:** Mainly dry weather prevailed during last week over the State.
- **Rainfall Forecast:** Dry weather is likely over the State.
- **Major rabi Crops:** wheat (tillering/jointing), pulses, sunflower, groundnut (vegetative), mustard(pod formation/maturity).
- **Advisory:**
 - As there was no rainfall in the State during last week and mainly dry weather is likely for the next five days, apply irrigation to the *rabi* crops. Apply irrigation in wheat during jointing stage.
 - Undertake weeding, intercultural operations and application of fertilizers of *rabi* pulses like lentil, field pea and gram.
 - Undertake field preparation for sowing of summer maize, groundnut and sunflower. Early sown summer sunflower crop is at 20 days, go for hoeing and weeding. Thin out seedlings keeping one healthy plant per hill and complete sowing of sunflower by the end of this week.
 - Undertake nursery sowing of summer rice and complete transplanting as late transplanting may affect the crop during summer due to moisture stress.
 - Undertake intercultural operations, top dressing and earthing up followed by light irrigation in sunflower. Apply gypsum @ 2.5 q/ha to sunflower, if it is not applied at the time of sowing.
 - Undertake harvesting of matured mustard crop and sun dry the plants for easy threshing and safe storage.
 - **Major Seasonal Crop with stage:** Sugarcane (early vegetative), vegetables (fruiting / harvesting), onion (vegetative).
- **Crop Condition: Good**
- **Advisory:**
 - Undertake transplanting of cole crops at 3-week stage.
 - Undertake weeding, intercultural operations and application of fertilizers.
 - This is the ideal time for planting of marigold. Undertake planting with seedlings of Ceracol variety may be planted at 30 x 30 cm spacing and fertilizer @ 40:80:80 kg N-P₂O₅- K₂O /acre may be applied at the time of land preparation.
- **Plant protection:** Weather conditions are favourable for mild incidence of
 - thrips in chilli, spray Imidaclopyrid @ 0.4ml/litre of water.
 - spodoptera in cabbage and cauliflower. Farmers are advised to go for alternate spraying of B.T product 1 kg or 250 LE SLNPV/acre at weekly interval or use 4 Trichogramma cards per acre.
 - aphid in pulses and mustard. Apply 4 ml Neem based pesticide or 2 ml Metasystox per each litre of water to control aphids.
 - leaf eating caterpillar in vegetable crops. Spray Endosulfan @ 2 ml/l to control.
 - diamond back moth, mustard saw fly and borer in cole crops, spray Malathion @ 2ml/l of water.
 - late blight in potato, spray with 2 kg Dithane-M-45 in 500 l of water thoroughly.
 - blight in mustard. Spray 1 kg Copper Oxychloride or 800 g Dithane-M 45/acre in 200 litre of water to control
 - tikka disease in groundnut. Spray Saaf/Sixer @2g/litre of water.
 - fruit and shoot borer in brinjal, aphids and white fly in tomato, thrips in chilli. Spray Endosulfan @ 2ml/litre of water or at later stages, apply 150g Dimilin and 300g Caldan in 200 litre of water in 1 acre to control fruit and shoot borer in brinjal. To control the attack of aphids and white fly, apply Metasystox @ 2ml/ litre of water. To control thrips in chilli, spray Metasystox or Rogor @ 2ml/litre of water.
- **Animal Husbandry:** calf and kids are susceptible to respiratory infection mostly pneumonia. Provide warm and comfortable housing to animals. Now-a-days, poultry birds are prone to respiratory infection and CRD (Chronic Respiratory Diseases). Provide comfortable warm housing and good ventilation. In case of disease outbreak, therapeutic measures are to be taken up. Vaccination for FMD (Foot and Mouth

Disease) of animals is to be taken up. In case of disease outbreak, strict isolation of affected animals should be done.

West Bengal

- **Realised Rainfall:** Weather was mainly dry over the State during last week.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the State.
- **Major Crops:** *Boro* rice, vegetables, mustard.
- **Crop Stage:** Sugarcane (vegetative), vegetable crops (vegetative / flowering / fruiting / harvesting), mustard (pod formation), *boro* rice (seedling / transplanting), potato (tuber formation / early maturity).
- **Crop Condition: Good**
- **Advisory:**
 - The seedlings of *boro* rice become ready for transplanting within five to six weeks (4-5 leaves stage). 100 kg of FYM or compost per bigha may be applied uniformly after first ploughing and 9 kg of urea (two splits), 54 kg of SSP and 11 kg of MOP per bigha should be incorporated into the soil after seven days of first ploughing. Two to three seedlings may be planted at 20 x 15 cm spacing and in the depth of 5 cm in the main field. The level of water is maintained at a depth of 2-3 cm during transplanting. Complete transplanting as early as possible.
 - Prepare fertile sandy loam and well drained soil for sunflower cultivation. The recommended varieties are Morden, Sidhesor (80-85 cm height) of duration 80-85 days, Surya (90-95 days). Hybrid varieties are Pack-36 (104 days), M.F.S.H.-17 (104 days), Sungin – 85 (80-90 days), B.S.H.-1 (85-90 days), Surya-51, K.B.S.H. (90-95 days). 600 to 800 g of well filled plump seeds are required to cover one bigha land. For controlling seed born fungal diseases, seeds should be treated with Captan or Thirum @ 3 g per kg of seeds. The seed is drilled at a depth of 5cm by adopting a spacing of 60 cm X 30 cm for hybrid and long duration and 45 cm X 30 cm between plants in the row.
 - Undertake sowing of high yielding varieties of groundnut like A.K. 12-24, J. L.-24.
 - Initiate preparation of cultivation of ladies finger, Kakrol, Amaranthus etc.
 - As there was no significant rain during last week and mainly dry weather is likely to prevail, apply irrigation to wheat, mustard and pulse crops.
 - Stop irrigation to potato crop two weeks before harvesting.
- **Plant protection:**
 - Due to variation of temperature between day and night and fog, rice may be infected by blast and brown spot diseases. Spray the crop with Ediphenphos 50 EC @ 1ml / litre or Carbendazim 50 WP @ 1 g / litre or Tricyclozole 75 WP @ 0.6 g / litre of water when the above disease symptoms appear.
 - Due to variation of temperature and fog, pulses (gram, lentil and lathyrus) may be attacked by pod borer. Farmers are advice to spray Deltamethrin + Triazophos @ 2 ml / litre or B.T. @ 1.5g / litre of water, if the attack is noticed.
 - In this weather condition, attack of powdery mildew may appear in cucumber and pointed gourd. Apply 3 to 4 g blytox per litre of water.

Sikkim

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the State.
- **Major crops:** (a) **High hills (1500 to 2000 m): Large Cardamom:** Vegetative **Rabi Vegetables:** Harvesting, **Wheat:** Flowering/Milking. (b) **Medium hills (1000 to 1500 m): Large Cardamom:** Vegetative **Rabi Vegetables:** Harvesting, **Mustard:** Seed formation/ Maturity **Wheat:** Flowering/ Milking; (c) **Low Hills (Below 1000 m): Large Cardamom:** Vegetative **Rabi Vegetables:** Harvesting, **Mustard:** Flowering/Grain Formation/ Maturity. **Wheat:** Flowering
- **Crop Condition: Good**
 - **Advisory:**
 - Harvesting of cardamom may be completed Maturity may be assessed when the capsule of the top most spike turn dark brown and when the capsule come out easily while pulling.
 - Harvesting of vegetables may be undertaken.

- Harvesting of orange fruits should be done by tree fruit harvester or by hand plucking without damaging the trees.
- **Plant protection:**
 - Regular inspection may be carried out to observe caterpillar/shoot borer/shoot fly incidence, if any, and may be hand picked and destroyed mechanically.

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

Assam

- **Realised Rainfall:** Dry weather prevailed during last week.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the State.
- **Major Rabi Crops:** Wheat (tillering), potato (tuber formation / early maturity), pea, arhar (pod formation / early maturity) and mustard (pod formation), vegetables (vegetative / flowering / fruiting / harvesting).
- **Advisory:**
 - As night temperature is low, the young seedlings of *boro* rice should be applied with irrigation water during night to protect the seedlings from low temperature and drain out the water in the next morning. Transplant the seedlings in main field at 3-4 leaf stage. While preparing main field apply fertilizer @ 18 kg Urea, 27 kg SSP, 6 kg MOP per bigha.
 - Apply irrigation to wheat as the period will continue to be dry. Second Topdressing is to be done 3 days after irrigation. Apply irrigation water in early morning due to low temperature.
 - As there was no significant rain during last few weeks, apply irrigation to tomato, mustard, pea, vegetables etc.
 - Start harvesting of pea and arhar crops if 75-80% of pods turned yellow.
 - In view of dry conditions to be continued, *toria* crop will take less time to mature. Start harvesting when the pods start drying.
 - Due to prevailing dry weather arrange for Pitcher drip irrigation in coconut and areca nut for the ensuing period. Alternately after irrigation, mulch the base of the palm with dry hyacinth or with dry straw.
 - Pre sowing light irrigation is advocated due to prevailing dry condition especially in light textured soil for sowing of maize. Use hybrid seeds.
 - Land preparation for early summer vegetables like ladies finger, cucumber, ridge gourd, brinjal, cowpea etc. should be started during this period. Yellow Vain Mosaic Virus resistant varieties such as Parvani Kranti, Arka Anamica etc should be selected for sowing of ladies finger. Pre sowing irrigations essential as there is no rain for a long period.
 - Under rainfed condition optimum time of sowing of squash is mid January to mid February. Suitable varieties are long white, pointed green, round white etc. Seed should be sown @ 10.5 Kg / bigha maintaining a spacing of 2-3 m (row to row) and 1-2 m (plant to plant). Pit size should be 15 cm x 15 cm x 15 cm. After planting the row should be covered with a thin layer of rice straw for better conservation of moisture.
 - Farmers are advised to collect the high yielding varieties such as Pratap (SG-1) for green gram and Pant-U-19 for black gram. Seeds should be sown January onwards to March. 3 kg seeds / bigha are required for line sowing in the spacing of 30 cm (row to row) and 10 cm (plant to plant).
- **Major Seasonal Crop:** sugarcane (vegetative / maturity), fruit crops.
- **Crop Condition:** Good
- **Advisory:**
 - Matured sugarcane may be harvested during this period.
 - After harvesting of Khasi mandarin is over, the plants should be neatly pruned. Diseased and dead branches, water suckers should be removed. Spray 1% Bordeaux mixture as preventive measures against multiple diseases. The crop should be irrigated as there is no rain for last few weeks. Mulching around the base of the plant helps in reducing moisture loss.
 - Pits should be prepared in advance for planting of coconut in March-April. Size of the pits should be 1 m wide and 1 m deep and dug at a spacing of 7.5 m x 7.5 m. The bottom of the pits (upto 10 cm) should be

filled with sand and broken bricks etc. Thereafter, upto two third depth, pits are to be filled with surface soil and dried cow dung / compost.

- **Plant protection:**

- Monitoring of loose smut disease of wheat is advised. Infected plants are to be rouged out and burnt away from the field.
- Rust in field pea has been observed in some locality and there is possibility of increase in infestation. To prevent the spread of this disease Calixin @ 1-2 ml / litre may be sprayed depending upon the disease intensity.
- Wilt disease in lentil crop is observed in some areas and infestation may increase. Farmers are advised to protect their crop by soil drenching with Bavistin @ 1 g / litre of water.
- Weather conditions are favourable for mild incidences of aphids in rapeseed and mustard crops. Spray Dimethoate 30 EC @ 2 ml / litre or Chloropyriphos 20 EC @ 2 ml / litre or Rogor 30 EC @ 1-1.5 ml / liter of water.
- Next four days are ideal for adopting plant protection measures as there is no possibility of rainfall.

- **Fishery:** As the water level of ponds are going down so, the fishery owners may arrange to catch and sale the grown up fishes and keep the smaller ones for next year.

- **Animal Husbandry:**

- Dry paddy straw for hay making and preserve for future use.

Arunachal Pradesh

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Isolated rainfall is likely over the State.
- **Major rabi Crops:** Pea, maize, potato
- **Crop Stage:** Pea(pod formation), maize(flowering), potato(tuber formation)
- **Crop Condition:** Good.
- **Advisory:**
- Farmers are advised to undertake the following measures to safeguard the maize, pea and potato crops from frost injury in Tawang district.
 - Arrange for smoke by burning around the field using farm waste materials.
 - Undertake weeding, intercultural operations and top dressing of fertilizers in pea, maize and potato.
- **Major Seasonal Crop:** Vegetables(fruiting/maturity)
 - Farmers are advised to protect the pea, maize and potato from heavy frost by application of light irrigation in Tawang district. In rest of the districts, rain water may be conserved to maintain the adequate moisture in the field.
 - Matured fruits of orange, guava and pineapple may be harvested for sale and avoid over maturity.
 - Transplanted vegetables may be provided with proper irrigation and weeding be done followed by fertilizer application.
 - Harvest the winter crop of vegetables which are ready for harvest like cabbage, cauliflower and broccoli be harvested which are ready for harvest.
 - Light irrigation in potato may be given for good tuberisation followed by earthing up and fertilizer application.
- **Plant Protection:** Weather conditions are favourable for mild incidence of
 - blight in potato, may be protected by spraying the metalaxyl containing fungicide @ 2g/lit water at 7 days interval.
 - aphids in pea, spray Endosulfan @ 2 ml/lit of water to protect from pea aphids.
- **Animal Husbandry:** Vaccination and deworming from time to time for gastrointestinal parasites be done with mineral mixture supplement in feed. Protect the animals from cold by covering with gunny bags or clothes with supplement of high energy feed like concentrate or mineral mixture in feed in addition to green fodder.

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

Andhra Pradesh

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State
- **Major Crops:** Cotton, Sugarcane and Vegetables
- **Crop Stage:** boll development (cotton). Early sown *rabi* crops are at late vegetative/flowering stage.
- **Crop Condition:** Good.
- **Advisory:**
 - As there was no rainfall during last week, farmers are advised to apply irrigation to standing *rabi* crops like groundnut.
 - Third split dose of fertilizer ie, 35 kg urea and 15 kg MOP per acre is to be applied for cotton in Krishna, Guntur and Prakasam districts. Spraying 2% urea or 2% KNO₃ should be taken up two times at weekly intervals.
 - Farmers are advised to undertake intercultural operations in *rabi* crops to keep the fields weed free.
 - Arrange for harvesting Bengalgram as the crop is at maturity stage.
- **Plant protection:** Present weather conditions are congenial for the incidence of
 - leaf miner and Spodoptera in *rabi* groundnut in Scarce Rainfall Zone of Rayalaseema. To control leaf miner, spray Imidacloprid @ 0.4 ml or Monocrotophos @ 1.6 ml or Quinolphos @ 1.5 ml/litre of water. To control *Spodoptera*,
 - Collect and destroy egg masses and skeletonized leaves with early instar larvae.
 - Arrange pheromone traps @ 4 per acre.
 - As a prophylactic measure, spray NSKE @ 5%.
 - To control, spray Quinolphos@ 2 ml or Monocrotophos@ 1.6 ml per litre of water.
 - For controlling grown up larvae arrange poison baits (Rice bran @ 5 Kg + Jaggery @ 500 g + Monocrotophos or Chlorpyriphos @ 500 ml) in the evening hours.
 - powdery mildew in mango orchards in Scarce Rainfall Zone of Rayalaseema. To control, spray Wettable Sulphur @ 2 g or Hexaconazole @ 1 ml or Tridemiphos @ 1 g per litre of water.
 - blast in rice in South Telangana Zone. To control spray Tricyclazole @ 0.6 g per litre of water, followed by application of urea as top dressing.
 - powdery mildew in grapes. To control, spray Wettable Sulphur @ 2 g or Hexaconazole @ 1 ml or Tridemiphos @ 1 g per litre of water.
 - Helicoverpa and Maruca leaf webber in red gram in South Telangana district. To control, Helicoverpa Adopt following IPM measures.
 - Arrange bird perches @ 20 per acre to promote bird activity.
 - Arrange pheromone traps @ 4 per acre.
 - Spray NSKE 5% to control eggs and early instar larvae.
 - Spray Chlorpyriphos @ 2.5 ml during flowering stage or Quinolphos @ 2 ml or Acephate @ 1.5 g per litre of water during pod formation stage. If the pest is not controlled by these chemicals, spray Indoxacarb @ 1 ml or Spinosad @ 0.3 ml per litre of water.
 - To control Maruca leaf webber
 - Collect and destroy the webbings made by the larvae
 - Spray Monocrotophos @1.6 ml or Quinolphos @ 2 ml with 1 ml of Dichlorvas per litre of water.
- **Husbandry:** The prevailing weather conditions are congenial for the occurrence of
 - Haemorrhagic Septicemia in cattle
 - ET and sheep pox in sheep
 - Ranikhet disease in poultry
 - To prevent the diseases, vaccinate the animals
 - To prevent blue tongue disease in sheep, farmers are advised to keep the sheep in sheds.

Karnataka

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State.
- **Major Crops:** Wheat (flowering), Pigeonpea (maturity), Sunflower (maturity), Vegetables (Flowering/fruitletting/harvesting), *Rabi* Sorghum (flowering), Bengalgram (Pod filling), Safflower (Flower emergence).
- **Advisory:**
 - Farmers are advised to provide irrigation to rabi crops as dry weather is likely to prevail for the next five days and there was no significant rainfall during last week.
 - Farmers in Bidar are advised to undertake transplanting of brinjal seedlings in the main field.
 - Farmers in Shimoga district are advised to undertake summer planting of rice and treat the seeds with carbendazim @ 2gram/kg seeds and apply 5kg carbofuran and 50kg neem cake to nursery bed to avoid rice root knot nematode
 - Undertake sowing of groundnut and sunflower in south Transition zone. Before sowing treat the seeds of sunflower with Imidacloprid @ 5gram/kg seeds and seeds of groundnut with Trichoderma @ 4gram/kg seeds
 - Farmers in Bijapur district are advised to complete harvesting of pigeonpea, chickpea, sorghum and sunflower as early as possible. After harvesting and threshing, do not burn the crop residue, the residue can be used for making compost
 - Uproot the smut affected sorghum plants and burn them to avoid inoculum carried over to next season in soil and grains.
 - Sowing of sunflower and transplanting of onion under irrigated condition can be continued in Bijapur.
 - Farmers are advised to undertake intercultural operations in sugarcane and *rabi* vegetable crops like brinjal, cabbage, cauliflower, capsicum and tomato to keep the fields weed free.
 - Farmers of Bijapur district are advised to complete harvesting of pigeonpea, chickpea, sorghum and sunflower as early as possible. After harvesting and threshing, do not burn the crop residue, the residue can be used for making compost or vermin compost
 - Farmers are advised to remove the weeds from 30-35 days old groundnut crop, undertake intercultural operations to loosen the soil.
 - In Uttar Kannada district, farmers are advised to continue harvesting/threshing of paddy and arecanut crop.
 - Farmers of Uttar Kannada district are advised to take up the sowing of pulses like Black gram, Green gram and also the green manure crop sun hemp to utilize residue moisture after harvesting of paddy crop, farmers can make the arrangement of seeds.
 - In paddy fields where there is no residual moisture, in such fields farmers can undertake deep ploughing, so that the soil pathogens will die and inturn it will help to reduce pest incidence for the next paddy crop.
 - In view of prevailing, low minimum temperatures, apply Dormix @ 30 ml per litre of water on pruned branches for obtaining better bud break on grapes.
- **Plant protection:** Present weather conditions were congenial for the incidence of
 - leaf spot in Banana. Farmers should take up spraying of DM-45@ 1.7 ml/lit of water to control it.
 - thrips in Groundnut. To control farmers are advised to spray the Dimethoate @3g/lit of water.
 - pod borer in gram; spray Profenophos or Indoxacarb @ 0.3/l or Spinosad @ 0.2 ml or Acephate @ 1 g per liter of water.
 - aphids in Safflower crop in Raichur. For effective control of aphids spray Dimethioate 30 EC @ 1.7ml/liter of water.
 - powdery mildew and jassids in mango in North Transition zone. To control spray 1.7 ml Dimethoate 30 EC plus Carbendazim 0.1 % per liter of water to control Jassids and powdery mildew of Mango.
 - wilt complex in chilli in Hassan district, to control drench the crop with Carbendazim @1gram litre and streptocycline @0.5gram per litre of water.
 - inflorescence dieback and inflorescence caterpillar in Arecanut in Shimoga district. To control, apply mancozeb @ 2gram/litre and chloropyriphos @ 2ml/litre of water.

- aphid borer in Safflower in Gulbarga district. To control spray Monocrotophos 35 EC @ 1.0ml/liter of water.

Kerala

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the State.
- **Major Rabi Crops:** Rice (second crop at panicle initiation stage)
- **Crop Stage:** seedling/early vegetative (*mundakan* rice).
- **Crop Condition:** Good.
- **Advisory:**
 - Avoid further delay in transplanting of rice in Wayanad district. Apply organic manure@ 5T, 90 kg factomphos and 15 kg urea per hectare as basal dose. Dip the seedlings in pseudomonas solution before planting. Avoid cutting of leaf tip and root as it inflicts wounds through which disease causing organism may subsequently enter. As a preventive measure against blast disease, avoid excess usage of nitrogen fertilizers. 2-4 D can be used for controlling broad leaved weeds.
 - Farmers of Thrissur district are advised to continue sowing of Punched rice as a third crop. Select short to medium duration varieties like Jyothi, mattatriveni, harsha, gouri etc. If third crop is not taken and there is sufficient water, vegetables can be cultivated. This will help to improve the soil fertility.
 - Farmers of Wayanad district are advised to apply fertilizers to irrigated coconut palms @ 270 g urea, 400 g rock phosphate and 500 g potash per palm. Irrigate the coconut palms and provide shade to the young palms. Farmers are advised to keep vigilance against Red palm weevil, rhinoceros beetle, leaf eating caterpillar, stem bleeding and leaf rot disease.
 - Farmers of Wayanad district are advised to apply fertilizers to irrigated arecanut palms @ 110 g urea, 100 g rock phosphate and 120 g potash per palm. Irrigate once in 3-5 days at a rate of 175 litres per palm. Protect the palms from direct sunlight by wrapping the stems with areca sheaths or white wash the exposed portion.
 - This is an ideal time for planting pepper. Apply mulch and protect the plants from the scorching sun.
 - Farmers are advised to give 3rd dose of fertilizers after 55 days of sowing of rice crop in Kuttanad.
- **Major Seasonal Crop:** Vegetables and plantation crops (coconut, arecanut, pepper and cashew). Time for planting of coffee and arecanut
 - Farmers are advised to prepare the land by burning stubbles of previous crop for summer cultivation of vegetables, Treat vegetable seeds with Bavistin @ 2g/kg of seed before sowing.
 - Farmers are advised to apply FYM @ 25t/ha and urea, rajphos and MOP to the tune of 163 kg, 555 kg and 105 kg /ha, respectively, at the time of transplanting of cabbage and cauliflower,. The spacing for the same is 45 cm x 45 cm.
 - Fresh planting of banana can be continued during this period in Ernakulam.
 - This is ideal time for planting rainfed banana. In existing crops apply mulch and start irrigation. Apply 25 g phorate or 20 g Carbofuran around the rhizome for reducing nematode population.
 - In North zone vegetables can be planted in garden lands and rice fallows for summer cultivation. For summer cultivation of vegetables, prepare the land by burning stubbles of previous crop. Treat vegetable seeds with Bavistin @ 2g/kg of seed before sowing.
 - Farmers in Thrissur district are advised to give propping to bunched rainfed banana since speed of easterly winds is increasing. Priority should be given for propping for banana which faces the easterly side. Mulch banana basins using 3.5 kg of hay or dried materials Farmers are advised to undertake intercultural operations, plant protection measures, weeding, and earthing up.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
 - calyx mite, red palm weevil in coconut. To control apply wettable sulphur 5 g / liter of water against calyx mite. Cut and remove bud rot affected portions of coconut palm and apply 10% Bordeaux paste on cut surface. Apply Sevin (8 gm in 2 lit. of water) to the grooves of red palm weevil affected palms. Pheromone traps can also be used to destroy red palm weevil. Apply calyxin (5ml in one liter of water) to the palm affected by stem bleeding.

- Sigatoka leaf spot disease in banana, spray 1% Bordeaux mixture or Tilt 25 EC (1 ml/lit of water) after cutting the severely affected leaves and burning it. Apply neem-garlic emulsion to control the vectors spreading Bunchy top virus.
- powdery mildew and shoot borer in vegetables in Wayanad district. Farmers are advised to apply 2-3 g wettable sulphur for controlling powdery mildew and Sevin (50%) (3 gram perlitre) to control shoot borers.
- The presence of white leaves and leaf cuts are due to the attack of silver shoots in rice in Kuttanad. The farmers are advised to watch the field and if the attack persists, drain the field completely and place saw dusts mixed with charcoal (in cotton bags) on the water holes again when the field is filled with water.
- fruit fly attack in cucurbits in Kottayam district. To control use pheromone traps.
- Pseudostem weevil in banana in Kottayam district. To control apply Chlorpyrifos @ 2ml/l in leaf axils.
- tea mosquito bug and twig blight in cashew. To control, spray Quinalphos 2 ml/litre (25 E.C) + Mancozeb 2 g/litre against Tea Mosquito Bug and apply Bordeaux paste on the cut surface after removing the branches affected by twig blight.
- **Animal Husbandry:**
 - Cattle should be provided with drinking water since dry conditions are being expected. In the case of poultry bred under deep litter system, farmers are advised to see that the litter is not damp. Damp litter will lead to several fungal diseases.

Tamil Nadu

- **Realised Rainfall:** There was no significant rainfall during last week over the State.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State.
- **Major Rabi Crops:** Groundnut, pulses and *thaladi* rice, sugarcane, banana and vegetables.
- **Crop Stage:** rice (tillering), pod development/maturity (pulses), picking (cotton)
- **Crop Condition:** Good
- **Advisory:**
 - As there was no significant rainfall during last week, farmers are advised to apply need based irrigation to the crop.
 - Farmers in Cuddalore, Kancheepuram, Thiruvallur and Chengalpattu are advised to undertake sowing of rice in mat nursery for SRI cultivation.
 - Farmers in Tuticorin, Virudunagar and Thirunelveli are advised to undertake harvesting of maize, sorghum, sunflower and cotton as dry weather conditions prevail during these days.
 - Undertake harvesting of pulse crops in Tuticorin
 - Farmers in Thanjavur, Trichy, Nagappattinam and Thiruvarur are advised to undertake sowing of rice fallow pulses; black gram and green gram in harvested samba field. The varieties ADT 3 and 4 in Black gram and ADT 3 in Green gram are suitable rice fallow pulses in cauvery delta zone.
 - Undertake intercultural operations and application of fertilizers in thaladi rice and vegetables and sugarcane.
 - In vegetable belt area, farmers are advised to spray NAA (Growth hormone) for controlling of flower dropping and increase fruit setting.
 - To avoid the evaporative loss of soil moisture after receiving the rain, farmers are advised to go for mulching the inter row spacing with crop residues or weed biomass.
- **Plant Protection:** Weather conditions are favourable for
 - sucking pests and fruit borer in chilli in Thirunelveli; spray Methyl demeton @ 200 ml/acre and Chlorpyrifos @ 600 ml/acre for fruit borer..
 - powdery mildew disease in blackgram. To control farmers are advised to undertake spraying of wettable sulphur at 1 kg per acre.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]**Maharashtra**

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Isolated rain during 24 hours & mainly dry weather thereafter in Vidarbha. Dry weather is likely to prevail over Konkan, Madhya Maharashtra & Marathwada during the period.
- **Major *kharif* Crops:** *tur*.
- **Major *rabi* Crops:** *jowar*, safflower, sunflower, linseed, gram, wheat, mustard and vegetables.
- **Major summer crops:** summer rice, groundnut.
- **Crop Stage:** *tur* (harvesting), *rabi jowar* (flowering / grain formation/ grain maturity at some places), safflower (head formation / seed formation / maturity), sunflower (head formation / seed development), gram (flowering / pod formation), wheat (tillering / ear emergence), mustard (flowering / pod formation), linseed (flowering / seed formation), vegetables and summer rice (seedlings / transplanting in South Konkan), summer groundnut (sowing / germination / early vegetative growth), summer sunflower(sowing).
- **Crop Condition:** Satisfactory.
- **Advisory:**
 - Conserve moisture in the crop field at maturity stage of *kharif* crops.
 - Undertake planting of sugarcane (*suru*).
 - Complete preparatory tillage & undertake sowing of summer groundnut by selecting variety from TPG 41, TG 26, TAG 24, SB 11 & ICGS 11 and for summer sunflower, select variety from hybrid varieties like K.B.S.H.-1, S.S.F.H.-8 and Phule Raviraj or select one of variety from Modern, Bhanu and SH-56.
 - Start sowing of summer soyabean & summer maize. For sowing of soyabean select variety from MCS-450, JS-335 or Phule Kalyani and for maize select medium duration variety like KH-9451, Deccan-103, Ganga-11 or Mixed varieties Manjri, Kiran, Panchaganga.
 - Undertake transplanting of summer rice in Konkan. Maintain 2-3 cm water level after transplanting in the field.
 - Undertake sowing of Fodder crops. Select varieties from African tall, Ganga safed, Vijay, Ganga-5 etc. for maize, Ruchira, Maldandi 35-1, *Nilwa*, Phule Amruta for jowar and Giant Bajra, Rajco Bajra for bajra.
 - Apply second dose of Nitrogen (50 kg N / ha) at 30 days after sowing to summer groundnut in Konkan.
 - As weather was dry during last few weeks and there is no chance of rainfall during next five days, apply protective irrigation to the standing crops.
- **Major Seasonal Crop:** Fruit crops and Sugarcane (pre-seasonal) (tillering), Sugarcane (*Suru*) (planting).
 - Undertake spraying, fertilizer application in the standing crops.
 - Continue harvesting of already matured red gram.
- **Plant Protection:**
- Due to cold weather during night, there is possibility of attack of powdery mildew in cucumber, bitter gourd, ridge gourd crop. Spray Dinocap @1 ml per liter of water.
- Weather conditions are favourable for mild incidences of –
 - *Helicoverpa* in gram, use 5 pheromone traps or nuclear polyhydrosis virus per ha. Prepare solution of 500 crushed caterpillars in water, filter it and mix in 500 litres of water and apply for one ha.
 - stem borer in bean, spray Metasistox @ 2 ml or Malathion @ 2 ml per liter of water. Use pheromone traps.
 - thrips in onion & garlic, spray Endosulfan @ 2 ml or Acephate @ 2 gm or Desis 0.5 ml per liter of water.
 - powdery mildew on grapes, spray Tridemefan @ 250 gm or Panconazol @ 5 ml per 10 liters of water.
 - powdery mildew on mango blossom, spray water soluble Sulphur powder @ 2 g per liter of water or dust 300 mesh Sulphur powder @ 20 kg per ha.
- **Fishery:**
 - Besides natural feed, use groundnut cake, rice husk or wheat husk in same proportion. Mix this feed in water for feeding two times a day.
 - Sampling of fish with the small net may be done fortnightly. Feeding of the fish may be given at 6% of body weight of the fish during initial stocking period.

- Water quality analysis may be carried out at regular interval. The following parameters should be checked – date and time of sampling, water temp., dissolved oxygen, pH etc. If any uneven changes occur, necessary measures need to be taken.
- Necessary pre-stocking management may be carried out by ornamental fish farmers.

Gujarat

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State.
- **Major Rabi Crops:** Wheat, potato, mustard, gram, vegetables.
- **Crop Stage:** wheat (flowering / milk), mustard (pod formation / seed formation), gram (pod formation / seed formation), potato (tuber formation / early maturity) and vegetables (vegetative / flowering / fruiting / harvesting).
- **Crop Condition:** Crop condition is satisfactory.
- **Advisory:**
 - Apply irrigation to wheat at flowering / milk stage as dry condition is prevailing over the State during last few weeks.
 - Undertake sowing of summer groundnut at 22.5 cm x 30 cm spacing with a seed rate of 120 kg / ha and select varieties like GG-2, GG-4, GG-7, GG-20 and GG-26 for sowing. Apply 25 kg N and 50 kg P₂O₅ / ha at the time of land preparation. Treat the seeds with thirum @ 3 g / kg seeds before sowing.
 - Farmers are advised to apply irrigation to gram and mustard as the crops are at pod formation / seed formation stage.
 - Farmers are advised to prepare main field and complete transplanting of summer rice at the earliest.
 - This is proper time for sowing of summer vegetables like ladies finger, brinjal, chilli etc. Select varieties like Pusa Savani, Parbhani Kranti, Guj. Okra -2 and GOH-1 for ladies finger, GOB-1 and GBH-1 for brinjal and GVC-101 and GVC-111 for chilli.
 - Undertake sowing of summer bajra and select varieties from GHB-526, GHB-558, GHB-183, GHB-215, GHB-316 and GHB-235. Adopt 45 x 15 cm spacing for sowing.
 - Farmers are also advised to apply irrigation to pigeonpea, isabgul and vegetable crops like brinjal, tomato, chilli, fenugreek and garlic as dry weather is prevailing for last few weeks.
 - Stop irrigation in potato two weeks before harvesting.
- **Major Seasonal Crop:** Fruit crops and Sugarcane (vegetative / harvesting).
 - Pluck fully matured fruits of papaya, ber, guava, pomegranate and citrus and take them to market after sorting and grading.
- **Plant Protection:**
 - As weather is dry, application of Chlorpyrifos @ 1.25 liters per hectare is recommended with irrigation water to control termite in wheat crop.
 - Weather conditions are favourable for mild incidences of –
 - aphids, jassids and thrips in mustard, spray Methyl-o-demeton 10 ml or Dimethoate 10 ml or Phosphamidon 3 ml in 10 litres of water.
 - thrips in onion and garlic, whenever the thrips population reach ETL of 15 nymphs / leaf, application of Endosulfan 35 EC @ 20 ml / 10 litres of water is recommended.
 - blight in cumin, spray Mancozeb @ 25 g / 10 litres of water, four times at an interval of 10 days.
 - powdery mildew in mango, spray Carbendazim @ 10 g or Wettable Sulphur 30 g / 10 litres of water.
 - shoot borer in brinjal, remove and destroy infested shoot. Arrange to put at least 12 to 15 pheromone traps / ha and spray Endosulphan @ 21 ml or DDVP @ 5 ml / 10 litres of water.
 - thrips causing leaf curl in chilly, spray Triazophos 40 EC @ 10 ml or Acephate 75 SP @ 10 g / 10 litres of water at 10 to 12 days interval.
 - powdery mildew in cucurbitaceous crops, cluster bean and ladies finger, spray wettable Sulphur @ 25 g / 10 litres of water two to three times at an weekly interval.
 - Pod borer in gram, spray a solution of HNPV @ 450 LE / ha during evening hours to manage pod borer.

- **Animal Husbandry:** Provide warm water to lactating animals. Keep young calves indoors during night time to avoid cold stress. Vaccinate animals for diseases in consultation with local veterinarian.

CENTRAL INDIA [M.P., CHHATTISGARH]

Madhya Pradesh

- **Realised Rainfall:** There was no significant rainfall over the State during last week.
- **Rainfall Forecast:** Isolated rain is likely to occur during next 24 hours and dry weather is likely to prevail thereafter.
- **Major Rabi Crops:** wheat, pulses, gram (late vegetative), sugarcane (cane development), cotton (boll development/ maturity) and vegetable crops (late vegetative)
- **Crop Condition:** Satisfactory.
- **Advisory:**
 - Farmers are advised to undertake the following measures to safeguard the crops from cold injury:
 - Apply irrigation to the crops in the early morning hours to overcome adverse effects of low night temperature.
 - Arrange for burning farm waste materials around the field to reduce the impact of low temperature.
 - Farmers are advised to undertake intercultural operations and irrigation in early sown wheat crop at 21 days after sowing and give nitrogen fertilizer 1/4th recommended dose by urea as top dressing.
 - Undertake pit preparation for planting of new orchard crops.
 - Farmers are advised to continue transplanting of onion, cabbage.
 - Farmers are advised to undertake sowing of ladyfinger coriander and fenugreek under irrigated conditions.
 - Farmers should irrigate their barseem crop after cutting of green fodder and give nitrogenous fertilizer as per recommendation.
 - Prepare nursery for medium and late sown cauliflower, cabbage.
- **Animal Husbandry:** Protect calves from cold. Cattle should be vaccinated to save them from infections diseases like Black Quarter and FMD etc. The animals should be dewormed. Take care the pregnant animals and feed them balance diet. Provide the animal's clean water and balance and nutrients rich food.
- **Plant Protection:** Weather conditions are favourable for-
 - leaf eating caterpillars in gram; spray neem seed kernal Extract (5%), use pheromone traps (4 in one acre), Use Trichoderma culture or Endosulphan 35 EC 2 ml / liter in Gram.
 - aphids in safflower; spray Roger @ 750 ml / ha for the control of. Apply split dose of nitrogen fertilizer in wheat. Irrigate Wheat crop if water is available.
 - early blight in potato; spray Diethen M45 @ 2-3 gm/liter (use 500-600 lit. water).
 - sucking pest in chilly, tomato, brinjal, spray Dimetoate 1 ml per litre of water or Phosphomedan 3 ml per 10 litre of water.
 - pod borer or plume moth in Arhar crop, spray Quinalphos or Indosulphan @ 2.0 ml per liter of water or use pheromone traps.

Chattisgarh

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Isolated rain is likely to occur during next 24 hours and dry weather is likely to prevail thereafter.
- **Major Rabi Crops:** Wheat (tillering / ear emergence), gram (pod formation / pod development), mustard (pod formation / pod development).
- **Crop Condition:** Good.
- **Advisory:**
 - Prepare main field and undertake transplanting of summer rice.

- Intercultural operations and weeding is advised in sunflower and groundnut. Fertilizer application followed by irrigation should also be done in sunflower after weeding.
- Wheat crop is at tillering / ear emergence / flowering stage. This stage of the crop is critical for moisture and nutrient stress. Hence, farmers are advised to go for second top dressing of N wherever crops are at late tillering stage and then irrigate the fields.
- Presently mustard and gram are at pod formation / pod development 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.
- Potato crop should be irrigated after earthing up.
- Tapioca should be dug as per market demand and planting should be done for the next crop by cuttings.
- In winter season onion, half dose of nitrogen should be applied after intercultural operations and irrigation should be applied.
- **Major Seasonal Crop with stage:** Sugarcane (vegetative), vegetables (flowering / fruiting / harvesting).
- **Advisory:**
 - Intercultural operation, fertilizer application, earthing up followed by irrigation is advised in sugarcane crop wherever the crop is at knee height stage.
- **Plant Protection:** Present weather conditions may be favourable for the infestation of powdery mildew and hoppers in mustard and peas, blast in potato, powdery mildew in cucurbitaceous vegetables, purple blotch disease in onion and fruit rot in chilli.
 - In mustard and pea crops on observation of powdery mildew disease, sulfex, karathane or kalixin should be sprayed @ 1g / litre of water. If in these crops, hopper attack is being observed, neem oil should be sprayed @ 5%.
 - In late sown potato crop, for control of blast disease, Dithane M-45 should be sprayed @ 0.25%.
 - In cucurbitaceous vegetables, with the increasing cold condition, if powdery mildew is being observed, then sulfex dust should be dusted. This will also control the mites.
 - In onion for control of purple blotch disease, Blitox 50 or Dithane M-45 fungicide should be applied mixed with Rogor insecticide.
 - In chillies for control of fruit rot, Blitox 50 should be sprayed.