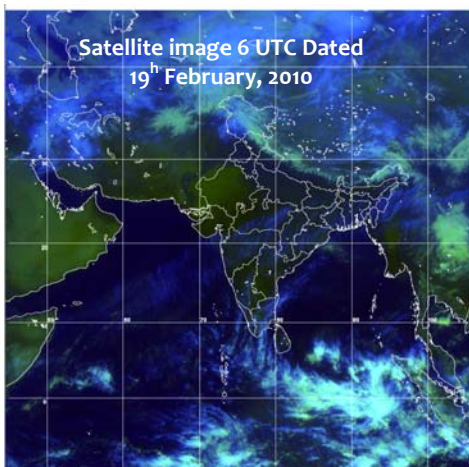




# National Agromet Advisory Bulletin

Thursday, 18<sup>th</sup> February (For the period 18<sup>th</sup> to 22<sup>nd</sup> February, 2010)



## Rainfall Forecast valid upto 1430 hours IST of 21<sup>st</sup> February, 2010

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

## Major features of weather forecast (upto 1430 hours IST of 21<sup>st</sup> February, 2010)

- Isolated rain / thundershowers would occur over Kerala, north coastal Andhra Pradesh, Orissa and northeastern states during next 2 days.
- Isolated rain / snow would occur over Jammu & Kashmir on 21<sup>st</sup> February and increase thereafter.
- No significant change in minimum temperatures over parts of northwest and adjoining central India.
- Maximum temperatures would rise by 2-3°C over parts of northwest and adjoining central India during next 3 days.
- Dry weather conditions over remaining parts of the country.

## Weather Outlook (upto 1430 hrs IST of 23<sup>rd</sup> February, 2010)

- Isolated to scattered rain/snow would occur over western Himalayan region.
- Isolated to scattered rain/thundershower may occur over plains of northwest India.
- Dry weather conditions will prevail over remaining parts of the country.

## Advisories for cold injury in Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Punjab

- Farmers are advised to undertake the following measures in Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Punjab 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 farm waste materials around the field to reduce the impact of low temperature.

## Advisories for the remaining States

- As there was no significant rain in most of the remaining parts of the country during last week and no significant rain is likely to occur 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 conditions, there are chances of pest and disease incidences in the following regions:
  - leaf miner, late leaf spot and mites in groundnut, pod borer in red gram, stem borer in rice in Andhra Pradesh.
  - powdery mildew in grapes, bacterial leaf blight in pomegranate and leaf miner in groundnut, leaf spot and bud necrosis in sunflower in Karnataka.
  - aphids in mustard and vegetables, thrips in onion and pod borer in gram in Delhi.
  - blast and brown spot in rice, late blight of potato, aphids in late sown mustard and powdery mildew in sunflower in West Bengal.
  - leaf roller and stem borer in *puncha* rice, powdery mildew and shoot borer in vegetables and tea mosquito bug and twig blight in cashew in Kerala.
  - downey mildew in cabbage and cauliflower and powdery mildew in peas in Himachal Pradesh.
- Farmers are advised to undertake plant protection measures, if required.

Issued by

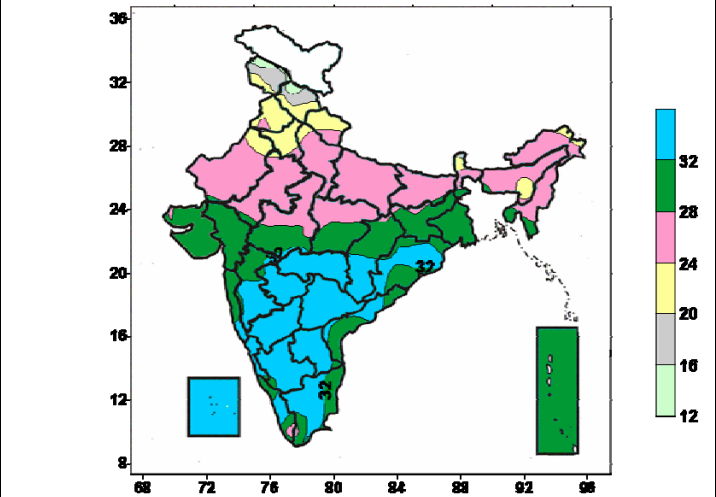
National Agrometeorological Advisory Service Centre,

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

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

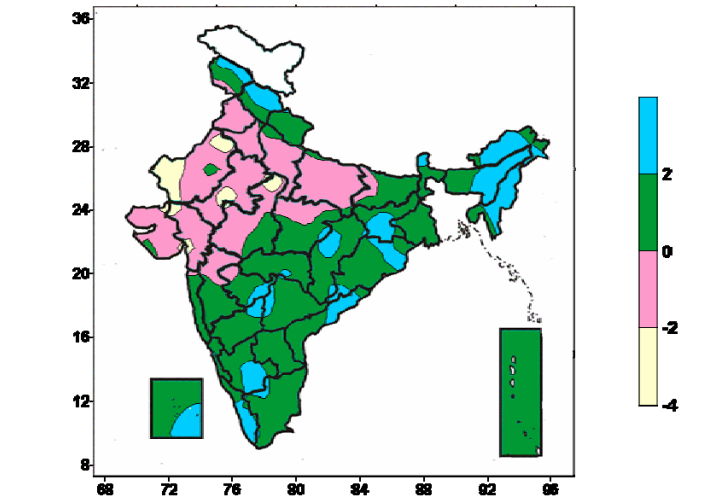
## Contour maps for the week ending 17.02.10

**Actual Mean Maximum Temperature (°C) in India for the week ending 17.02.10**



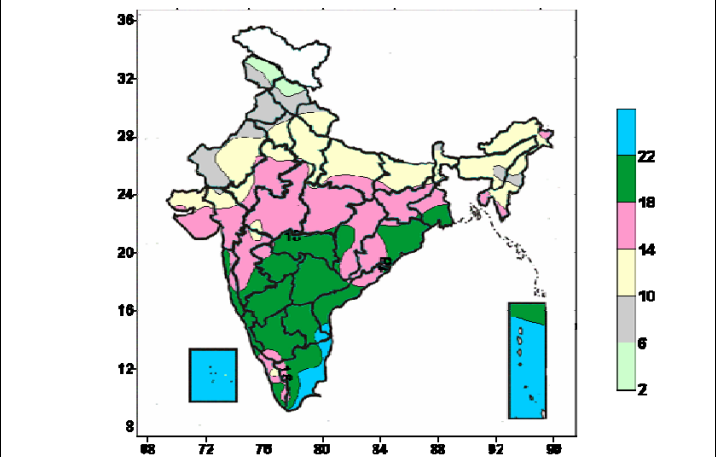
Actual Mean Maximum temperature ranged between 32°C and above over most parts of Maharashtra, Chhattisgarh, Orissa, Karnataka, Telangana, Rayalseema, Tamil Nadu, Lakshdweep Islands, some parts of West Madhya Pradesh, Coastal Andhra Pradesh, Kerala, 24 to 28°C over most parts of Uttar Pradesh, Rajasthan, Bihar, Sub-Himalayan West Bengal, Northeast India, North Madhya Pradesh, some parts of Punjab, Haryana, Uttarakhand, Jharkhand, Chhattisgarh, Saurashtra, Kerala, Tamil Nadu, 20 to 24°C over most parts of Punjab, Haryana, Uttarakhand, Sikkim, some parts of Jammu & Kashmir, Himachal Pradesh, West Uttar Pradesh, Rajasthan, Arunachal Pradesh, Assam & Meghalaya, 16 to 20°C most parts of Himachal Pradesh, some parts of Jammu & Kashmir, Sikkim, 12 to 16°C over some parts of Jammu & Kashmir, Himachal Pradesh, 28 to 32°C over remaining parts of the country.

**Maximum Temperature (°C) Anomaly in India for the week ending 17.02.10**



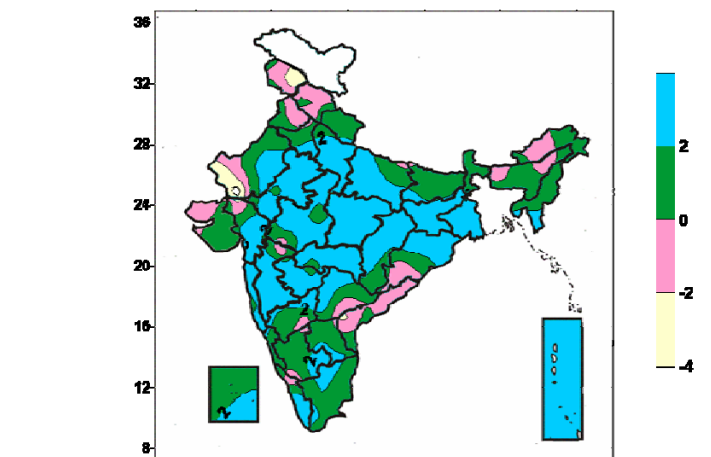
Actual Mean Maximum temperature anomaly ranged between 2°C and above over most parts of Himachal Pradesh, Sikkim, Northeast India, Kerala, some parts of Jammu & Kashmir, Jharkhand, Gangetic West Bengal, Orissa, Chhattisgarh, East Madhya Pradesh, Marathwada, Vidarbha, Telangana, Coastal Andhra Pradesh,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

**Actual Mean Minimum Temperature (°C) in India for the week ending 17.02.10**

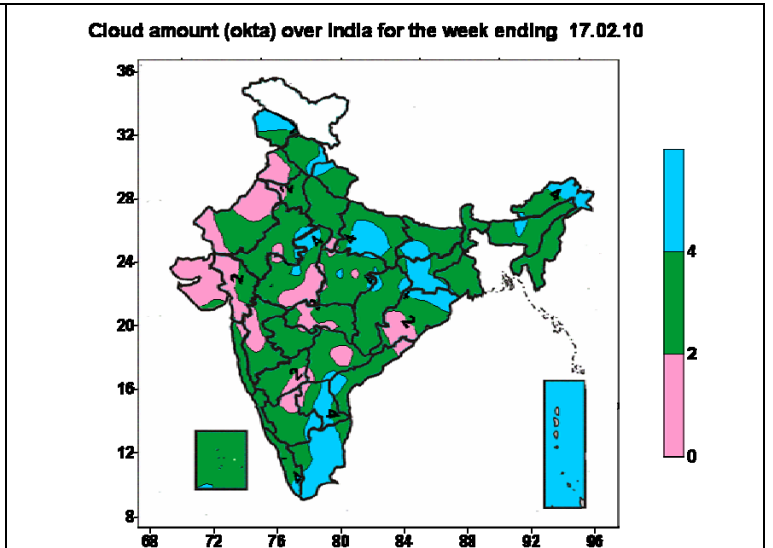
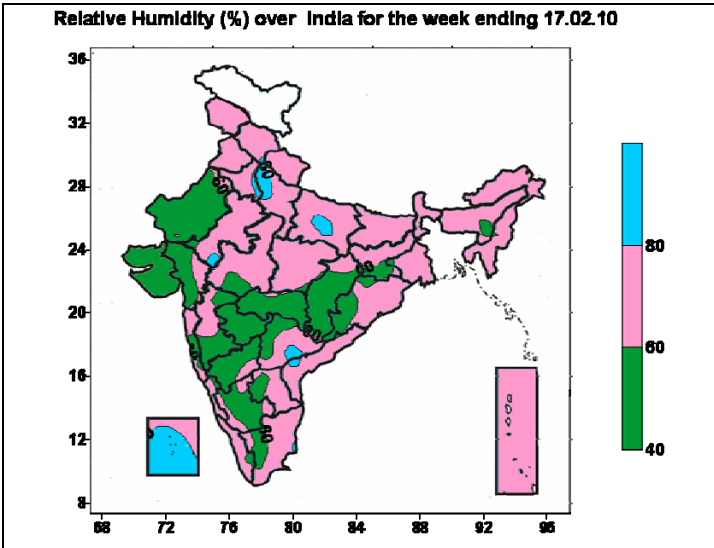


Actual Mean Minimum Temperature ranged between 22°C and above over most parts of Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Coastal Andhra Pradesh, Rayalaseema, 18 to 22°C over most parts of Gangetic West Bengal, Orissa, Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu, some parts of Chhattisgarh, Kerala, Andaman & Nicobar Islands, 10 to 14°C over most parts of Haryana, Delhi, Uttarakhand, Uttar Pradesh, Rajasthan, Bihar, Sub-Himalayan West Bengal, Northeast India, some parts of West Madhya Pradesh, Gujarat, Saurashtra, Madhya Maharashtra, Kerala, 6 to 10°C over most parts of Himachal Pradesh, Punjab, some parts of Jammu & Kashmir, Uttarakhand, Haryana, West Rajasthan, Sikkim, Assam & Meghalaya, Manipur, 2 to 6°C over some parts of Jammu & Kashmir, Himachal Pradesh, 14 to 18°C over remaining parts of the Country.

**Minimum Temperature (°C) Anomaly in India for the week ending 17.02.10**

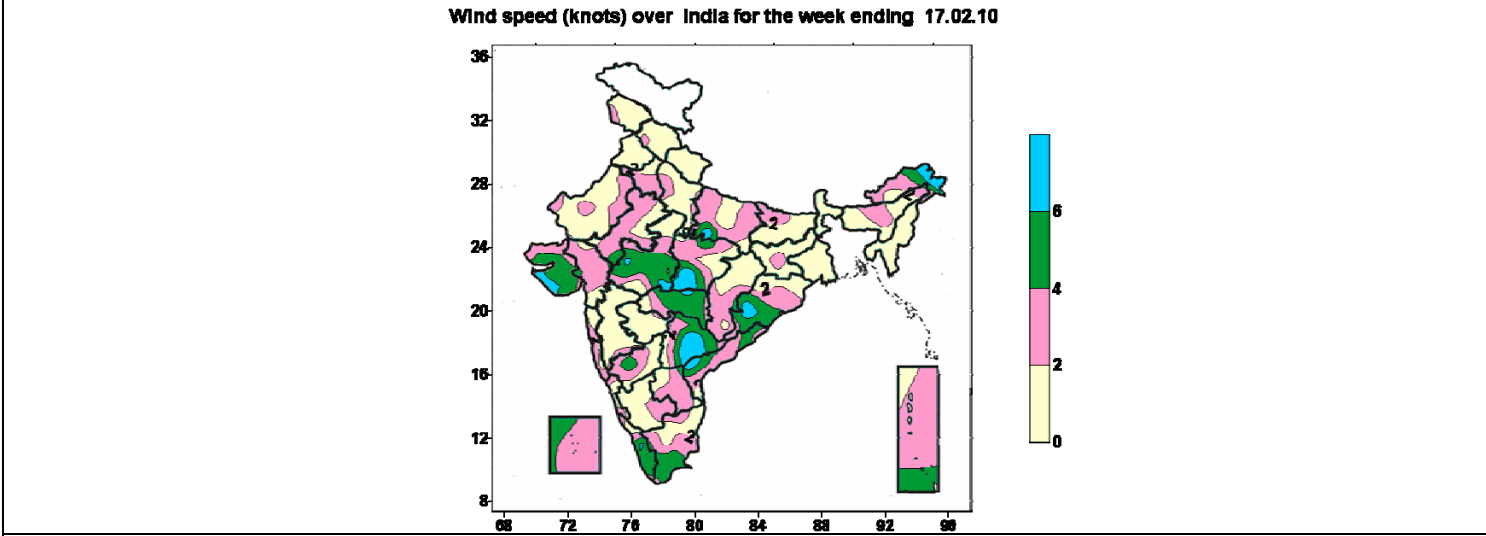


Minimum Temperature anomaly ranged between 0 to 2°C over most parts of Punjab, Haryana, Delhi, Uttarakhand, Bihar, Sub-Himalayan West Bengal, Sikkim, Northeast India, Saurashtra & Kutch, Karnataka, Telangana, Rayalaseema, Tamil Nadu, Lakshdweep Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Rajasthan, Uttar Pradesh, Gujarat, West Madhya Pradesh, Chhattisgarh, Orissa, Maharashtra, Coastal Andhra Pradesh, Kerala, -2 to 0°C over most parts of Himachal Pradesh, Coastal Andhra Pradesh, some parts of Jammu & Kashmir, Punjab, West Rajasthan, East Uttar Pradesh, Bihar, Arunachal Pradesh, Assam & Meghalaya, Gujarat, Saurashtra & Kutch, West Madhya Pradesh, Orissa, Madhya Maharashtra, Telangana, Rayalaseema, Interior Karnataka, Kerala, -4 to -2°C over some parts of Jammu & Kashmir, West Rajasthan, Coastal Andhra Pradesh, 2°C and above over remaining parts of the Country.



Relative humidity between 80% and above over most parts of Lakshadweep Island, some parts of Himachal Pradesh, Haryana, Uttar Pradesh, East Rajasthan, Coastal Andhra Pradesh, Telangana, 40 to 60% over most parts of West Rajasthan, Saurashtra & Kutch, Gujarat, Madhya Maharashtra, Marathwada, Vidarbha, Chattisgarh, North & South Interior Karnataka, some parts of Konkan, Madhya Pradesh, Coastal Karnataka, Kerala, Tamil Nadu, Telangana, Rayalaseema, Orissa, Assam, Jharkhand, 60 to 80% over remaining parts of the country.

Cloud amount 4 okta and above over most parts of East Uttar Pradesh, Jharkhand, Tamil Nadu, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, East Rajasthan, Bihar, Arunachal Pradesh, Assam, Madhya Pradesh, Chhattisgarh, Orissa, Andhra Pradesh, Kerala, Lakshadweep, 0 to 2 okta over most parts of Punjab, West Rajasthan, Saurashtra & Kutch, Gujarat, some parts of East Rajasthan, Haryana, West Uttar Pradesh, Madhya Pradesh, Maharashtra, Orissa, Andhra Pradesh, Interior Karnataka, 2 to 4 okta over remaining parts of the country.



Wind speed ranged between 6 knots and above over some parts of East Uttar Pradesh, Arunachal Pradesh, Orissa, Madhya Pradesh, Saurashtra & Kutch, Vidarbha, Telangana, Coastal Andhra Pradesh, 4 to 6 knots over most parts of Saurashtra & Kutch, West Madhya Pradesh, Vidarbha, Telangana, Kerala, some parts of East Uttar Pradesh, Arunachal Pradesh, East Rajasthan, East Madhya Pradesh, Chattisgarh, Orissa, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu, North Interior Karnataka, Andaman & Nicobar, Lakshadweep Islands, 0 to 2 knots over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, West Uttar Pradesh, West Rajasthan, Bihar, Jharkhand, West Bengal & Sikkim, Nagaland, Manipur, Mizoram, Tripura, South Interior Karnataka, Madhya Maharashtra, Marathwada, some parts of Haryana, Delhi, East Uttar Pradesh, East Rajasthan, Assam, Arunachal Pradesh, Gujarat, Madhya Pradesh, Chhattisgarh, Orissa, Konkan & Goa, Vidarbha, Andhra Pradesh, Coastal & North Interior Karnataka, Kerala, Tamil Nadu, Andaman & Nicobar Island, 2 to 4 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:** Weather was mainly dry in most of the districts of the State during last week.
- **Rainfall Forecast:** Weather will be mainly dry over the State during the period.
- **Major Rabi Crops:** Wheat (ear emergence / flowering), mustard, gram and lentil (pod formation) and vegetables.
- **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 farm waste materials around the field to reduce the impact of low temperature.
  - Farmers are advised to apply third dose of Nitrogen (CAN @ 10 kg per bigha).
  - As there is sufficient moisture in soil, it is optimum time for nursery sowing of tomato, brinjal, chillies and capsicum crops. Summer squash crop should be raised in poly tubes in the poly house so that plants 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:**
  - Protect the plants of mango and litchi from cold injury / frost. Put polythene grass thatch on north side of the plant. Pruning works in peach pear plum almonds can be taken up.
  - 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.
  - As there is moisture in soil for transplanting of new fruit plantations, 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.
  - To control the root borer in apple irrigate the basins, after removing the upper soil, with 10-15 liters of the solution of Chlorpyrifos (Durmet/Dursban 20 E.C. @ 5 ml per liter of water).
  - 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.
    - 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.
- **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 weather is likely over the State during next five days.
- **Major Rabi crops:** Wheat (ear emergence), mustard, lentil, gram (flowering / seed formation), pea, rajmah (late vegetative / flowering).
- **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 farm waste materials around the field to reduce the impact of low temperature.
  - Farmers are advised to undertake weeding in wheat and top dress Urea in late sown crop as per the need as well as for the crop at ear emergence stage.
  - Complete weeding and intercultural operations in mustard crop.
  - Undertake weeding and intercultural operations in other standing crops like pea, chickpea, rajmah etc.
- **Major Seasonal Crops with stage:** Sugarcane (maturity / harvesting), sugarcane (new) (planting / 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 planting 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.
  - Those farmers who have not sown brinjal in nursery are advised to select varieties from Pant Samrat, Pant Rituraj, Pant Brinjal-4, ARU-1 etc. The seed rate must be 10 g per Nail. Sprinkle water just after sowing for better seed germination.
  - Farmers are advised to sprinkle water in early nursery of tomato, onion and other vegetable crops like coriander, spinach, radish, mentha etc.
  - Farmers are advised to undertake planting of potato with varieties like Kufri Jyoti, Kufri Ashok & Kufri Anand etc.
  - Undertake weeding, hoeing and mulching in cauliflower, cabbage and Shimla mirch.
- **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:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry / mainly dry weather is likely during next five days over the State.
- **Major Rabi Crops with stage:** Wheat (ear head emergence), raya, rapeseed and mustard (flowering/pod formation), potato (tuber formation).
- **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 farm waste materials around the field to reduce the impact of low temperature.
- Farmers are advised apply need based irrigation to wheat.
  - Undertake intercultural operations in late sown wheat, raya, taramira, lentil and chickpea.
  - Weeding operation in late sown rapeseed and mustard crops may be undertaken.
- **Major Seasonal crop with stage:** Sugarcane (early vegetative/vegetative), vegetable crops (vegetative), fruit crops
- **Crop Condition:** Good
  - **Advisory:** Continue field preparation and planting of spring sugarcane. 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.
  - Harvest the kinnow fruits. 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.
  - Undertake planting of deciduous fruit plants like pear, grapes and phalsa before they start new growth. In citrus, apply irrigation before sprouting. Loquat trees which have already set their fruits may be applied with 1-2 irrigation. Ber trees should also be watered so that fruits can develop good size. To grapes, one irrigation should be given after pruning.
- **Advisory for Plant Protection:** Weather conditions are favourable for mild incidences of –
  - yellow rust in wheat, spray the crop with Tilt @ 200ml in 200 litres of water per acre.
  - aphid in mustard, spray the crop with 40 Actara 25 WG or 400 ml of Metasystox 25 EC Rogor 30 EC/Thiodan 35 EC/ Ekalux 25 EC or 600 ml of Dursban 20 EC in 80-125 litres of water per acre or apply 4 kg Thimet 10 G (Phorate) or 13 kg Furadan 3 G followed by light irrigation.
  - caterpillar in gram, spray 1.0 litre of Thiodan 35 EC or 100 ml Sumicidin/Fenlik/Agrofen 20 EC (Fenvalerate) or 160 ml Decis 2.8 EC or 80 ml Cymbush 25 EC in 100 litres of water.
  - To check Alternaria blight on raya pods, spray the crop with 250 g/acre of Blitox 50 WP or Indofil M-45 dissolved in 100 litres of water.
- **Animal Husbandry:** Deworming should be done in calves especially against Brucellosis. Get animals examined after 3 months of mating/artificial insemination for pregnancy diagnosis. Do not feed green, sprouted, soiled or rotten potatoes to dairy animals. These can cause serious and fatal poisoning.

## Haryana

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely over the State during next three days.
- **Major Rabi Crops:** Wheat (Ear head emergence), raya and mustard (pod formation).
- **Advisory:**
  - Apply the irrigation to wheat and raya/mustard crop.

- Farmers are advised to prepare field and complete sowing of summer sunflower hybrids varieties like MSFH-8, KBSH-1, KBSH-44, PAC-36, HSFH-848 and PCHS-234. Treat the seed with Bavistin 2 g or Thiram 3 g/kg seed.
- Undertake sowing of recommended varieties of summer maize like HM-4 and HQPM-1. 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:**
  - Continue field preparation and planting of spring sugarcane. Apply irrigation to *autumn* planted crop as per need of intercrops and sugarcane. Cover the soil with stubbles of harvested crop as trash mulch in ratoon crop.
  - The deciduous fruit plants like pear, grapes and phalsa may be planted before the old plants start new growth. In citrus, utmost care needs to be given to irrigation before sprouting. Loquat trees which have already set their fruits may be applied with 1-2 irrigation. Ber trees may also be watered so that fruits can develop good size. One irrigation may be given after pruning to grapes.
  - 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 –
  - yellow rust in wheat, spray the crop with Tilt @ 200ml in 200 litres of water per acre.
  - caterpillar in gram, spray 1.0 litre of Thiodan 35 EC or 100 ml Sumicidin/Fenlik/Agrofen 20 EC (Fenvalerate) or 160 ml Decis 2.8 EC or 80 ml Cymbush 25 EC in 100 litres of water.
  - alternaria blight/ downy mildew/ white rust in oil seeds, Spray the crop with 250 g Blitox or Indofil M 45 in 100 litres of water.
  - aphid in mustard crop and hence farmers are advised to keep a watch on the aphid build up and spray the crop as weather is clear with 250 to 400 ml Metasystox 25 EC or Rogor 30EC per acre. in 400 litres water per acre in the afternoon.
- **Animal Husbandry:** Deworming should be done in calves especially against Brucellosis. Get animals examined after 3 months of mating/artificial insemination for pregnancy diagnosis. Do not feed green, sprouted, soiled or rotten potatoes to dairy animals. These can cause serious and fatal poisoning.

## Delhi

- **Realised Rainfall:** No significant rain occurred over the State during last week.
- **Rainfall Forecast:** Mainly dry weather is likely over the State during the period.
- **Major Rabi Crops:** Wheat (tillering / ear emergence); pea and gram (pod formation); mustard (seed formation / maturity) and vegetable crops (vegetative / flowering / fruiting / harvesting).
- **Advisory:**
  - In wheat, irrigation should be applied at 20-25 days interval when wind speed is slow. Rouging is also advised. Collection of black coloured inflorescence (lose smut) and putting them in plastic bags and deep burying is advised.
  - Harvesting of the matured mustard is advised as clear sky is forecasted for the next five days. Immediate threshing after drying is advised. Attack of painted bug will be more if crop is kept in the field for long after harvesting.
  - Direct sowing of cucurbitaceous crop, ladies finger, French bean, cluster bean and summer radish is advised as present temperature is suitable for germination of seeds. Procurement of seeds should be done from a certified source.

- Farmers are advised to procure quality seeds from certified source for green gram and black gram for sowing during first week of March. Select varieties from Pusa Visal, Pusa Vaisakhi, PDM-11 and SML-32 for green gram and Pant Urd 19, Pant Urd 30, Pant Urd 35 and PDU1 for black gram. Seed treatment with *Rhizobium* culture as well as phosphorus solubilising bacteria is also advised.
- In view of clear weather, transplanting of young seedlings of tomato, chilli and cole crops may be carried out in this week.
- **Plant Protection:**
  - In present weather conditions, farmers are advised to monitor their vegetable and mustard crops against attack of aphid. To control an increasing pest population spraying of Imidacloprid @ 0.25 to 0.5 millilitre per litre of water in vegetable crops after harvesting of mature fruits and Metasystox @ 1 millilitre per litre of water in mustard crop is advised. In vegetable crops a waiting period of one week should be followed after spraying. Constant monitoring of oil seed mustard crop is advised as damage by this insect is very high.
  - Constant monitoring of early sown pea and cucurbitaceous crops against attack of powdery mildew should be done as there are high chances of attack of the disease. When symptoms appear spraying of copper oxychloride @ 2.5 grams per litre of water is advised.
  - Ploughing of mango orchard is advised to control emerging mango mealy bug nymphs. Wrapping of plastic sheets around mango trunk to prevent climbing of young mealy bugs should be done. Apply grease to seal any cracks in the polythene sheets.
  - 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. Spraying of Endosulfan or Malathion is also advised to control pod borer population.
    - 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).
    - fruit borer in tomato, installation of bird perches in tomato crop is advised to control fruit borer. Hand picking of damaged fruit and burying are advised. Installation of pheromone traps @ 2-3 traps per acre of crop field is advised for monitoring the tomato fruit borer.
    - shoot and fruit borer in brinjal, to control collection of infested fruits and shoots and burying these are advised. If pest population is high, spraying of Spinosad 12% SC @ 1 millilitre per four litre of water is advised.
    - pod borer in pea, constant monitoring of pea against pod borer with installation of pheromone traps @ 3-4 traps per acre is advised. Spraying of Bt formulation is advised.

### Uttar Pradesh

- **Realised Rainfall:** Rain occurred in Banda district of the State during last week. No significant rain is occurred in remaining districts of the State.
- **Rainfall Forecast:** Dry weather is likely over West and East Uttar Pradesh.
- **Major rabi crops:** Wheat (ear head formation), gram, pea, and lentil (seed maturity).
  - As there was no significant rain in most of the districts during last few weeks and there is no chance of significant rainfall during next five days, apply protective irrigation to the standing crops.
  - Undertake weeding, hoeing, irrigation as per requirement in wheat.
  - Undertake harvesting of early varieties of mustard, alsin, pea and lentil.
  - Continue land preparation and sowing of summer sunflower and maize under irrigated conditions.
  - Undertake sowing of recommended varieties of urd and sunflower after preparing the field and purification of seeds.
  - Farmers are advised to prepare the field for sowing of moong.
- **Major Seasonal Crop with stage:** Sugarcane (grand growth), winter sown sugarcane (early vegetative), vegetables (vegetative/fruitle), 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 cutting of fodder barseem.
  - 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.
  - Undertake transplanting the seedlings of summer vegetable crops in the main field. Complete sowing of Jayad Ladyfinger at the earliest.
- **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.
  - canker in lemon, spray the solution of Blitox 3-4 gram/litre of water.
  - fruit borer in gram spray the solution of Tricogramma card or Endosulphon 1.25 litre per hectare dissolving in necessary amount of water.
  - Kharra disease in Mango, spray the solution of soluble Sulphur 2gm/litre in water and to Control Bhunga insect, spray the solution of Monocrotophos @ 1ml/litre in water.
  - smut in wheat, if the earheads are affected such ear heads may be buried in ground or burn them.

## J & K

- **Realised Rainfall:** Some rain occurred in Kupwara and North Baramula districts and no significant rain occurred in remaining districts over the State during last week.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the State during next 48 hours and isolated rain is likely to occur thereafter.
- **Major Rabi crops:** Wheat, barley, brown sarson (late vegetative), vegetables (flowering / fruiting).
- **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 farm waste materials around the field to reduce the impact of low temperature.
  - Due to availability of sufficient moisture in soil, apply second dose of urea in early sown wheat & barley crop and 1st dose of urea @ 25% as top dressing in very late sown wheat crop under rainfed areas.
  - As sufficient moisture is available in soil, farmers are advised to undertake nursery sowing of tomato (Pusa Ruby & Pb. Chuhara), chilli (NP-46 A & Pusa Ruby) & brinjal (PPL, PPG, PPR & PK). Also undertake sowing of bhindi, beans and cucurbits. Apply nitrogenous fertilizer as top dressing in cabbage and cauliflower utilising available soil moisture.
  - Due to presence of sufficient moisture apply urea after cutting of berseem.
  - Farmers are advised to undertake planting of new orchards utilizing available soil moisture. Also carry out pruning of grapevine, phalsa, peach and plum crop.
- **Plant Protection:**
  - Weather is congenial for outbreak of powdery mildew in field pea; spray the crop with wetttable sulphur @ 0.25% or Karathene @ 0.05%.
  - The weather condition is favorable for white rust & downey mildew in late sown mustard crop; farmers are advised to spray the crop with macozeb @ 0.2% or copper oxychloride 50 @ 0.3%.
  - Due to prevailing condition some varieties of wheat & barley may be infested with loose smut; farmers are advised to rogue out the loose smut affected plants from wheat and barley fields in order to avoid more dispersal.
  - Due to the increase in temperature, there is chance of infestation of aphid in late sown mustard crop; spray Chloropyriphos 20EC @ 0.05% or Phosphamidon @ 0.03% or Metasystox @ 0.03%, if 50-60 aphids per 10 cm terminal shoot are infested when weather remains clear.

- Under present weather condition there is possibility of infestation of white rust and downy mildew in mustard; spray mancozeb @ 0.2% or copper oxychloride @ 0.3% at the appearance of white rust and / or downy mildew.
- To control of collar rot and root rot in gram, rogue out the affected plants and drench the affected patch of the field with thiram or captan @ 2 g / litre of water.
- **Animal Husbandry:** Protect the pregnant and milch animals from cold and feed them mineral mixture regularly.
- **Apiculture:** Farmers are advised to remove winter packing and clean bee hives. It is right time for initiating multiplication of earmark colonies showing good performance.

## Rajasthan

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State.
- **Major Crop with stage:** wheat (ear emergence / flowering), gram and mustard (seed formation / early maturity / maturity) vegetable crops (flowering / fruiting / harvesting).
- **Crop Condition:** Good.
- **Advisory:**
  - As dry weather prevailed during last week and is also likely to prevail for next three days, farmers are advised to apply irrigation in standing crops.
  - Harvest the early mustard crop when 75% pods turn yellow and seed moisture content is about 35% of seed weight. Harvesting should be done during morning hours to avoid shattering losses.
  - Stop irrigation 10 days before harvesting of potato. Dig using potato digger after drying of leaves and hardening of skin to minimise labour cost and cut injury to tubers.
  - It is right time for preparing the nursery of early summer brinjal & chilli. 500 g & 1.5 kg seeds of brinjal & chilli are required for one hectare. Treat the seeds with Thiram or Captan @ 2 g / kg seeds before sowing into nursery.
  - Farmers are also advised for sowing of summer okra. Select varieties from Pusa sawani, Pusa Makhmali, Parbhani Kranti, Arka Abhay and Arka Anamika. Use 20 kg seeds per hectare. Treat seeds with 1 g Carbendazim & 3 g Thiram per kg of seeds.
  - This is also right time for sowing of summer cucurbits. Before sowing treat the seeds with Bavistin @ 2 g per kg seeds. Soak the seeds for 24 hours in order to increase germination. Supply 100 kg N, 30 kg P<sub>2</sub>O<sub>5</sub> and 40 kg K<sub>2</sub>O per hectare. Give full quantity of P<sub>2</sub>O<sub>5</sub> & K<sub>2</sub>O and one third of Nitrogen at the time of sowing. Place the seeds in furrows clustering 2-3 seeds at one place.
  - Start transplanting of vegetable seedlings in the main field.
- **Animal Husbandry:**
  - Deworming is recommended in livestock during this period.
- **Plant Protection:**
  - Due to cloudy weather prevailed during last week, there are chances of purple blotch disease in onion; spray 0.25% solution of Dithane M 45 at 15 days interval to manage disease.
  - There is possibility of attack of pod borer in gram; dust Melathion 5% or Methyl Parathion 2% @ 20-25 kg / ha before flowering and pod formation to control pod borer attack in gram.
  - There are chances of leaf blight, karnal bunt and loose smut in wheat crop. Farmers are advised to spray 0.25% solution of Dithane M 45 at 15 days interval to manage leaf blight disease. Spray 0.2% solution of Propiconazole to manage karnal bunt disease. Farmers are advised to rogue out and destroy loose smut affected plants by burning to prevent its spread. Spray 2% Mencozeb 75 WP solution to manage loose smut disease.
  - There is possibility of attack of soft rot / black rot of cabbage; to control soft rot / black rot of cabbage, spray streptomycin @ 200 mg or copper oxychloride 2 g / litre of water.
  - There are chances of aphid attack in rose; spray 0.1% Melathion solution at 10 days interval to manage the pest.

- There is chance of late blight disease in potato. Farmers are advised to keep regular watch and drench leaves with 2% Mencozeb solution to manage the disease.
- If there is attack of aphids in mustard, cumin, fenugreek and barley, spray any of insecticides i.e. Dimethoate @ 250 ml / bigha or Monocrotophos @ 250 ml or Thiomethoxam @ 25 ml / bigha.
- Aphids may affect cumin & coriander under prevailing weather. Spray Dimethoate 30 EC or Melathion 50 EC @ 1 ml per litre water to control aphid in these crops.
- Tomato & brinjal crops are likely to be affected by fruit borer. To control this pest, spray Endosulfan 35 EC or Malathion 50 EC @ 1 ml per litre of water or spray *Bacillus thuringensis* Kastki (Dypel-8 L) @ 1 litre water with Methomil 40 SP @ 600 gm per hectare. Repeat spray after 15 days if problem persists.
- Due to rise in temperature wheat and barley crops may be attacked by termite. Give chlorpyrifos 20 EC @ 4 litres or Endosulfan 35 EC @ 2.5 litres per hectare with irrigation. Repeat the same if needed.
- Methi, pea, cumin and coriander are likely to be affected by powdery mildew attack. Spray Karathene @ 1 ml or Calaxin @ 1 ml per litre of water or dust sulphur @ 25 kg per hectare.

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

### Bihar

- **Realised Rainfall:** There was no significant rainfall in most of the districts of the State received during last week.
- **Rainfall Forecast:** Mainly dry/dry weather is likely to occur over the State for next five days.
- **Major Rabi Crops:** Wheat (ear emergence), maize (vegetative), potato (tuber formation / early maturity), gram, pea, and lentil (pod formation).
  - As there was no significant rainfall in most of the districts of the State and no significant rain 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. Provide irrigation in wheat crop during ear emergence stage also and apply last top dressing of urea @ 88 kg / ha.
  - Farmers advised to undertake dehauling in potato.
  - Prepare the field for sowing of summer sunflower, maize and transplanting of onion seedling. Lasso weedicide may be applied in the field of onion for control of weeds.
  - Prepare the field and undertake sowing of spring sugarcane and fodder crops.
  - Provide weeding and earthing up in *rabi* maize crop.
  - 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.
  - Farmers are advised to provide the irrigation in potato at the interval of 10 to 15 days. Stop irrigation 2 weeks before harvesting of the crop.
- **Major Seasonal Crop with stage:** Sugarcane (grand growth) and vegetables (vegetative / fruiting), 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 land preparation for sowing of summer vegetable like brinjal, chillies and tomato etc.
  - Apply irrigation and apply top dressing of urea in already sown vegetable crops like tomato, brinjal, cauliflower and cabbage etc.
  - Apply irrigation to newly planted fruits trees and if the fruit trees are in flowering, do not apply irrigation.
- **Plant Protection:**
  - Weather conditions are favourable for mild incidences of
    - aphids in rape seed and mustard. Farmers are advised to spray Monocrotophos @ 1.0 ml / liter of water or Endosulphan @ 2.0 ml / liter of water.

- late blight in potato, spray Dithane M-45 or Ridomil @ 2gm/liter of water for control of late blight of potato.
- powdery mildew in peas, apply Sulfex @ 2 g / liter of water or Bavistin @ 1 g / liter of water or Karathane @ 1 g / liter of water for control of the disease.
- stem borer and pod borer in peas, gram etc. Spray Endosulphan 35 EC @ 1.5 ml / liter of water at 15 days of intervals.
- powdery mildew disease in mango, spray Metasystox @ 1 ml or Sulphex @ 2 g dissolved in 1 liter of water.

### **Jharkhand**

- **Realised Rainfall:** Rain occurred in Bokaro district of the State during last week. No significant rain is occurred in remaining districts of the State.
- **Rainfall Forecast:** Mainly dry/dry weather is likely during next five days.
- **Major Rabi Crops:** Wheat (ear head emergence), rai, *toria*, gram, mustard (pod formation), peas (pod formation).
- **Crop Condition:** Good.
- **Advisory:**
- As there was no significant rainfall in most of the districts of the State and no significant rain is likely for the next five days, the farmers are advised to apply irrigation to the standing *rabi* crops.
- Apply second irrigation at pod formation stage in mustard. During grain formation, farmers are suggested to give irrigation as per need and spray with salicylic acid @ 1 gm /10 litre of water.
- Farmers are advised to apply second top dressing of urea in late sown wheat. Also provide fourth irrigation at the time of flowering.
- Continue nursery sowing for summer rice with irrigation facilities. Undertake transplanting with 2 to 3 seedling maintaining 20 cm between row to row and 10 to 15 cm between plant to plant. Before transplanting apply 18 kg DAP, 11 kg Urea, 14 kg MOP per acre.
- Undertake weeding, intercultural operations and top dressing in early sown *rabi* crops.
- Undertake field preparation and complete sowing of summer rice.

**Major Seasonal Crop with stage:** Sugarcane (vegetative / grand growth), vegetables (vegetative).

- **Crop Condition:** Good
- **Advisory:**
- Farmers are advised to maintain moisture level of soil in pea. If the age of plant is more than 30 to 35 days then twigging may be done to generate extra income. Twigging is only done in those fields where moisture level is sufficient and growth of crop is sufficient.
- Give irrigation and undertake intercultural operation in tomato crops.
- In all vegetables crops, to maximize the growth of plants, spray with NAA crop growth hormone @ 1 g / litre of water. This also prevents the dropping of flower and helps in growth of fruits too. On spraying a solution of TIBA-Tri Iodo Benzoic Acid @ 50 ppm at the stage of 3 to 4 leaves of plant at the interval of 15 to 20 days to increase the female flowers resulting in the increase of fruit production.
- Farmers are advised to spray ammonium molybdate @ 1 g / litre of water in cauliflower to manage the deficiency of molybdenum and to maintain the quality of cauliflower. Apply required irrigation in morning.
- Farmers are advised to apply irrigation in potato at 10 to 15 days interval. Stop irrigation 10 – 15 days before harvesting.
- Farmers are advised to spray urea at 25 to 30 days after sowing and other dose at 60 days after sowing. Brinjal sown in the month of December may be applied urea only when the moisture is available in the soil. According to need irrigation may be given at the interval of 10 to 15 days.
- Farmers who have taken early potato may go for onion in fallow land after harvesting of potato. Good varieties of onion are Pusa Ratnar, Pusa Red, N53, Arka Niketan etc.

- **Plant Protection:** Weather conditions are favourable for mild incidences of
  - aphids and blight in mustard and rai, apply metasystox (25 EC), monocrotophos @ 2 g per liter of water for aphids and Dithane M 45 @ 2.5 g / litre of water for blight.
  - powdery mildew in early pea, spray Karathane @ 1 ml / litre of water or sulfex 3 g / litre of water.
  - leaf folder in arhar, spray Endosulfan @ 2ml / litre of water.
  - stem borer in brinjal, cut it down and bury in soil. To prevent the plant from fruit and shoot borer spray emidochloropid 1.0 ml / liter of water or install 12 to 15 pheromone traps / hectare.
  - white fly and leaf hopper in early sown vegetables, spray monocrotophos 40 EC @ 1.5 ml / litre of water.
  - mosaic disease in tomato, treat the roots of tomato plant by emydamloprid 0.25% solution before cropping.
  - aphids in vegetables, spray Nemerin @ 2 ml / liter of water.
  - blight disease in linseed, spray Mancozeb @ 2 ml / litre of water.
  - fruit and shoot borer in brinjal, spray Imidachloropid 1.0 ml/liter of water or install 12 to 15 pheromone trap/hectare.

## Orissa

- **Realised Rainfall:** There was no significant rainfall in most of the districts during last week over the State.
- **Rainfall Forecast:** Isolated rainfall is likely during next 48 hours and mainly dry weather is likely thereafter.
- **Major *rabi* Crops:** wheat (ear head emergence), pulses (pod formation), sunflower, groundnut (vegetative), mustard (pod formation / early maturity).
- **Advisory:**
  - As there was no significant rainfall in the State during last week and no significant rainfall is likely for the next five days, apply irrigation to the *rabi* crops.
  - Undertake weeding and intercultural operations in *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.
- **Major Seasonal Crop with stage:** Sugarcane (early vegetative), vegetables (fruiting / harvesting), onion (vegetative).
- **Crop Condition: Good**
- **Advisory:**
  - Undertake weeding, intercultural operations and application of fertilizers in vegetables.
  - Hoeing and weeding may be carried out in early planted sugarcane and apply 50 kg of Nitrogen followed by earthing up. In 45 days old ratoon crops, apply 40 kg Nitrogen followed by irrigation.
  - 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-P<sub>2</sub>O<sub>5</sub>- K<sub>2</sub>O / acre may be applied at the time of land preparation.
- **Plant protection:** Weather conditions are favourable for mild incidences of
  - downey mildew in cucurbits, spray Indophil-M-45 @ 3 ml per litre of water.
  - Eryophyid mites in coconut spray, Neemazol 4 ml per litre water at the top of the plant or root injection may be done by dipping the roots with the solution of 7.5 ml Neemazol in 7.5 ml clean water in a polythene bag by giving a slant cut to the roots.
  - thrips in groundnut, spray Dimethoate @ 400 ml or Imidachloprid @ 50 ml in 200 litre water per acre.
  - thrips in chilli, spray Imidaclorpyrid @ 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.

- aphids 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, saw fly and borer in cole crops, spray Malathion @ 2 ml / litre of water.
- late blight in potato, spray 2 kg Dithane-M-45 in 500 litres of water thoroughly.
- blight in mustard, spray 1 kg Copper Oxochloride or 800 g Dithane-M 45 / acre in 200 litres of water to control.
- tikka disease in groundnut, spray Saaf / Sixer @ 2 g / 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 150 g Dimilin and 300g Caldan in 200 litres of water in 1 acre to control fruit and shoot borer in brinjal.
- fruit and shoot borer in brinjal, spray, Spintor @ 3.5ml in 15 litre of water.
- aphids and white fly in tomato, apply Metasystox @ 2 ml / 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:** Rain occurred in Bankura, Hoogly and Purulia districts during last week. No significant rain occurred in remaining districts of the State.
- **Rainfall Forecast:** Isolated rain is likely to occur in Gangetic West Bengal during next 24 hours and mainly dry weather is likely to prevail thereafter over the State.
- **Major Crops:** *Boro* rice, vegetables, mustard.
- **Crop Stage:** Sugarcane (vegetative), vegetable crops (vegetative / flowering / fruiting / harvesting), mustard (seed formation / early maturity), *boro* rice (transplanting / tillering), potato (tuber formation / early maturity / maturity).
- **Crop Condition:** Good.
- **Advisory:**
  - The seedlings of *boro* rice become ready for transplanting within four to five 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.
  - Top dress the early transplanted *boro* rice at 3 weeks after transplanting or at the beginning of tillering stage @ 15 kg urea per bigha. In case of zinc deficient of soil apply zinc sulphate @ 4 kg per bigha at the time of first topdressing. At the time of topdressing it is better to keep the field dry. Mix the fertilizer thoroughly with the soil after application. After 48 hours of fertilizer application, apply irrigation to obtain better fertilizer use efficiency.
  - Prepare well-drained sandy to heavy loam soil and start green gram sowing. The recommended varieties are TM-99-50, PDM-11, TARM-1, 2 (resistant to powdery mildew) and Samrat. The seed rate is 2.5-3 kg when sown in broadcasting and recommended fertilizer dose is 4-5 kg urea and 35-40 kg SSP / bigha.
  - 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.
  - Early sown mustard must be harvested as the temperature is rising.



- Prepare the land for sesame and start sowing seeds of improved varieties like Tilotamma, Roma etc.
- Undertake sowing of high yielding varieties of groundnut like A.K. 12-24, J. L.-24.
- For vegetables like ridge gourd, bitter gourd and pumpkin, weeding should be done to loose the basal soil. Then topdress nitrogen fertilizer along with a light irrigation.
- In fruit dropping case of chilli, brinjal and tomato, spray Planofix @ 1 ml per 4 litres of water.
- Planting of gladiolus should be started. Before planting the corms should be treated with Cabendazim @ 1 g / litre of water.
- As there was no significant rain during last week except in Bankura, Hoogly and Purulia districts 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. Start harvesting of already matured potato.
- **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.
  - To prevent the attack of late blight in potato, spraying of Mancozeb (2 g / litre of water) and Copper oxichloride (4 g / litre of water) alternately at 10-12 days interval by completely wetting the leaves are necessary. If attacked by late blight spray the mixture of Metalaxyl 8% and Mancozeb 64% @ 1 to 1 ½ g per litre of water alternately at 12-15 days interval by completely wetting the leaves. In severe cases of attack spray Simoclanil + Mancozeb (2.5 g / litre). If not irrigated, then wait for 2-4 days and irrigate at noon time under intense sunlight.
  - In late sown mustard, aphid infestation may be high this week as there is a possibility of rise of temperature. Apply 1.5 ml metasystox / rogor per litre of water to control the pest.
  - In the prevailing weather situation, powdery disease may be prevalent in sunflower. Apply 2 g sulphur containing pesticide like sulphex or 2 g Krilexyl per litre of water.
  - Apply 2 g carbaryl or 1.5 ml monocrotophos per litre of water to prevent the attack of mango hopper.
  - There is chance of attack of stem rot in brinjal, spray tricyclagel @ 0.5 gm /litre of water.
- **Fisheries:** For fish cultivation, lime should be applied @ 40 kg / bhigha in the pond.

## Sikkim

- **Realised Rainfall:** No significant rain occurred 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 (milk / dough), seed potato (sowing / germination); **(b) Medium hills (1000 to 1500 m):** Large cardamom (vegetative), *rabi* vegetables (harvesting), mustard (seed maturity / harvesting), wheat (milk / dough), *rabi* potato (tuberisation); **(c) Low Hills (Below 1000 m):** Large cardamom (vegetative), *rabi* vegetables (harvesting), mustard (seed maturity / harvesting), wheat (flowering), *rabi* potato (tuberisation).
- **Crop Condition:** Good.
  - **Advisory:**
    - As dry condition is prevailing, farmers are advised to apply irrigation to wheat crop.
    - 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 comse out easily while pulling.
    - For replanting of old and disease effected gardens of cardamom, all old plants should be uprooted, cut into pieces and buried in the pits or burnt to avoid the spread of diseases and to keep the plantation ready for planting.
    - Harvesting of vegetables may be undertaken.
    - Undertake first weeding in *rabi* potato at 20-40 days after sowing when the plants are 10-15 cm height and second weeding at 60-70 days after sowing followed by irrigation.
- **Plant protection:**
  - Chirke and Foorkey infected cardamom plants may be destroyed by uprooting and buried in the pits at regular intervals.

- 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:** Isolated rain is likely to occur over the State during next 24 hours and mainly dry weather is likely to prevail thereafter.
- **Major Rabi Crops:** Wheat (flowering / milk), potato (tuber formation / early maturity / maturity), pea, arhar (pod formation / early maturity / maturity) and mustard (seed formation / early maturity / maturity), vegetables (vegetative / flowering / fruiting / harvesting), *boro* rice (transplanting / tillering).
- **Advisory:**
  - Transplant the seedlings of *boro* rice in main field at 3-4 leaf stage and complete transplanting at the earliest. While preparing main field apply fertilizer @ 18 kg Urea, 27 kg SSP, 6 kg MOP per bigha.
  - Seed beds are to be prepared measuring 1 m wide, 10 m in length and 30 cm apart for preparation of nurseries of early *ahu* rice. In each bed, 20-30 kg dry cow dung, 80 g urea, 80 g SSP and 40 g MOP should be incorporated. Recommended high yielding varieties should be selected for cultivation and seeds are to be treated with Indofil M-45 @ 2.5 g / kg of seeds (dry treatment) before sowing.
  - Sow seeds of Banglami, Nilajee etc. in well pulverized field under dry conditions for cultivation of direct seeded early *ahu* rice. Apply P and K @ 9 kg and 2 kg / bigha. Do not apply N as basal.
  - Apply irrigation to wheat as there will be no significant rain during next five days.
  - 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.
  - As the dry weather is likely to continue, matured potato crops may be harvested during next 4-5 days.
  - Pre sowing light irrigation is advocated due to prevailing dry condition especially in light textured soil for sowing of maize. Use hybrid seeds. Apply irrigation at knee high stage due to prevailing dry conditions in early sown crop.
  - 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. Cucumber varieties like Chinese Green, Apple Cucumber, Pusa Sanjog etc. may be sown at 120 cm x 150 cm spacing. Pre sowing irrigations essential as there is no rain for a long period.
  - This is Ideal time for sowing of late Cole crop seedlings. Some of the popular varieties of late Cole crops are Pusa Snow Ball K-1 and Snow Ball 16 for cauliflower, Drum Head for cabbage and Purple Viena for Knolkhol.
  - 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.

- 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.
- Farmers are advised to spray MOP @ 1 kg per 100 litres of water at 10-15 days interval in drought prone areas. Spraying should be done during early morning or late evening.
- **Plant protection:**
  - Monitoring of loose smut disease of wheat is advised. Infected plants are to be rouged out and burnt away from the field.
  - As there is chance of infestation of stem borer, gall midge, leaf folder etc. in *boro* rice, apply Carbofuran 3 G to protect the crop.
  - Farmers are advised to adopt precautionary measures to prevent late blight disease in potato and tomato crops. For this purpose recommended dose of Dithane M-45 or Dithane Z-78 is to be sprayed at 15 days interval.
  - As there is chance of infestation of aphids and saw fly in mustard, apply Rogor 30 EC @ 2.5 ml / litre of water to control the pests.
  - As there is chance of attack of leaf eating caterpillars in cole crops, farmers are advised to spray Malathion 50 EC @ 1.5 ml / litre of water.
  - Wilt disease in linseed is observed in some areas. Farmers are advised to protect their crop by soil drenching with Bavistin @ 1 g / litre of Water.
  - Rust in field pea has been observed in some locality. To prevent the spread of this disease Calixin @ 1-2 ml / litre may be applied 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.
- **Fishery:** As the water level of ponds are going down, the fishery owners may arrange for partial harvesting of marketable sized fish (>700gm). Measures to be taken to prevent EUS disease through liming. To control EUS, dip treatment in 500 ppm potassium permanganate solution may be practiced.
- **Animal Husbandry:**
  - Dry paddy straw for hay making and preserve for future use. Store paddy straw by making silage.
  - Vaccination to control the Ranikhet & Gumboro diseases of poultry may be done during this period. Artificial lighting may be provided in the poultry house to raise the temperature and to keep the house comfortable for the birds.

### Arunachal Pradesh

- **Realised Rainfall:** Rain occurred in Upper Siang district of the State during last week. No significant rain is occurred in most of the districts of the State.
- **Rainfall Forecast:** Isolated rainfall is likely over the State during next five days.
- **Major *rabi* Crops:** Pea, maize, potato
- **Crop Stage:** Pea (pod formation), maize (flowering), potato (tuber formation)
- **Crop Condition:** Good.
- **Advisory:**
  - As there was no significant rain in most of the districts except Upper Siang district during last week and there is no chance of significant rainfall during next five days, apply protective irrigation to the standing crops.
  - 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)
  - 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:** Isolated rainfall is likely over coastal Andhra Pradesh during next 48 hrs and dry weather thereafter. Dry weather is likely over Telangana and Rayalaseema during next five days.
- **Major Crops:** Cotton, Sugarcane and Vegetables
- **Crop Stage:** boll development (cotton). *Rabi* crops are at grain formation 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 i.e, 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% KNO<sub>3</sub> should be taken up two times at weekly intervals.
  - Farmers in high altitude tribal zone and Northern Telangana zone are advised to apply complex fertilizers like DAP as top dressing in paddy. Spray zinc sulphate @ 2 g/litre of water to control the zinc deficiency in rice field.
  - Farmers in high altitude tribal zone are advised to undertake apply 20 kg Urea per acre to maize crop after intercultural operations and give irrigation.
  - 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 mites in groundnut in Ananthpur district and the same is also observed in Pampanur and Rotarypuram villages. To control leaf miner, spray Profenophos @ 1.5 ml per litre of water.
  - *Maruca* pod borer in Redgram in Ananthpur district. To control spray Chlorpyriphos @ 2.0 ml + Nuvan @ 1.0 ml or Riman @ 1.0 ml per litre of water.
  - leaf miner and late leaf spot 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. Spray Mancozeb @ 2g+Bavistin @1 g or Hexaconazole @ 2ml or Contof @ 2 ml per litre of water to control leaf spot.
  - powdery mildew and thrips in high altitude tribal zone in vegetable crops. Farmers are advised to spray Tridimorph @ 1.0 ml or Dinocap @ 1.0 ml per litre of water for powdery mildew disease and Malathion or Dimethoate or Methyl dematon @ 2.0 ml per litre of water for control of thrips.
  - stem borer in rice, to control spray 5 kg Phorate/acre.

- powdery mildew in mango orchards in Kurnool district and hopper and shooty mould in northern telangana zone. To control powdery mildew, spray Wettable Sulphur @ 2 g or Hexaconazole @ 1 ml or Tridemiphos @ 1 g per litre of water and to control mango hopper and shooty mould spray Monocrotophos @ 1.6 ml/l plus wettable Sulphur @ 3 g/litre.
- yellow vein mosaic in rice fallow blackgram in Krishna and Guntur districts. To control, spray Monocrotophos @ 1.6 ml or Acephate @ 1.5 g or Dimethoate or Triazophos @ 2 ml per litre of water duly uprooting affected plants.
- early shoot borer is noticed in sugarcane. To control, adopt the following IPM measures.
  - Plant the setts in deep furrows.
  - Spray Lindane @ 10 kg per acre in 2:3:4 ratio at 0, 30 and 60 days after transplantation.
  - Give irrigations at close intervals.
  - In sugarcane field, at 3 days after transplantation and in ratoon crop immediately after ratooning, spread sugarcane trash @ 1.25 tonnes per acre.
  - Spray Endosulfan @ 2 ml per litre of water at 4, 6 and 9th week after transplantation.
  - Release parasitic complex Trichogramma chelonis @ 20,000 per acre at 30 days after transplanting, 4 times at 10 days interval.
- 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.
- stem borer in maize in Warangal district. To control, spray Endosulfan @ 2 ml per litre of water. If sufficient moisture is available, apply Carbofuran granules 3G @ 3 kg per acre in the whorls.
- thrips, mealy bugs and powdery mildew in grapes in Southern Telangana zone. To control, Thrips - Remove the weeds in the grape orchards
  - Remove and destroy the infested shoots
  - Spray Dimethoate or Oxydemeton methyl @ 2 ml or Thiomethoxam @ 0.25 g per litre of water.
 Mealy bugs
  - Remove and destroy the infested shoots and fruit bunches
  - Rub and destroy the mealy bugs on the bark using piece of gunny bag
  - Remove the bark and apply to the stem, Carbaryl @ 6 g + COC @ 10 g + Neem oil @ 1 ml + Sticker @ 1 ml per litre of water.
  - Spray Dichlorvas @ 2 ml or Methomyl @ 1 g per litre of water.
 Powdery mildew
  - Spray Wettable Sulphur @ 2 g or Hexaconazole @ 1 ml or Tridemiphos @ 1 g per litre of water.
- Dry weather condition in Northern Telangana Zone is favourable for incidence of Tikka leaf spot in groundnut. To control spray Chlorothalonil @ 2g/l.
- shoot and capsule borer in *rabi* castor. To control, spray Dimethoate or Methyl – O – Demeton or Monocrotophos @ 2 ml per litre of water once at flowering and another spray 20 days after first spray. If severe incidence is noticed, spray Acephate @ 1 g per litre of water.

## Karnataka

- **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 Crops:** Wheat (flowering), Pigeonpea (maturity), Sunflower (maturity), Vegetables (Flowering/fruitletting/harvesting), *Rabi* Sorghum (grain formation), Bengalgram (Pod filling/harvesting), Safflower (pod filling).
- **Advisory:**
  - Farmers are advised to provide irrigation to *rabi* crops as well as dry land horticultural crops as dry weather is likely to prevail for the next five days and there was no significant rainfall during last week.
  - Farmers are advised to undertake harvesting of green gram, black gram, cow pea etc. in coastal Karnataka.
  - Farmers are advised to undertake harvesting of cotton, sorghum in north east dry zone.
  - 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 @ 2 gram/kg seeds and apply 5kg carbofuran and 50 kg neem cake to nursery bed to avoid rice root knot nematode.
- Undertake picking of cotton during morning and evening cool hours.
- 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.
- 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 Uttar Kannada district are advised to take up the sowing of pulses and also green manure crop sunhemp to utilize residue moisture after harvesting of paddy crop, farmers can make the arrangement of seeds.
- Farmers are advised to continue sowing of groundnut and sunflower in south Transition zone. Before sowing treat the seeds of sunflower with Imidacloprid @ 5 g/kg seeds and seeds of groundnut with Trichoderma @ 4gram/kg seeds
- Undertake sowing/transplanting of sweet gourd, ridge gourd and onion under irrigated condition in northern dry zone.
- Farmers are advised to apply Urea 2Kg+ Muriate of Potash 2 Kg in 200 litres of water along with kaolinite spray in Nilgiris to overcome moisture stress in Tea garden.
- **Plant protection:** Present weather conditions were congenial for the incidence of
  - powdery mildew diseases may appear in grape, spray 1 ml Amistar dissolved in one liter of water.
  - bacterial blight disease in pomegranate, spray the crop with Streptomycin Sulphate 0.5 g. + Copper oxychloride 2 g. dissolved in one liter water. Then take up spraying of micro nutrients viz., 1 g. Zinc Sulphate + 1 g. Magnesium Sulphate + 1 g. Borax + 1 g. Calcium dissolved in one liter of water.
  - leaf minor and thrips in groundnut, to control leaf minor spray with Quinolophos (2ml/lit) and to control thrips spray with Dimethoate @3g/lit of water.
  - leaf spot and bud necrosis in sunflower in Chitrdurga, Davanegere and Tumkur districts, spray with Mancozeb 2g/lit and Imidacloprid (0.5ml/lit) respectively. Powdery mildew in betelvine in the same region and farmers are advised to spray with wettable sulphur (3-4g/lit). Purple blotch in onion, spray Chlorthalonil (2g/lit).
  - leaf spot in Banana. Farmers may undertake spraying of DM-45@ 1.7 ml/lit of water to control it.
  - pod borer in gram; to control 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 powdery mildew 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 @ 1.0 ml/liter of water.

### Kerala

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Isolated rainfall is likely to occur for next two days and mainly dry weather thereafter.
- **Major Rabi Crops:** Rice (flowering/grain formation)
- **Crop Condition:** Good.



- **Advisory:**

- Farmers are advised to apply top dressing of nitrogen in pancha rice in Palakkad district.
- Farmers of Wayanad district are advised to undertake harvesting of arecanut, pepper, coffee and cardamom. Start land preparation and planting of ginger.
- Farmers of Thrissur district are advised to continue sowing of Pancha 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.
- Complete the harvesting of rice in Trivandrum district.
- **Major Seasonal Crop:** Vegetables and plantation crops (coconut, arecanut, pepper and cashew).
- 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.
- This is an ideal time for planting pepper. Apply mulch and protect the plants from the scorching sun.
- 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.
- This is ideal time for planting banana. In existing crops apply mulch and start irrigation. Apply 25 g phorate or 20 g Carbofuran around the rhizome for reducing nematode population.
- Farmers in Thrissur district are advised to give propping to bunched rainfed banana. 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 –

- mealy bug infestation in vegetables and Papaya, other garden plants are also affected by mealy bug. Spray dimethoate at 0.05% to control them.
- 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.
- fruit fly attack in cucurbits. 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:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Rainfall is likely at isolated places for next three days.
- **Major Rabi Crops:** Groundnut, pulses and *thaladi* rice, sugarcane, banana and vegetables.
- **Crop Stage:** panicle initiation/flowering (rice), 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 Tuticorin, Virudunagar and Thirunelveli are advised to undertake harvesting of pulses, maize, sorghum, sunflower and cotton as dry weather conditions prevail during these days.
  - Monitor the leaf colour of paddy crop by using Leaf Colour Chart in Tuticorin, Virudunagar and Thirunelveli districts. The critical value is 3 for White Ponni and 4 for other varieties. When the leaf colour is below the critical level, apply N at 50 kg/ha, K at 50 kg/ha and zinc at 25 kg/ha. In SRI, for the rice crop at booting stage, apply N at 37.5 kg/ha and use rotary weeder.
  - Farmers in Thanjavur, Trichy, Nagappattinam and Thiruvavur are advised to undertake intercultural operations in rice fallow pulses viz., black gram and green gram. In the rice fallow black gram, spray 2% DAP + 1% KCl solution on morning or evening at flower initiation and another spray at 10 days interval.
  - Farmers in Namakkal district are advised to top dress the maize crop with 60 kg of urea/acre between 20 and 25 days age. Between 40 and 45 days, the crop may be top dressed with a further dose of 30 kg urea along with 15 kg of potash per acre followed by irrigation.
  - 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
  - aphids, thrips, and hopper in the rice fallow black gram, spray Azadiractin 0.03 per cent (3 ml/L of water) solution with sticking agent (khadi gopura bar soap @ 3g/l) as preventive spray.
  - leaf folder in rice. Monitor the crop for the incidence and spray neem seed kernel extract 5%.
  - mealy bug incidence in cotton. Monitor the crop for the incidence and spray fish oil rosin soap 4%.
  - leaf spot incidence in vegetable crops. Monitor the incidence and spray carbendazim 500g/ha or spray Pseudomonas @ 200g/acre.
  - muranai mite in chillies in Tuticorin district, spray dicofol at 1.5 l/ha or wettable sulphur at 3.75 kg/ha.
  - sucking pests and fruit borer in chilli in Thirunelveli due to high humidity; spray Methyl demeton @ 200 ml/acre and Chlorpyrifos @ 600 ml/acre for fruit borer..
  - High humidity and cloud cover forecasted during the coming days will promote the incidence of boll worms in cotton in Tuticorin district. For destroying the eggs of this pest use Trichogramma egg parasite at 7.5 cc/ha are spray NPV at 250 LE/ha (1 LE is equal to 3 diseased larvae). If incidence is severe use phosalone at 2.5 l/ha are quinolphos at 2 l/ha or carbaryl at 2.5 kg/ha.
  - 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:** Some rain occurred in Latur and Wardha districts of the State during last week. No significant rain is occurred in most of the districts of the State.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the State 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* (grain formation / early maturity), safflower ( seed formation / early maturity), sunflower (seed development / early maturity), gram (pod formation / early maturity), wheat (flowering / milk), mustard (pod formation), linseed (flowering / seed formation), vegetables and summer rice (transplanting / early tillering in South Konkan), summer groundnut (sowing / germination / early vegetative), summer sunflower (sowing / germination).
- **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 and summer sunflower. Select varieties from TPG 41, TG 26, TAG 24, SB 11 & ICGS 11 for summer groundnut and hybrid varieties like K.B.S.H.-1, S.S.F.H.-8 and Phule Raviraj and high yielding varieties from Modern, Bhanu and SH-56 for summer sunflower.
- Start sowing of summer soyabean & summer maize. For sowing of soyabean select varieties from MCS-450, JS-335 or Phule Kalyani and for maize select medium duration varieties like KH-9451, Deccan-103, Ganga-11 or mixed varieties Manjri, Kiran, Panchaganga etc.
- 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.
- Undertake sowing of summer ridge gourd by selecting a variety from Pusa Nasdar and Kokan Harita and for bitter gourd select variety from Hirkani and Phule Green Gold.
- Apply 34 kg Nitrogen / ha (74 kg Urea) to pre seasonal sugarcane after 12 to 16 weeks from planting followed by irrigation.
- Apply Nitrogenous fertilizer 40 kg / ha for one month old rice crop in Konkan.
- Apply fertilizer dose of 330 g N + 330 g K<sub>2</sub>O per coconut tree of above five years age while for arecanut apply 75 g N + 75 g K<sub>2</sub>O per trees of 3 years old. Irrigate the trees after fertilizer application.
- As there was no significant rain in most of the districts during last few weeks and there is no chance of significant 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.
- Start harvesting of already matured *jowar* in morning hours and continue harvesting of already matured red gram.

- **Plant Protection:**

- Due to cloudy weather & rise in temperature, there is possibility of infestation of aphids and rust disease on late sown wheat. Alternate spraying of Dipenconazol @ 10 ml or Tilt @ 10 g in 10 litres water thrice at 10 days interval.
- Due to change in weather there may be attack of thrips in mango. Spray Phosalon 35% @ 15 ml or Dimethoate 30% @ 10 ml / 10 liters 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.
  - blight in rice, spray Carbendazim @ 1 g / litre or Copper oxychloride @ 2.5 g / liter of water.
  - tikka disease in summer groundnut in Konkan, spray Carbendazim @ 1 g / liter of water at 10 days interval.
  - 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:** There was no significant rain during last week over the State.
- **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 (seed formation / early maturity / maturity), gram (seed formation / early maturity), potato (tuber formation / early maturity / maturity) and vegetables (vegetative / flowering / fruiting / harvesting).
- **Crop Condition:** Crop condition is satisfactory.
- **Advisory:**
  - Apply irrigation to wheat at flowering / milk / dough stage as dry condition is prevailing over the State during last few weeks.
  - As dry condition is prevailing, start harvesting of already matured crops of mustard and gram.
  - If leaves of isabgul & cumin are dried, harvesting should be done in early morning.
  - 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 P<sub>2</sub>O<sub>5</sub> / ha at the time of land preparation. Treat the seeds with thirum @ 3 g / kg seeds before sowing.
  - Prepare land and undertake sowing of green gram. Procure seeds of Guj. Mung-3, 4 for summer sowing. Treat seeds with *Rhizobium* culture @ 1 packet / 8 kg seeds.
  - Start sowing of cow pea. Procure seeds of Guj. Cowpea-4, 5 and Pusa Falguni for summer sowing under assured irrigation. Treat seeds with *Rhizobium* culture @ 1 packet / 8 kg seed.
  - Farmers are advised to apply irrigation to gram and mustard wherever the crops are at seed formation stage.
  - Farmers are advised to prepare main field and complete transplanting of summer rice at the earliest. Before transplanting summer rice, give root treatment @ 1 kg / ha of azotobacter or azospirillum dissolved in 30 litres water for 15 min.
  - 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. Apply 40+40+0 kg / ha NPK as basal dose.
  - Farmers are also advised to apply irrigation to standing crops as dry weather is prevailing for last few weeks.
  - Stop irrigation in potato two weeks before harvesting. Start harvesting of already matured crops.
- **Major Seasonal Crop:** Fruit crops and Sugarcane (vegetative / harvesting).
  - Pluck matured guava and papaya fruits and take them to market after proper grading.
  - Carry out weeding in citrus orchard and apply fertiliser.
  - Spray 0.5% zinc sulphate or 0.2% ferrous sulphate in banana for higher yield and good quality.
- **Plant Protection:**
  - Due to cloudy sky prevailed during last week, there are chances of increased infestation of sucking pests in vegetables. Spray dimethoate 30 EC @ 0.1% to manage sucking pests in the crop.
  - Weather conditions are favourable for mild incidences of –
    - 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.
    - 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 Endosulfan @ 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.
- **Animal Husbandry:**
  - Make hay and silage to ensure fodder availability during ensuing summer season.
  - Keep exotic breed of cow indoors during noon time.
- **Poultry:** Avoid transportation of poultry birds between 11 to 17 hrs.

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

### Madhya Pradesh

- **Realised Rainfall:** No significant rainfall occurred in the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State.
- **Major Rabi Crops:** wheat, pulses, gram (late vegetative/ear head emergence), mustard (pod formation), sugarcane (cane development), cotton (boll development/ maturity) and vegetable crops (late vegetative)
- **Crop Condition:** Satisfactory.
- **Advisory:**
  - Apply irrigation in timely and late sown wheat as per requirement. Apply remaining dose of Urea in wheat field after irrigation.
  - Undertake pit preparation for planting of new orchard crops. Farmers are advised to continue transplanting of onion, cabbage.
  - Farmers should irrigate their berseem crop after cutting of green fodder and give nitrogenous fertilizer as per recommendation.
  - Undertake sowing of groundnut, moong, urad, summer ladyfinger, cucurbits, coriander and fenugreek.
- **Major seasonal Crops:** Guava, citrus, papaya
- **Crop Condition:** Satisfactory.
- **Advisory:**
  - Undertake pit preparation for planting of new orchard crops. Undertake weeding, intercultural operations and application of fertilizers in guava.
  - Undertake sowing of summer ladyfinger, cucurbits, coriander and fenugreek.
  - After harvesting of vegetable pea and field pea and prepare the field for sowing of summer vegetables.
  - Provide irrigation in berseem crops after each cutting.
- **Animal Husbandry:** Animals are to be checked by veterinarians Cattle should be vaccinated to save them from infections/diseases like black quarter and FMD etc. The animals should be dewormed through deworming tablets. 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-
    - pod borer in chickpea. To control the caterpillars, following measures may be adopted.
      - For biological control placing of "T" shaped pegs in the field to shelter the predators.
      - To control the caterpillars, spraying of Quinolphas 25 EC or Chlorpyrifos 20 EC or Endosulphan 35 EC or Methyle Parathiyon 50 EC @ 600 ml dissolve in 500 L of water may be done. Dusting of Felvalerate 0.4% or Endosulphan 4% 15-20 kg or Quinolphas 1.5 WP 20-25 per hectare may also be undertaken alternatively.
      - Different types of light traps i.e. mercury vapor lamp and pheromone traps should be used @ 5 trap/ hectare
      - Spraying of NPV virus @ 250 lt. dissolve in 500 l of water to control the caterpillars.
      - Repeat the spray twice or thrice as per requirement
    - 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.

- sucking pest in chilly, tomato, brinjal, spray Dimethoate 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.
- termites in wheat, use chloropyriphos 20 E.C. with Irrigation water.
- Insects (worms in Gram, Spray of Neem seed kernels Extract (5%), use pheromone traps (4 in one acre) and use Trichoderma culture parasite or Endosulphan 35 EC 2 ml / liter.
- Shoot and Fruit Borer in brinjal, spray of neem seed kernel extract (4%).
- hopper in mango, spray Amidachloprid 200 SL @ 0.25 ml/l or Endosulfan 35 EC @ 1.5 ml/l in mango plantation and also stem borer in Mango, Guava, Grape fruit and Aonla place cotton plug in hole dipped in kerosene oil.
- Mahu in mustard, spray Dimethoate-30 500 gm in 500 gm of water.

### Chattisgarh

- **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:** Wheat (flowering / milk), gram (seed formation / early maturity), mustard (seed formation / early maturity).
- **Crop Condition:** Good.
- **Advisory:**
  - Prepare main field and complete transplanting of summer rice.
  - Wheat crop is at flowering / milk stage. This stage of the crop is critical for moisture and nutrient stress. Hence, farmers are advised to irrigate the fields.
  - As dry condition is prevailing in most of the districts of the State for last few weeks and is likely to prevail for next five days, farmers are advised to apply irrigation to the standing crops.
  - Stop irrigation 15 days before harvesting of potato. Start harvesting of already matured crops.
  - The average temperature is now suitable for proper germination of summer vegetables like pumpkin, bitter gourd, bottle gourd, okra etc. Hence the sowing of these vegetables should be completed at the earliest.
- **Major Seasonal Crop with stage:** Sugarcane (vegetative), Autumn sugarcane (planting), vegetables (flowering / fruiting / harvesting).
- **Advisory:**
  - Intercultural operation, fertilizer application, earthing up followed by irrigation are advised in sugarcane crop at knee height stage.
  - Present weather is favourable for planting of Autumn sugarcane. As the temperature conditions are approaching towards suitable condition for proper germination of Sugarcane to be sown during the last week of February and first week of March, it is advised to prepare well pulverized field for sowing of sugarcane. Top one third portions of the cane should be used for seed purpose. Before planting sugarcane setts should be treated with hot water / hot air method.
- **Plant Protection:** Present weather conditions may be favourable for the infestation of powdery mildew and hoppers in mango, pod borer in arhar and *Heliothis* in chick pea.
  - To protect mango from powdery mildew spray Carbendizim (Bavistin) @1.5 g or Sulphex @ 3.0 g per litre of water.
  - To protect the mango plants from hoppers spraying of Monocrotophos or Imidachlor is recommended.
  - To protect the arhar crop from pod borer, spraying of chlorpyriphos is recommended.
  - *Heliothis* in chick pea, spray Endosulphan or Metasystox @ 1.5 ml per litre of water.