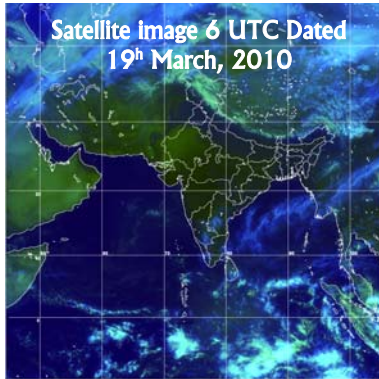




# National Agromet Advisory Bulletin

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



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

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

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

- Isolated rain / thundershowers over parts of Orissa, south Chhattisgarh and Gangetic West Bengal during next 24 hours.
- Dry weather conditions will continue to prevail over remaining parts of the country.
- No significant change in maximum temperatures over parts of northwest India and slight fall over parts of central India during next 1-2 days.
- Heat wave conditions would continue over parts of west Rajasthan and north Gujarat region during next 2 days and may abate thereafter.
- No significant change in minimum temperatures over northwest, west and central India.

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

- Scattered rain / snow would occur over Jammu & Kashmir and isolated over Himachal Pradesh.
- Scattered to fairly widespread rain / thundershowers accompanied with thunder squall over northeastern states.
- Dry weather conditions will prevail over remaining parts of the country.

## Advisories for high temperature and irrigation

- In view of prevailing dry weather condition during last few weeks and also during next five days along with persisting high temperature and heat wave conditions, farmers in Rajasthan, Gujarat, Madhya Pradesh and Chhattisgarh and some parts of Punjab and Haryana, are advised to apply light and frequent irrigation to the standing crops to meet the excess evaporative demands.
- As there was no significant rain in most of the remaining States 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:
  - aphids in sarson, aphids and downy mildew in cole crops and powdery mildew in peas and cauliflower in Himachal Pradesh.
  - aphids in late sown mustard, termite in wheat in Jammu & Kashmir.
  - aphids in maize, powdery mildew in pea in Rajasthan.
  - white rust in pea, aphids in mustard, powdery mildew and pod borer in gram in Uttarakhand.
  - aphids in mustard, pod borer in gram, *alternaria* blight in *raya* and aphids in peach in Punjab.
  - *alternaria* blight, white rust in *raya*, aphids in mustard and semilooper in sunflower in Haryana.
  - sawfly in mustard, pod borer in gram and lentil, smut in wheat, thrips in late sown garlic and leaf spot in onion in Uttar Pradesh.
  - aphids and blight disease in onion and blast in summer rice in Maharashtra.
  - stem borer, gall midge and leaf folder and blast disease in *boro* rice in Assam.
- Farmers are advised to undertake plant protection measures as and when required.

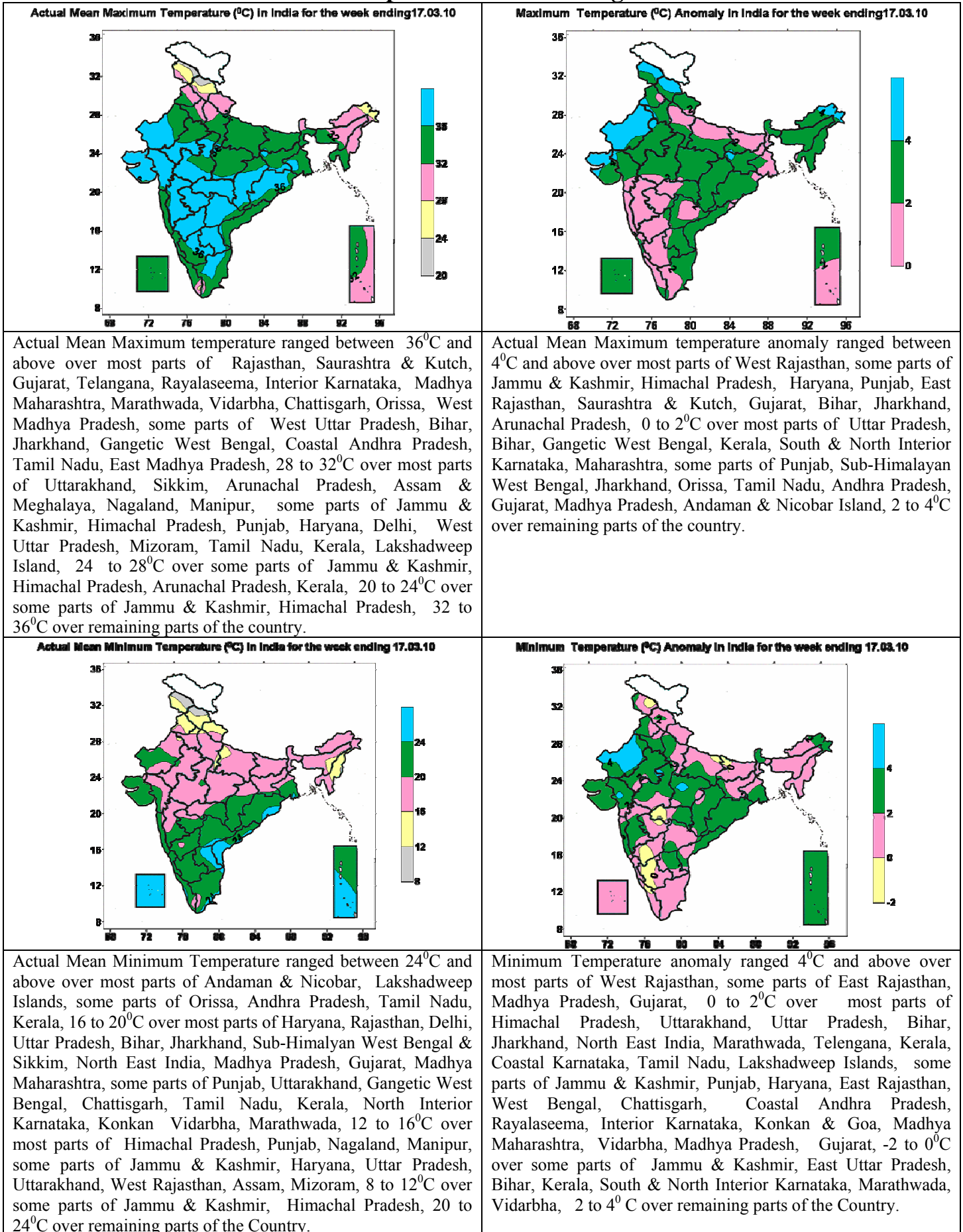
Issued by

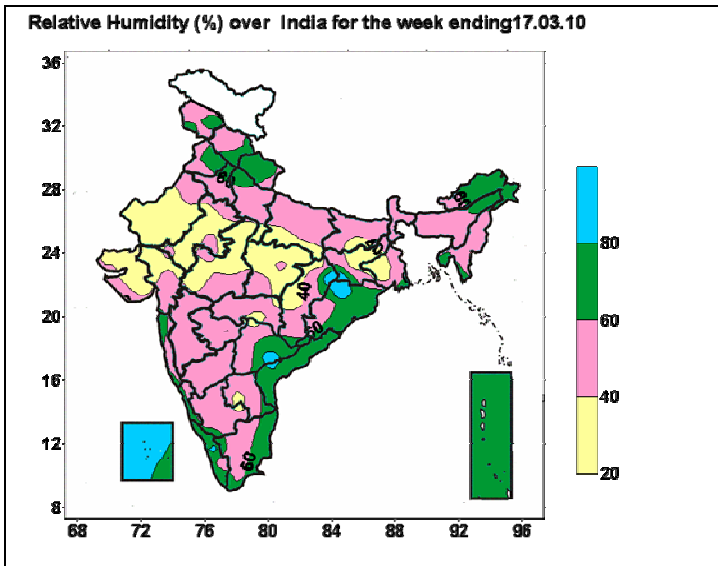
National Agrometeorological Advisory Service Centre,

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

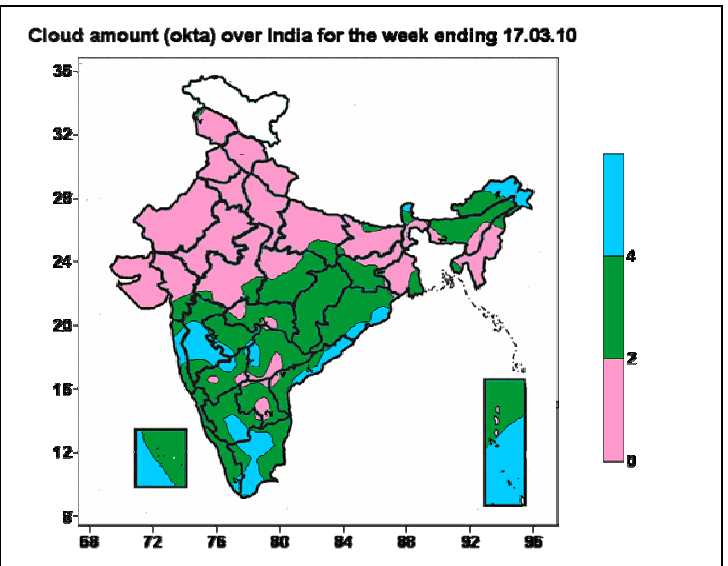
The bulletin is also displayed in the website (<http://www.imdagrimet.org>) of the Division

## Contour maps for the week ending 17.03.10

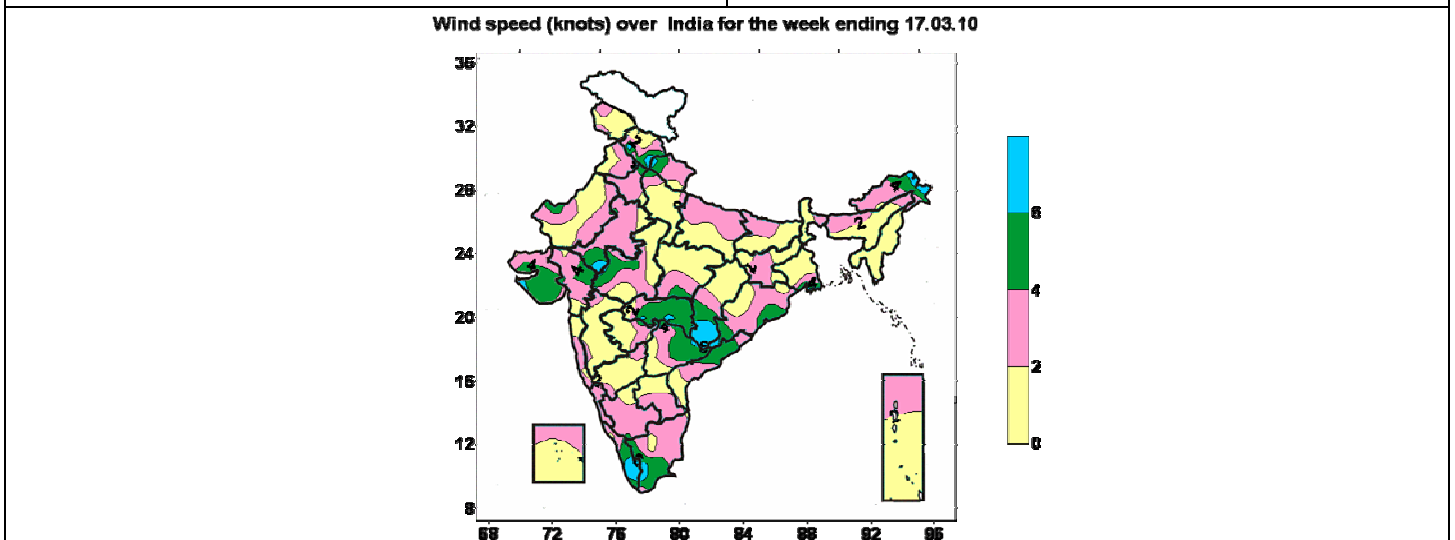




Relative humidity between 80% and above over most parts of Lakshadweep Island, some parts of Chattisgarh, Orissa, Coastal Andhra Pradesh, Telengana, 60 to 80% over most parts of Uttarakhand, Arunachal Pradesh, Orissa, Coastal Andhra Pradesh, Telengana, Kerala, Coastal Karnataka, Andaman & Nicobar, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Delhi, West Uttar Pradesh, Gangetic West Bengal, Assam, Mizoram, Tripura, Raylaseema, Coastal Tamil Nadu, South Interior Karnataka, Konkan & Goa, Lakshadweep Island, 20 to 40% over most parts of Rajasthan, Madhya Pradesh, Saurashtra & Kutch, Gujarat, some parts of Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Chattisgarh, Vidarbha, Telengana, Rayalaseema, South Interior Karnataka, 40 to 60% over remaining parts of the country.



Cloud amount 4 okta and above over Most parts of Andaman & Nicobar, Lakshadweep Islands, some parts of Sikkim, Arunachal Pradesh, Coastal Orissa, Coastal Andhra Pradesh, Telengana, Tamil Nadu, South & North Interior Karnataka, Kerala, Konkan & Goa, Madhya Maharashtra, Marathwada, 0 to 2 okta over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Rajasthan, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, West Bengal, Manipur, Mizoram, Tripura, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, some parts of Jharkhand, Assam & Meghalaya, Andhra Pradesh, North Interior Karnataka, Vidarbha, East Madhya Pradesh, 2 to 4 okta over remaining parts of the country.



Wind speed ranged between 6 knots and above over some parts of Himachal Pradesh, Uttarakhand, East Rajasthan, Arunachal Pradesh, Kutch, Vidarbha, Chhattisgarh, Kerala, Tamil Nadu, 4 to 6 knots over most parts of Saurashtra & Kutch, Vidarbha, some parts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, Rajasthan, West Uttar Pradesh, Arunachal Pradesh, Gujarat, Madhya Pradesh, Chhattisgarh, Orissa, Marathwada, Coastal Andhra Pradesh, Telengana, Kerala, Tamil Nadu, 0 to 2 knots over most parts of West Rajasthan, Uttar Pradesh, Bihar, Jharkhand, West Bengal, Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, East Madhya Pradesh, Madhya Maharashtra, Marathwada, North Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, East Rajasthan, Gujarat, West Madhya Pradesh, Chhattisgarh, Orissa, Konkan & Goa, Vidarbha, South Interior Karnataka, Andhra Pradesh, Tamil Nadu, 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:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail during the period.
- **Major Rabi Crops:** Wheat (flowering / grain formation), mustard, gram and lentil (pod formation) and vegetables.
- **Advisory:**
  - As dry weather prevailed during last week over the State and dry weather is also likely to prevail, apply irrigation to the crops.
  - Farmers are advised to apply third dose of Nitrogen (CAN @ 10 kg per bigha) to cole crops.
  - Apply staking to pea plants for proper growth and development so as it will favour efficient production.
  - It is proper time for nursery sowing of tomato, chilli, capsicum and brinjal in lower and mid hills in the fields and inside polyhouse. In mid hill region nursery sowing of cucurbits viz. Cucumber, bitter gourd, bottle guard and summer squash in polytubes inside polyhouse can be carried out. Seeds should be treated with Bavistin @ 2 g per kg seeds before sowing.
  - Undertake sowing of french bean (Contender) and bhindi. Ensure the treatment of formalin into soil before nursery sowing for damping off disease.
  - Prepare the fields for sowing of Chari, bajra and maize in low hills. One cut can be taken in seed crops of berseem and oats. Apply urea to irrigated crop of oat where first cut has been taken.
  - Earthing up can be done in the potato crop.
  - Apply urea to irrigated crop of oat where first cut has been taken.
- **Major Seasonal Crop:** Fruit crops, floral crops and Vegetables.
- **Advisory:**
  - The training and pruning work of peach, plum and apricot may be completed at the earliest. Keep the basins of fruit tree clean and weed free.
  - If fertilizers are not applied earlier, half dose of Nitrogen may be applied in mango, litchi and apple etc. Also apply FYM and phosphorus and potassium fertilizers to plants.
  - 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 this month. Skiffing and pruning work may be completed in the tea orchards.
  - Complete transplanting the fruit plants of good and right varieties in already made pits.
  - Complete the training and pruning in apple and other orchards if not done till date. During training and pruning cut whole branches which are affected by the Canker diseases and burn or bury it. After pruning apply the chobatia paint on each and every cuts ends.
  - The intercultural operations and weeding can be done in the flower beds.
  - 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 (3 g) or quickphos (12 g) 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.
  - As dry weather is likely to prevail, termite affected plots may be treated with 80 ml chloropyriphos mixed with 1 kg of sand and spread over one kanal area of plot.
  - To control the root borer in apple irrigate the basins, after removing the upper soil, with 10-15 liters of the solution of Chlorpyriphos (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.
  - 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.
  - leaf miner in citrus, spray 10 ml Metasystox or Malathion in 10 litres of water. For the control of canker in citrus, spray streptomycin sulphate 500 ppm solution.
  - aphids in flowers, to control aphids in flowers, spray malathion or metasystox @ 0.1%.
  - smut in wheat, to control apply Dithane M-45 @ 2 g per litre of water.
  - aphids in ghobi sarson, apply Rogor @ 1 ml per litre of water.
- **Animal Husbandry:**
  - The night temperature is rising but still 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.
  - Carry out regular vaccination of animals. Put uromin bricks to animals for licking for 5 minutes in the morning and the evening.
  - The newly born calves should be dehorned within one month of their birth and feed them with colostrums.
- **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:**
  - Enough floras are not available for bees; therefore, ensure sufficiency of food to honey bees. Ensure proper packing in apiaries in mid hill areas.
  - Dust sulphur for mite attack. Insert the brood chamber without frame for ensuring aeration. Remove packing where temperature has risen to 25<sup>0</sup>C.

## Uttarakhand

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail during the period.
- **Major Rabi crops:** Wheat (grain formation/maturity), mustard, lentil, gram (seed formation/maturity), pea, rajmah (pod formation).
- **Advisory:**
  - In view of prevailing dry weather condition during last few weeks and also during next five days along with persisting high temperature and heat wave conditions, farmers are advised to apply light and frequent irrigation to the standing crops to meet the excess evaporative demands.
  - Undertake harvesting of timely sown matured wheat crop to avoid shattering of grains. After drying for 2-3 days go for its threshing. Adopt integrated approach for control of rats in wheat crop in grain filling stage if crop has lodged.
  - Undertake harvesting of matured mustard, lentil and gram crops.
  - Undertake weeding and intercultural operations in late sown pea.
  - Due to increase in temperature, farmers may start sowing of Chiatee Dhan in nursery with improved varieties like VL-Dhan 207, VL-Dhan 208 & VL - Dhan 209 under optimum soil moisture.

- **Major Seasonal Crops with stage:** Sugarcane (maturity / harvesting), sugarcane (new) (planting / early vegetative), cabbage, cauliflower, garlic, tomato (vegetative), french bean (early vegetative), potato (tuber formation/maturity).
- **Crop Condition:** Good.
- **Advisory:**
  - In view of prevailing dry weather condition during last few weeks and also during next five days along with persisting high temperature and heat wave conditions, farmers are advised to apply light and frequent irrigation to the standing crops to meet the excess evaporative demands.
  - Farmers are advised to continue sowing of tomato with improved variety like VL-Tomato – 3 and of French with improved varieties like VL Boni Bean-1, VL Bean-2, Kantender, Pant Anupama etc. Ensure proper soil moisture at the time of sowing.
  - Farmers are advised continue transplanting of tomato, brinjal and capsicum. Those farmers who have not sown brinjal in nursery are advised continue sowing with varieties like Pant Samrat, Pant Rituraj, Pant Brinjal-4, ARU-1 etc. Sprinkle water just after sowing for better seed germination and also spray water in early sown nursery of tomato and capsicum and remove weeds.
  - Undertake weeding in vegetable crops like onion and potato.
  - Continue harvesting of matured crop of sugarcane and undertake ploughing for ratoon.
  - Farmers are advised to undertake weeding in early sown garlic crop for better crop growth.
  - Undertake harvesting of berseem at regular intervals.
  - Farmers at 5000 ft hilly areas are advised to continue for sowing of potato with varieties like Kufri Jyoti, Kufri Ashok and Kufri Anand etc.
  - Undertake weeding, hoeing and mulching in cauliflower, cabbage and Shimla mirchi.
  - Continue picking of pods of vegetable pea and send them to the nearby market for selling.
  - Undertake weeding in onion and other vegetable crops. Stop irrigation in timely sown garlic crop.
  - Undertake field preparation and sowing of summer vegetables.
  - Undertake harvesting of potato and stored.
  - Undertake sowing of un-seasonal pea with improved varieties local varieties like VL Ageti, Matar-7 or Vivek Matar-10 in high hills.
  - Continue harvesting of matured pea, lentil and french bean.
- **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.
  - powdery mildew, pod borer in gram. Spray Endosulphan 35 EC @ 400 ml per acre to control aphids.

## Punjab

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail during the period.
- **Major Rabi Crops with stage:** Wheat (grain formation), raya, rapeseed and mustard (pod formation/maturity), potato (tuber formation).
- **Advisory:**
  - In view of prevailing dry weather condition during last few weeks and also during next five days along with persisting high temperature and heat wave conditions, farmers are advised to apply light and frequent irrigation to the standing crops to meet the excess evaporative demands.
  - Provide irrigation to sunflower at two weeks interval.
  - Undertake intercultural operations in late sown wheat, raya, taramira, lentil and chickpea. Apply one irrigation to the wheat crop at grain filling stage.
  - Undertake harvesting of raya, rapeseed and mustard.
  - **Major Seasonal crop with stage:** Sugarcane (early vegetative/vegetative), vegetable crops (vegetative), fruit crops
- **Crop Condition:** Good



- **Advisory:** Complete sowing of sugarcane by the end of this month using recommended varieties i.e. CoJ-85, CoJ-83, CoJ-64 (early maturing), CoS-8436 & CoJ 88 for mid season and Co-1148 & CoJ 89 (late maturing) varieties. The seed selected for planting should be free from disease like red rot, wilt, ratoon stunting and grassy shoot. Sow one row of summer moong/summer mash or mentha as intercrop in between sugarcane rows. 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. Undertake regular cuttings of barseem. Sow early summer and multicut fodder during this month to meet fodder scarcity during summer lean period.
- Farmers are advised to remove the sarkanda and thatches cover from the vegetables and fruits. After removing sarkanda, earthing up of soil should be done in vegetables.
- Undertake transplanting of vegetables like chillies with varieties from CH-3, CH-1, Punjab Guchhedar, Punjab Surakh and Punjab Lal varieties.
- Farmers are advised to undertake transplanting of muskmelon, watermelon, bottle gourd and pumpkin. Before transplanting remove plastic bags.
- Apply first irrigation immediately after transplanting of summer vegetables and later at 10-12 days intervals.
- Undertake sowing of bhindi from varieties like Pusa Sawani or Punjab Padmini or Punjab 7 or 8.
- 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.
- Undertake planting of fruit plants like citrus, guava and ber. Apply 400-800 g urea per plant to kinnow plantations as first dose.
- Apply second dose of nitrogen to tomato in the first fortnight of this month. Irrigate regularly after 10 - 12 days to encourage the maximum fruit setting.
- Apply irrigation to the fruit plants of citrus, peach and plum at regular intervals. Remove dead wood in citrus before the new growth starts and apply bordeaux mixture immediately. 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 irrigated to get good size of fruits.
- Undertake planting of citrus, mango, guava, loquat and ber in already prepared pits. Grape pruning may be completed. In ber, to check the fruit fly, spray Rogor 30 EC @ 500 ml in 300 litres of water at fortnightly interval.
- **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.
  - flag smut in wheat, plants affected with may be rogued out and burnt to reduce the inoculum potential for next year.
  - 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 in the afternoon hours followed by light irrigation.
  - hairy caterpillar, semi looper is seen in sunflower crop, then spray 500 ml Thiodan 35 EC or 200 ml Nuvan 85 SL in 125 litres of water per acre. These insecticides will also control jassids and other sucking pests in case they appear.
  - pod borer in gram, spray Endosulphan 35 EC @ 400 ml / Monocrotophas 36SL @ 200ml or Carbaril 50WP @ 400 gram with 100 liters of water per acre.
  - alternaria blight on raya, spray the crop with 250 g/acre of Blitox 50 WP or Indofil M-45 dissolved in 100 litres of water.
  - fruit fly in ber, spray 500 ml rogor 30 EC in 300 litres of water at fortnightly interval.
  - aphids in peach, spray rogor @ 800ml in 500 litres of water to control the pest.
  - hopper in mango, spray the crop with 1 kg of Sevin or Hexavin 50 WP or Malathion 50 EC @ 800 ml in 500 litres of water.

- **Animal Husbandry:**

- Farmers are advised not to feed green, sprouted, soiled or rotten potatoes to dairy animals to avoid serious and fatal poisoning. Cracks/sore/chapped/injured teats may be treated with teat tips (Glycerin : Providine Iodine 1:4). It should be used after every milking. Provide proper temperature under the brooder i.e. 95 °F every week up to 70 °F. Provide balanced feed and fresh water. Provide balanced ration to the birds according to their requirements. Deworm the chicks regularly.
- Farmers are advised to vaccinate the animals against FMD. Vaccination may be repeated after six months.
- Farmers are advised to deworm the calves regularly with piperazine liquid (4ml/kg body weight) first at 15 days of age, then 22 days and one month upto 3 months of age and 3 monthly upto 1 year of age.
- Farmers are advised not to feed green, sprouted, soiled or rotten potatoes to dairy animals to avoid serious and fatal poisoning.
- This is the best time to raise the broiler chicks. Purchase the chicks from a reliable source. Clean and disinfect the sheds properly before the arrival of chicks. Maintain 95 ° F temperatures under the brooder during first week and reduce it by 5 °F every week. Deworm the chicks regularly and timely. Don't store the compound feed for more than 15 days. Don't use infected grains for feed formation.

## Haryana

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail during the period.
- **Major Rabi Crops:** Wheat (grain formation), raya and mustard (pod formation/maturity).
- **Advisory:**
  - In view of prevailing dry weather condition during last few weeks and also during next five days along with persisting high temperature and heat wave conditions, farmers are advised to apply light and frequent irrigation to the standing crops to meet the excess evaporative demands.
  - Sow one row of summer moong/summer mash or mentha as intercrop in between sugarcane rows.
  - 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. Prepare the field by adding 20 to 30 carts of cow dung manure and start the planting of sugarcane with high yielding varieties viz., CoJ-85, CoJ-83, CoJ-64 (early maturing), CoJ-88, CoS-8436(mid season) and CoJ-89, Co-1148 (late maturing variety). The sets selected for planting should be free from diseases like red rot, wilt, ratoon-stunting and grassy shoot. To improve germination, treat the setts before planting with 0.25% solution of Emisan or Mancozeb. Sow on flat soil in rows 60 to 75 cm apart. Apply irrigation to *autumn* planted crop as per need of intercrops and sugarcane.
  - 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. Apply one irrigation preferably 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. Farmers are advised to undertake weeding and hoeing and intercultural operations in tomato, onion and chilli. Remove the thatch from the nursery and young fruit plants.
  - Farmers are advised to prepare the field and start sowing of cucurbits and brinjal.
  - Farmers are advised to prepare the field and start sowings of the cucurbits and brinjal.



- Transplant the tomato and chilly in the field. Onion and garlic crops may be regularly irrigated and the field may be kept free from weeds by regular hoeing and weeding for the proper development of the bulbs.
- **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. It is also observed that wheat plants affected with flag smut. These should be rogued off and destroyed so as to reduce the inoculum in the field.
  - pod borer in gram, spray Endosulphan 35 EC @ 400 ml / Monocrotophas 36SL @ 200ml or Carbaril 50WP @ 400 gram with 100 liters of water per acre.
  - alternaria blight white rust in raya, spray the crop with 250 g Blitox or Indofil M 45 in 100 litres of water.
  - aphid in mustard crop and farmers are advised to keep a watch on the aphid build up and spray the crop with 250 to 400 ml Metasystox 25 EC or Rogor 30EC per acre. in 400 litres water per acre in the afternoon. Apply light irrigation after spraying.
  - hairy caterpillar/semi looper in sunflower, spray Endosulfan 35 EC @ 500 ml or Nuvan 85 SL @ 200 ml in 125 litres of water per acre. Irrigate the sunflower crop at two weeks interval.
  - hopper in mango, spray the crop with 1 kg of Sevin or Hexavin 50 WP or Malathion 50 EC @ 800 ml in 500 litres of water.
  - ber in fruit fly, spray Rogor 30 EC @ 500 ml in 300 litres of water at fortnightly interval.
- **Animal Husbandry:** Farmers are advised to mix 50 grams of iodized salt and 30 grams mineral mixture per day with animal feed to keep them healthy. Cracks/sore/chapped/injured teats may be treated with teat tips (Glycerin : Providine Iodine 1:4). It should be used after every milking.

## Delhi

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State during the period.
- **Major Rabi Crops:** Wheat (grain formation); pea and gram (pod formation / early maturity); mustard (seed formation / maturity) and vegetable crops (vegetative / flowering / fruiting / harvesting).
- **Advisory:**
  - Harvesting of the matured mustard is advised as clear sky is forecasted for the next five days. When 75-80 percent of the pods (Siliqua) turn parchment brown in colour, it is the right time for harvest. Farmers are advised not to allow the crop to over mature, otherwise shattering will cause loss of grains. Immediate threshing after drying is advised. Attack of painted bug will be more if crop is kept in the field for long time after harvest.
  - Direct sowing of cucurbitaceous crops like ladies finger and summer radish is advised as present temperature is suitable for germination of seeds. Procurement of seeds should be done from a certified source.
  - Present temperature is suitable for transplanting of young seedlings of chilli. Transplanting should be done in the evening.
  - Sowing of hybrid cluster bean (Pusa Komal and Pusa Sukamol) can be done in present weather.
  - Present weather conditions are suitable for sowing of summer green gram. Farmers are advised to procure quality seeds from certified source. Select varieties from Pusa Visal, Pusa Vaisakhi, PDM-11, SML-32. Seed treatment with crop specific *Rhizobium* culture as well as phosphorus solubilising bacteria is also advised.
  - In cucurbitaceous crop which are 15-20 days old hill application of nitrogen is advised.
  - As dry weather is prevailing over the State and is also likely to prevail, farmers are advised to apply irrigation to the standing crops.
- **Plant Protection:**
  - In present weather conditions constant monitoring of timely sown onion crop against attack of thrips should be done. Spraying of Carbaryl @ 2 g along with a sticking agent per litre of water is advised.

- Monitoring of onion crop against infection of purple blotch should also be done. Need based spraying of Dithane M-45 @ 3 g along with a sticking agent (Teepol) per litre of water is advised (400-500 litres / ha).
- Monitoring of vegetable crops against attack of aphids is advised. In present temperature conditions, aphid population will gradually diminish. Control measures should be initiated if pest population is high. Spraying of Imidacloprid @ 0.25 to 0.5 millilitre per litre of water in vegetable crops after harvesting of mature fruits. In vegetable crops a waiting period of one week should be followed after spraying.
- In present weather condition, in cucurbitaceous crop attack of red pumpkin beetle has been reported. Spraying of Carbaryl @ 1 g per litre of water is advised. Spraying should be done in between 9 to 10 am in the morning or in between 3-5 in the afternoon when the pest is active.
- Under prevailing weather, incidences of powdery mildew disease in cucurbitaceous crops and carrot have been reported. Spraying of Mencozeb @ 2 g per litre or Carathene @ 1 ml per litre is advised.
- Attack of aphid in radish has been reported. Spraying of Confidor @ 1 ml per litre of water is advised. Spraying is not advised in those crop which are about to mature in a week.
- 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, spraying of Endosulfan @ 2 ml per litre of water is advised to control pod borer population.
  - 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 ml per four litres of water is advised.

### Uttar Pradesh

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail during the period.
- **Major *rabi* crops:** Wheat (grain 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. Use poisonous food containing Zinc Phosphide to control rats.
  - Continue harvesting of early varieties of mustard, alsin, pea and lentil.
  - Farmers are advised to undertake thinning, weeding and intercultural operations in early sown sunflower and maize. Continue land preparation and sowing of summer sunflower and maize under irrigated conditions.
  - Continue sowing of recommended varieties of moong, urd and sunflower after preparing the field and purification of seeds. Undertake weeding, intercultural operations and topdressing of recommended amount of nitrogen may be done in early sown moong after 15-20 days of sowing.
  - Weeding, hoeing and topdressing of recommended amount of Nitrogen in early sown summer maize may be undertaken after 25-30 days of sowing.
  - Undertake sowing of recommended varieties of urd after preparing the field and treatment of seeds with fungicides.
- **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 and apply irrigation at regular interval.
- Harvesting of early varieties of potato and turmeric may be done and weeding, hoeing and irrigation as per requirement may be done.
- Harvesting, marketing of winter vegetable like pea may be done along with watering as per requirement.
- Farmers are advised to stop irrigation in early varieties garlic before 20 days of harvesting and irrigation as per requirement may be applied in late sown garlic.
- Undertake transplanting the seedlings of summer vegetable crops in the main field. Complete sowing of *zaid* ladyfinger at the earliest.
- Weeding, hoeing and application of 30 kg Nitrogen /hectare may be undertaken in onion.
- Apply top dressing of Nitrogen in banana and irrigation at 10-12 days interval may be applied.
- Undertake harvesting of pea as per maturity.
- **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 Trichogramma card or Endosulphon 1.25 litre per hectare dissolving in necessary amount of water.
  - fruit borer in late sown varieties of lentil, spray the solution of Endosulphon 35 EC @ 1.25 litre/ hectare dissolving in 750litre.
  - smut in wheat, if the earheads are affected such ear heads may be buried in ground or burn them.
  - thrips in late sown garlic, spray Methyl parathion 50 EC at recommended rate to control the pest.
  - leaf spot in onion, spray Mancozeb @ 2gm/litre to control the disease.

## J & K

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail during the period.
- **Major Rabi crops:** Wheat, barley, brown sarson (grain development) vegetable crops (flowering / fruiting).
- **Advisory:**
  - As there was no significant rainfall during last week and no rainfall is likely during next five days, farmers are advised to apply irrigation to standing crops.
  - Farmers are advised to undertake planting of new orchards utilizing available soil moisture. Also carry out pruning of grapevine, phalsa, peach and plum crop.
  - Continue land preparation for potato cultivation.
  - Transplant suckers/seedlings of fruit crops.
  - Undertake intercultural operations, application of fertilizers and pesticides after spells of rain.
  - Undertake sowing of vegetable crops like tomato, capsicum, chilli, brinjal etc. beds.
  - Undertake transplanting of tomato, brinjal and chilly in main field.
  - Undertake sowing of French beans and cluster bean and also solonaceous vegetables.
- **Plant Protection:** Weather conditions are favourable for
  - termites in wheat, mix 5 litres of water with 2.300 litres of Endosulfan 35EC or 4 litres of Chloropyripous in 50 kg of sand and broadcast it uniformly in one hectare of infested area.
  - Due to increase in temperature, there is chance of infestation of aphid in late sown mustard crop; spray Chloropyripous 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.

## Rajasthan

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail during the period.

- **Major Crop with stage:** wheat (flowering), gram and mustard (early maturity / maturity) vegetable crops (flowering / fruiting / harvesting).
- **Crop Condition:** Good.
- **Advisory:**
  - In view of prevailing dry weather condition during last few weeks and also during next five days along with persisting high temperature and heat wave conditions, farmers are advised to apply light and frequent irrigation to the standing crops to meet the excess evaporative demands..
  - 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 for 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 Carbendizim & 3 g Thiram per kg of seeds.
  - This is the right time of sowing cucurbitaceae vegetables like melon, bottlegourd, ridgegourd, bittergourd, pumpkin and smoothgourd etc.
  - Continue transplanting of vegetable seedlings in the main field.
  - Farmers are also advised to go for planting of sugarcane and zaid maize, ground nut and moong.
  - Suitable time for raising nursery of monsoon season brinjal. Use 400-500 g/ha seed for raising nursery and also for sowing cucurbitaceae vegetable like melon, bottle gourd ridgegourd, bitter gourd kg/ha or 0.5g /litre Acephate 75SP during morning or evening hour at 15 days interval.
- **Animal Husbandry:**
  - Deworming is recommended in livestock during this period.
- **Plant Protection:**
  - 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 thuringiensis* Kastki (Dypel-8 L) @ 1 litre water with Methomil 40 SP @ 600 gm per hectare. Repeat spray after 15 days if problem persists.
  - Early sown summer cucurbits are likely to be affected by red pumpkin beetle. Broadcast carbaryl 5% @ 20 kg/ha or spray Asiphet 75 S.P. 0.5 gram per litre water.
  - Weather conditions are favourable for
  - aphids in maize, spray Methyl Demeton 25 E.C. @ 1 lit/ha or Phosphomidan 85 WSC @ 300 ml/ha at the time of aphid infestation on tassel.
  - powdery mildew disease in pea, spray 2g/litre wettable Sulphur or 1ml/litre Kerathane.

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

### **Bihar**

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail during the period.
- **Major Rabi Crops:** Wheat (milking/grain development), maize (flowering), potato (maturity/harvesting), gram, pea, and lentil (pod formation/maturity), mustard(pod maturity/harvesting)
  - As there was no rainfall in most of the districts of the State and mainly dry/dry weather is likely for the next five days, the farmers are advised to apply irrigation to the standing *rabi* crops like maize and wheat.
  - Farmers are advised to provide irrigation in wheat crop during ear emergence stage also and apply last top dressing of urea @ 88 kg / ha. Irrigation may be done in the evening when wind speed is low, otherwise lodging may occur.
  - Farmers advised to undertake harvesting of potato and tobacco.
  - Farmers advised to undertake harvesting of the matured mustard when 75-80 percent of the pods (siliqua) turn parchment brown in colour. Farmers are advised not to allow the crop to over mature to

avoid shattering that will cause loss of grains. Immediate threshing after drying is advised. Remove the mustard plants after harvest of pods to avoid painted bug.

- Prepare the field and undertake sowing of summer sunflower, maize, moong and sunflower
- Farmers are advised to undertake harvesting of early matured rapeseed and mustard, lentil, gram, peas and lathyrus. Threshing of the harvested pulses and oilseed crops may be undertaken as soon as possible and sun dry the seed, store them in safe place.
- Farmers are advised to provide irrigation and intercultural operations in summer vegetable crops like tomato, brinjal, bhindi, bitter gourd, cucumber, sponge gourd, radish and chillies.
- **Major Seasonal Crop with stage:** Sugarcane (grand growth) and vegetables (vegetative / fruiting), mango (fruit setting).

- **Crop Condition:** Good.

- **Advisory**

- Farmers are advised to undertake planting of spring sugarcane with recommended varieties like BO130, BO138, BO137, BO136, BO145, COP 9206 and COP 9301 etc.
- Prepare the field and undertake sowing of spring sugarcane and fodder crops.
- Undertake sowing of vegetable crops like tomato, brinjal, bhindi, bitter gourd, cucumber, sponge gourd, radish and chillies.
- 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.
- Undertake weeding, intercultural operations and application of fertilizers in the standing crops like sugarcane, vegetables and mentha.
- 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 avoid irrigation during flowering stage.
- Undertake direct sowing of cucurbitaceous crop, lady's finger, french bean, summer radish as temperature is suitable for germination of seeds.
- Farmers are advised to undertake field preparation and sowing of green gram and black gram. Select varieties of green gram like Pusa Visal, Pusa Vaisakhi, PDM-11, SML-32 and black gram like Pant Urd -19, Pant Urd -30, Pant Urd-35 and PDU-1. Undertake seed treatment with crop specific rhizobium culture as well as phosphorus solubilising bacteria.
- Transplanting of young seedlings of tomato, chilli and cole crop. Transplanting should be done in the evening.
- Undertake sowing of maize variety like African Tall and hybrid cluster bean like Pusa Komal, Pusa Sukamol. Sowing of hybrid cultivar of baby corn HM-4 may also be done.
- Undertake intercultural operations in onion for control of weeds and better growth of onion seedlings.
- Farmers are advised to complete sowing of summer maize, moong, kalai and sunflower. Sowing of summer paddy seed in the nursery for raising seedlings may be completed. Before sowing the seed may be treated with fungicide and the pulse crop seed should also be treated with Rhizobium culture before sowing.

- **Plant Protection:**

- Weather conditions are favourable for mild incidences of
  - stem borer and pod borer in late sown gram. Spray Endosulphan (35 EC) @1.5 ml/liter of water for control of stem borer, pod borer in late sown gram at 10-15 days of intervals.
  - aphids in late sown 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 and lentil. Spray Endosulphan 35 EC @ 1.5 ml / liter of water at 15 days of intervals.
- mealy bug and ear rotting in mango, 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 may be done. Apply grease to seal any cracks in the polythene sheets. Spray M-45 or Dithane Z-78 @ 2.0 ml dissolve in per liter of water to prevent ear rotting (blackish panicles). It is advised to take precaution in spraying of insecticides over mango trees to avoid damage to pollinating insects as this time pollination is taking place.
- aphids in vegetable crops. In the present temperature conditions, aphid population will gradually diminish. Control measures may be initiated if pest population is high. Spraying of Imidacloprid @ 0.25 to 0.5 ml per litre of water in vegetable crops may be undertaken after harvesting of matured vegetables. In vegetable crops a waiting period of one week should be followed after spraying.
- red pumpkin beetle in cucurbitaceous crop. Spraying of Carbaryl @ 1 gram per litre of water is advised.
- Installation of bird perches in tomato crop is advised to control fruit borer insect. Hand picking of damaged fruit and burying are advised. Installation of pheromone trap @ 2-3 traps per acre of crop field is advised for monitoring the tomato fruit borer.
- shoot and fruit borer in brinjal. Collect the infested fruits and shoots and burying these are advised. If pest population is high, spraying of Spinosad 12% SC @ 1 ml per four litre of water is advised.
- It is advised to mango farmers to take precaution in spraying of insecticides over mango trees because at this time pollination takes places by insects. If mango comes in stage of pea seed than applied the insecticide like Metasystox or Endosulphan (35EC) @ 1.5-2.0 ml/liter of water + Planofix @1.0 ml dissolve in 4.5 litre of water for better setting of mango fruits.

### Jharkhand

- **Realised Rainfall:** There was no rainfall in most of the districts of the State during last week.
- **Rainfall Forecast:** Isolated rain is likely to prevail during next 24 hrs and dry weather thereafter.
- **Major Rabi Crops:** Wheat (grain formation), rai, *toria*, gram, mustard (pod formation/maturity), peas (pod formation), arhar(pod formation/maturity).
- **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.
  - Wheat crop is in grain filling stage. Farmers are advised to maintain moisture level in the soil by giving required irrigation.
  - Farmers are advised to maintain the water level in summer rice. Apply top dressing urea 18 kg/ acre at 28 DAS. Undertake weeding and interculturing as and when required to keep the crop weed free.
  - Undertake harvesting of matured early sown *rabi* crops.
  - Farmers who have facilities for one or two irrigation may undertake sowing of summer moong after harvesting of *rabi* crop.
- **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.



- Farmers are advised to spray with NAA @ 1 gram/litre of water for vegetables crop to increase the growth of plant and to prevent the dropping of flower and increase the growth of fruits.
- 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. If flower discoloration is observed due to deficiency of boron, spray borax @ 5gm/litre of water. Farmers are advised to apply irrigation in potato at 10 to 15 days interval. Stop irrigation 10 – 15 days before harvesting. After harvesting of matured potato, farmers are advised to go for onion crop. Select the varieties of onion from Pusa Ratnar, Pusa Red, N53, Arka Niketan, etc.
- 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 are advised to undertake sowing of onion after harvesting early potato. Select the varieties from Pusa Ratnar, Pusa Red, N53 and Arka Niketan etc.
- Farmers who seeded their crops in early November may apply urea @ 50kg /acre in potato. Farmers are suggested to give irrigation at the interval of 10 days regularly. If potato is at maturity, irrigation may be stopped and digging of potato is done accordingly. After harvesting of potato, farmers are advised to go for onion crop. Select varieties of onion like Pusa Ratnar, Pusa Red, N53, Arka Niketan etc.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
  - Mosaic disease and aphids in tomato. To control aphid farmers are suggested to spray with nemerin @ 2 ml/liter of water.
  - 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.
  - pod borer in gram. Spray Endosulfan 35 E.C. or Quinolofos 25 E.C. @ 2 ml/litre of water. To avoid rotting of roots, apply 5 kg. Trichoderma in line mixed with 5 Quintal cow dung.
  - pod borer and powdery mildew in early pea. To prevent the infestation of irrigate the field with thimet @ 4 kg/acre. Spray Karathane @ 1 ml / litre of water or sulfex @ 3 g / litre of water.
  - stem borer in brinjal, cut it down and bury in soil. To prevent the plant from fruit and shoot borer spray Imidochloropid 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 Imidachlopid 0.25%.
  - 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.
  - white fly, leaf hopper in early sown summer vegetables, spraying of Monocrotophos 40 EC @ 1.5 ml/litre of water may be done.
  - powdery mildew in pea, spray Karathane @ 1ml/litre of water or sulfex 3gm/litre of water as a preventive measure. During flowering to prevent the attack of fruit borer, spray carboryl @ 2 g/litre of water.

## Orissa

- **Realised Rainfall:** Most of the districts of the State received no significant rainfall during last week except Angul, Cuttack, Dhenkanal, Jajpur districts received some rainfall.
- **Rainfall Forecast:** Isolated rainfall is likely over the State during next 24 hrs and dry weather thereafter.
- **Major *rabi* Crops:** wheat (ear head emergence), pulses (pod formation), sunflower, groundnut (vegetative), mustard (maturity/harvesting).
- **Advisory:**
  - As there was no significant rainfall in the State in many districts 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 nursery sowing of summer rice and complete transplanting as late transplanting may affect the crop during summer due to moisture stress. First top dressing with 50% N (65 kg urea/ha) may be done at 3 weeks after transplanting. Drain out water from the field just before fertilizer application and water depth of 5cm should be maintained 48 hours after fertilizer application. Apply Cartap hydrochloride (Caldan 4G) @ 7.5 kg/acre at 25-30 days after transplanting. Apply 12 kg N/acre to rice crop is at panicle initiation stage.
- Undertake weeding in early sown pulses. To control grass weeds in the field, apply targa super (Quizalofop ethyl) @ 2ml/l of water at 10-15 days after sowing. Irrigation may be provided at the critical stages like flowering, pod formation and grain fillings stage of the crop.
- Undertake intercultural operations, top dressing and earthing up followed by light irrigation in sunflower. Apply gypsum @ 2.5 q/ha to sunflower, if it is not applied at the time of sowing.
- Undertake harvesting of matured crops of mustard. The crop should be harvested when the siliqua becomes yellow and leaves start shedding. Harvesting may be done during morning hours in order to reduce bursting of siliqua. The seeds may be dried in hot sun for 2-3 days before storing.
- Undertake sowing of summer green gram and black gram with seed treatment of Bavistin @ 2 gm per kg of seed followed by rhizobium culture @ 200 gm per 10 kg of seed.
- **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.
  - It is the right time for sowing of cucurbits, cucumber and ladies finger. Farmers are advised to undertake field preparation and undertake sowing.
  - Farmers are advised to undertake weeding in early sown groundnut and apply gypsum @ 250 kg/ha.
  - Apply pot watering in cashew @ 20-25 litres of water per plant at 15 days interval for freshly planted grafts of cashew nut. Mulching of dried leaves at the base of freshly planted graft may be done to reduce evaporation.
  - Apply thick mulch with coconut leaves (15 nos) or any other material in the basin area (18 m radius) of coconut to conserve moisture.
  - Apply mulching to maintain high moisture status in the soil in fruit crops. Use sprinkler irrigation practices wherever possible in the event of limited water availability particularly for commercial crops including fruit orchards and widely spaced vegetables.
- **Plant protection:** Weather conditions are favourable for mild incidences of
  - red hairy caterpillar, yellow vein mosaic and spodoptera in summer pulses. Apply 10 kg Chloropyriphos powder at evening time or spray 400 ml 20 EC Chloropyriphos per acre. Spray Endosulfan or Methyl Parathion @ 400 ml/acre or Caldan 200 gm/acre in 200 litre of water to control the insect vector spreading yellow vein mosaic virus.
  - wilt in tomato and brinjal. Undertake soil drenching at the base of the plant with 2g Bavistin and 1g Plantomycin or Streptocycline @ 0.1g /l water.
  - fruit borer in tomato, spray Endosulfan @ 2ml/litre of water.
  - aphids and powdery mildew in pulses, apply Imidaclopyrid @ 50ml or Metasystox @ 400ml in 200 litre of water per acre to control aphids, to control powdery mildew disease spray Sulfex @ 4g per litre of water.
  - 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 and mites in chilli, spray Rogor or Metasystox @ 2 ml or Sulfex WP @ 4 gm/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 Oxychloride 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 @ 2 ml / 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.
- **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:** No significant rain occurred in most of the districts of the State during last week.
- **Rainfall Forecast:** Isolated rain / thundershower is likely to occur over Gangetic West Bengal during next 24 hours and dry weather will prevail thereafter. Dry weather is likely to prevail over Sub Himalayan West Bengal and Sikkim during the period.
- **Major Crops:** *Boro* rice, vegetables, mustard.
- **Crop Stage:** Sugarcane (vegetative), wheat (early maturity / maturity), vegetable crops (vegetative / flowering / fruiting / harvesting), mustard (maturity / harvesting), *boro* rice (tillering / panicle initiation / flowering), potato (maturity / harvesting).
- **Crop Condition:** Good.
- **Advisory:**
  - Top dress the *boro* rice at 6 weeks after transplanting or just before flowering @ 15 kg urea per bigha. In case of zinc deficiency of soil apply zinc sulphate @ 4 kg per bigha. 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 and maintain 4 – 5 cm water in the field.
  - As dry weather is likely to prevail at most of the districts of the State, undertake harvesting of already matured crops of wheat.
  - Complete harvesting of mustard as the temperature is rising.
  - Earthing up may be done in maize followed by irrigation.
  - Prepare well-drained sandy to heavy loam soil and undertake green gram sowing. The recommended varieties are Sonali (B-1), Panna (B-105), Pusa Baishakhi, 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 the land for sesame and complete sowing seeds of improved varieties like Rama, Tilottama, Krisna, Sabitri etc. Adopt seed rate of 1 kg per Bigha. Treat the seeds with Mancozeb @ 3 g per kg of seeds. Apply 7 kg urea, 21 kg SSP and 5 kg MOP per bigha of land. If it is sown in the potato field after its harvest, no need of applying fertilizer.

- Undertake sowing the seeds of different summer vegetables such as ladies finger, spinach, various leafy vegetables etc. under assured irrigation. Sow seedlings of brinjal and chili in the main field.
- Elephant foot yam may be sown at the earliest.
- As there was no significant rain during last week and no significant rain is likely to occur over the State, apply irrigation to sugarcane, vegetables and other standing crops.
- Complete harvesting of potato.
- **Plant protection:**
  - Due to variation of temperature between day and night, 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.
  - Attack of stem borer may be found in *boro* rice due to increase in temperature. Spraying alternatively triozophos 40 EC @ 1.2 ml / litre or cartap WP @ 1 g / litre or Endosulfan @ 1.5 ml / litre when 5% dead heart or one egg mass per hill was found.
  - As *boro* rice is at flowering and milk stages, brown plant hopper (BPH) may be found causing hopper burn symptoms. Control measure may be taken when 15-20 nymphs or adults per hill are found. Spraying Imedaclorpride 17.8 SL @ 3 ml / litre or Buptofezin 25 EC @ 2 ml / litre or Acephate 5 WP @ 2 g / litre of water at 7 days interval is advised.
  - The fruits may be affected by fruit borer in chilli. Spray alternatively with Deltamethrin + Triozophos or Spinosad @ 2 ml / litre or B.T. @ 1.5 g / litre of water at evening time.
  - Due to high humidity and increased temperature, small, brown caterpillars bore into the top shoots and fruits of ladies finger; the top shoots droop down and attacked fruits are shed. Remove and destroy attacked shoots and fruits; spray dichlorvos @ 1.5 ml / litre or carbaryl WP @ 2 g / litre or cartap hydrochloride @ 1 g / litre of water; remove all fruits before spraying.
  - In case of jassid and white fly in ladies finger, the leaves become curl resulting stunted growth of plant. Spraying Acephate @ 2 g / litre or fipronil @ 2 ml / litre of water is advised.
  - To prevent infestation of trunk borer in orange, paint the trunk of the tree with carbaryl after diluting 10 g of it in 1 litre of water.
  - Aphids and mites may infest the chilli crop. To manage the infestation the crop should be sprayed with Monocrotophos @ 1.5 ml / litre of water.
- **Fishery:** For fish cultivation, lime should be applied @ 40 kg / bigha in the pond.
- **Animal Husbandry:** Periodic vaccination viz. FMD, HS & BQ to protect the dairy animals in upcoming summer may be undertaken.

## Sikkim

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State for the period.  
**Major crops: High hills (1500 to 2000 m): Large Cardamom:** Vegetative; **Rabi Vegetables:** End Harvesting; **Wheat:** Dough/Grain Formation & Maturity/Harvesting; **Seed Potato:** Planting / Germination/ Vegetative. **(b) Medium hills (1000 to 1500 m): Large Cardamom:** Vegetative; **Rabi Vegetables:** End Harvesting; **Mustard:** Grain Maturity/Harvesting; **Wheat:** Dough/ Grain Formation & Maturity/Harvesting; **Rabi Potato:** Tuberization; **Maize:** Sowing/Germination /Early Vegetative. **(c) Low Hills (Below 1000 m): Large Cardamom:** Vegetative; **Rabi Vegetables:** End Harvesting; **Rabi Potato:** Tuberization; **Mustard:** Grain Maturity/ Harvesting; **Wheat:** Dough Formation; **Maize:** Sowing/Germination/ Early Vegetative.
- **Crop Condition:** Good.
  - **Advisory:**
    - As dry condition is prevailing, farmers are advised to apply irrigation to large cardamom, potato and maize.
    - Undertake weeding to keep the field weed free.
    - Harvesting of vegetables may be completed.
    - Continue sowing of maize and planting of seed potato.
- **Plant protection:**

- Chirke and Foorkey infected cardamom plants may be destroyed by uprooting and buried in the pits at regular intervals.
- Arrangements may be made for getting good shade tree sapling for planting in the open/poor shaded areas.

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

### **Assam**

- **Realised Rainfall:** No significant rain occurred over the State during last week.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the State during the period.
- **Major Rabi Crops:** Wheat (early maturity / maturity), potato (harvesting), pea, arhar (maturity / harvesting) and mustard (maturity / harvesting), vegetables (vegetative / flowering / fruiting / harvesting), *boro* rice (tillering / panicle initiation / flowering), early *ahu* rice (seedling / transplanting).
- **Advisory:**
  - As there was no significant rain over the State during last week and mainly dry weather is likely to prevail, apply irrigation to the crops.
  - As dry weather is prevailing, undertake harvesting of already matured crops of wheat.
  - Top dress *boro* rice with 3 kg urea per bigha. Maintain 5 cm depth of standing water in the *boro* rice field.
  - Proper irrigation should be provided to the nursery beds of early *ahu* rice to avoid moisture stress because of prolonged rainless period coupled with moderate wind.
  - For rising seedlings of regular *ahu* rice, nursery beds of size 10 m long and 1.25 m wide should be prepared by puddling.
  - As the dry weather is likely to continue for next 5 days, matured mustard and Rajmah crops may be harvested within this period.
  - Sow seeds of Banglami, Nilajee, Hasakumra 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.
  - Continue harvesting of pea and arhar crops if 75-80% of pods turned yellow.
  - Undertake sowing of *Bao* rice seeds within March to April. The recommended varieties of *Bao* rice for Nagaon and Morigaon districts are Maguri, Kekua Bao, Negheri Bao, Tara Bao etc.
  - Sowing of maize should be completed during March-April. Select high loamy land and varieties like Ganga-5, Highstars, NLD, Dhawal, Navjot, Kissan, Vijay etc.
  - Land preparation for 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 irrigation is essential as there is no rain for a long period.
  - Farmers are advised to collect the high yielding varieties such as Pratap (SG-1), T-44, Kopergaon, AAU-34, AAU-39, K-851 and ML-55 for green gram and Pant-U-19, T-9, UG-157 etc. for black gram. 3 kg seeds / bigha are required for line sowing in the spacing of 30 cm (row to row) and 10 cm (plant to plant).
  - Farmers may select low lying fertile soils for sowing of recommended capsularis jute varieties like JTC 212, JRC-321, UPC-94 etc. For medium land situation JRC-7447, JRC-212 etc. are best varieties. Application of BHC 10% dust at the time of land preparation is necessary to protect the seeds from soil insects. At the time of last tillage, apply 20 kg SSP, 7 kg MOP per bigha of land. Seed requirement for line sowing is 1 kg / bigha.
  - Plant perennial grass such as Guinea and Napier for fodder crops.
- **Major Seasonal Crop:** sugarcane (maturity / planting), fruit crops.
- **Crop Condition:** Good.
- **Advisory:**
  - Matured sugarcane may be harvested during this period.

- Planting of sugarcane can be started with high yielding varieties such as Dhansiri, Kalang, Luhit, CO-Jor-1, CO-Jor-2 etc. Before planting, setts should be treated with 0.2% solution of Captan.
- Farmers are advised to collect the suitable seedlings of banana as the ideal time of planting banana is April. Always select the sword suckers only. Irrigate the banana crop with pitcher drip irrigation system.
- Due to prevailing dry weather arrange for pitcher drip irrigation to coconut and arecanut for the ensuing period. After irrigation, mulching should be done with water hyacinth or dry rice straw.
- Prepare pits for planting coconut and arecanut seedlings. For areca nut and coconut, pits should be prepared at a distance of 2.5 m and 7.5 m respectively.
- **Plant protection:**
  - Soil and air temperatures are becoming favourable for the attack of stem borer in *boro* rice. If eggs of the pests are noticed, apply 'Darsban' or 'monocrotophos' @ 2 tea spoon full per 5 litres of water in 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.
  - blast disease in *boro* rice, spray Hinosan @ 1 ml / litre of water to control blast disease.
  - As there is chance of stem borer in lemon, spray Monocrotophos @ 5 ml / 2 litres of water to the pest. To control trunk borer kerosene treated cotton should be inserted in the holes of the tree trunk made by the insect before plugging them with mud.
- **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.
  - Farmers are advised to apply lime @ 25 kg for one bigha water area of the pond before releasing fingerlings. After 7 days of lime application FYM should be applied @ 250 kg and after 10 days of FYM application. Chemical fertilizers in the form of Urea (4 kg) and SSP (3 kg) should be applied in one bigha water area of the pond.
- **Animal Husbandry:**
  - Dry rice straw for hay making and preserve for future use. Store rice straw by making silage.
  - Farmers are advised to provide vaccine to the cows against 'Chabaka' disease. For worm related problems in every month, cows should be fed the medicine 'peperzine' or 'mebendazol'.

### Arunachal Pradesh

- **Realised Rainfall:** Rain occurred in Upper & West Siang and Tawang districts of the State during last week and no significant rainfall in the remaining districts of the State.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the State during the period
- **Major rabi crops:** Pea, maize, potato
- **Crop Stage:** Pea (pod maturity/harvesting ), maize (grain formation), potato (maturity)
- **Crop Condition:** Good.
- **Advisory:**
- Mature pods of pea may be harvested and avoid over maturity.
- **Major Seasonal Crop:** Vegetables(maturity/harvesting)
  - Matured fruits of orange, guava and pineapple may be harvested for sale and avoid over maturity.
  - Undertake weeding be done followed by fertilizer application in vegetables.
  - Harvest the winter crop of vegetables which are ready for harvest like cabbage, cauliflower and broccoli may be harvested which are ready for harvest.
  - Undertake earthing up in potato followed and fertilizer application.
  - Harvest the late transplanted vegetables like cabbage and cauliflower etc.
- **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:** Most of the district received no significant rainfall except Srikakulam, Vijyanagaram districts which received rainfall during last week.
- **Rainfall Forecast:** Isolated rainfall is likely during next 24 hrs. in coastal Andhra Pradesh, Telangana and dry weather thereafter. Dry weather is likely over Rayalaseema during the period.
- **Major Crops:** Cotton, Sugarcane and Vegetables
- **Crop Stage:** boll maturity (cotton). *Rabi* crops are at grain development/maturity stage.
- **Crop Condition:** Good.
- **Advisory:**
  - As there was no rainfall during last week, farmers are advised to apply irrigation to standing *rabi* crops like maize and groundnut.
  - Undertake topdressing 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 Ananthpur district are advised to apply neem coated urea to rice, which will reduce the nitrogen losses and also incidence of pests. Neem coated urea can be prepared by mixing 43 kg of urea+ 15 kg neem cake which is sufficient for one acre of rice field.
  - For controlling flower drop in mango, farmers are advised to spray planofix @ 1ml per 4.5 litres of water.
  - To prevent the fruit drop in water melon, farmers are advised spray Planofix @ 2 ml per litre of water.

### Plant protection:

- Due to prevailing weather condition Helicoverpa is noticed in red gram in South Telangana zone. Adopt following IPM measures.
  - Arrange bird perches @ 20 per acre to promote bird activity.
  - Arrange pheromone traps @ 4 per acre.
  - Spray NSKE 5% to control eggs and early instar larvae.
  - Spray Chlorpyrifos @ 2.5 ml during flowering stage or Quinolphos @ 2 ml or Acephate @ 1.5 g per litre of water during pod formation stage. If the pest is not controlled by these chemicals, spray Indoxacarb @ 1 ml or Spinosad @ 0.3 ml per litre of water.
- Prevailing weather conditions are congenial for the incidence of jassids and red mites in brinjal and bhendi. To control,
  - Jassids
    - Spray Dimethoate or Methyl demeton @ 2 ml per litre of water.
  - Red mites
    - Spray Dicofol @ 5 ml or Wettable Sulphur @ 3 g per litre of water.
- Incidence of thrips, mites and Chaenophora blight is noticed in chillies in South Telangana zone. To control,
  - Thrips
    - Spray Acephate @ 1.5 g or Fipronil @ 2 ml per litre of water.
  - Mites
    - Spray Phosolone @ 2 ml per litre of water.
  - Chaenophora blight.
    - Spray Copper-oxy-chloride @ 30 g + Plantamycin @ 1 g in 10 litres of water twice at weekly

intervals.

- **Animal Husbandry (Cattle and Buffaloes)**

- The prevailing weather conditions are congenial for the occurrence of
  - Foot and mouth disease in cattle,
  - ET and sheep pox in sheep,
  - Ranikhet disease in poultry.
- To prevent the diseases, vaccinate the animals.

### Karnataka

- **Realised Rainfall:** Most of the districts received no significant rainfall except Dakshin Kannada, Gulbarga, Chickmagalur, Davangere, Kodagu which received rainfall during last week.
- **Rainfall Forecast:** Isolated rainfall is likely over Coastal Karnataka during next 24 hrs and dry thereafter. Dry weather is likely to prevail over Interior Karnataka
- **Major Crops:** Pigeonpea (maturity/harvesting), Sunflower (maturity/harvesting), Vegetables (Flowering/fruiting/ harvesting), *Rabi* Sorghum (grain development), Bengalgram (maturity / harvesting).
- **Advisory:**
  - Farmers are advised to provide irrigation to *rabi* crops as dry weather is likely to prevail for the next five days and there was no significant rainfall during last week.
  - Farmers in northern dry zone are advised to undertake sowing of sweet gourd, ridge gourd and transplanting of onion under irrigated condition.
  - Farmers in Southern Transition zone are advised to complete transplanting of rice.
  - Farmers are advised to undertake harvesting of green gram, black gram, cow pea etc. in coastal Karnataka.
  - 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.
  - Continue harvesting of Bengal gram, sorghum and safflower in north east dry zone.
  - As dry weather is likely during next five days, farmers are advised to provide irrigation to the dry land horticultural crops and other field crops depending on soil types and crop condition in Eastern dry zone.
  - Farmers are advised to apply Urea 2 Kg+ 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
  - sucking pests in water melon, sweet gourd, ridge gourd crop in North dry zone, take up spraying of 0.5 ml Imidachloprid or 2.5 g. Acetamaprid dissolved in one liter of water.
  - blast in rice. To control spray with carbendazim @ 1gram/litre of water
  - leaf spot and bud necrosis in sunflower. To control spray with Mancozeb 2g/lit) and Imidacloprid (0.5ml/lit) respectively.
  - collar rot in groundnut, to control drench the crop with Mancozeb @3 g/litre of water.
  - inflorescence dieback and inflorescence caterpillar in arecanut in Southern Transition zone. To control spray with mancozeb @ 2 gram/litre and chloropyriphos @ 2ml/litre of water.
  - Pseudostem weevil in banana, to control apply 20 gram carbofuran per plant.
- **Animal Husbandry**
  - Protect animals from hot temperature.

### Kerala

- **Realised Rainfall:** Most of the districts of the State received no significant rainfall except Kannur, Kollam, Thrissur, Wyanad which received rainfall during last week.
- **Rainfall Forecast:** Dry weather is likely to occur over the State during the period.
- **Major *Rabi* Crops:** Rice (grain maturity/harvesting)

- **Crop Condition:** Good.
- **Advisory:**
  - As there was no rainfall during last week and dry weather is likely to prevail for the next five days, farmers are advised to apply irrigation to
  - Farmers of Wayanad district are advised to undertake harvesting of arecanut, pepper, coffee and cardamom. Start land preparation and planting of ginger.
  - Farmers of Ernakulam district are advised to continue sowing of summer vegetables such as cucurbits. Adopt integrated pest management against fruit fly in cucurbits. In home gardens cover the fruits with paper cover. In large-scale cultivation apply carbaryl 0.2% or malathion 0.2% suspension containing jaggery or sugar at 10g/l at fortnightly intervals at flowering and fruit initiation.
  - 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.
  - Complete harvesting of rice in Pathinamthitta and Thiruvananthapuram districts.
  - **Major Seasonal Crop:** Vegetables and plantation crops (coconut, arecanut, pepper and cashew).
  - Farmers in High Altitude zone are advised to cultivate crops like ginger turmeric vegetables etc. as an intercrop in irrigated coconut gardens. Stem bleeding may become more severe. Irrigate the coconut palms and provide shade to the young palms.
  - Irrigate the coconut crop frequently depending on the soil condition to reduce the nut fall and to increase the nut setting. Mulch the basin with dry palm leaves for reducing the heat load at the root zone and for water conservation. Apply 2/3rd of the total fertilizer now to those fields where irrigation facilities are not available.
  - Farmers in northern zone are advised to give second dose of fertilizer in banana plantations which were planted during September – October. Irrigate the crop at the rate of 40-50 litres per nendran banana. Mulch the crop with dry leaves.
  - This is ideal time for planting pepper. Apply mulch and protect the plants from the scorching sun.
  - Farmers are advised to go for harvesting of black pepper in northern zone. The harvested berries are piled up in a heap to initiate browning. Irrigate the vines. Mulch the vine with dry leaves and to reduce the soil temperature and also for conserving water. Clean the basins of the pepper vines and remove the weeds. Apply *Trichoderma* along with farm yard manure and Neem cake in foot rot affected plots as prophylactic measure.
- **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.
  - Mahali disease in arecanut. To control apply 1% Bordeaux mixture against. Provide good drainage in the garden.
  - powdery mildew and shoot borer in vegetables in High Altitude zone. Farmers are advised to apply 2-3 g wettable sulphur for controlling powdery mildew and Sevin (50%) (3 gram perlitre) to control shoot borers.
  - hopper, white flies in cucurbits and fruit fly in bitter gourd and snake gourd in High Altitude zone. Setting of fruit traps will help to reduce the attack. In large gardens apply Carbaryl 50% (3-4 grams/litre) suspension containing jaggery at fortnight interval. Irrigate the crops once in 3-4 days.
  - 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. Collect and destroy the pupae of stem borer from the basal region. Remove the emerging shoots from the healthy seedlings and proper sanitation by appropriate weed control.

- bunchy top virus in banana in High Altitude zone. Apply neem-garlic emulsion to control the vectors spreading.
- white stem bores in coffee in High Altitude zone, swabbing the main stem and branches with 1% Carbaryl for preventing the egg laying of White stem.
- stem borer and leaf roller in rice in Northern zone. Use Tricho cards @ 2cc/acre. Cut each card into 10 pieces and place @ 1 piece per 5 cents. Yellow card for stem borer and blue card for leaf roller. Replace the cards once in every 7-10 days.
- To control of rice bug, it is advised to keep the bunds free of weeds and keep torch flames in the bunds during night.
- **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.

### Tamil Nadu

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to occur during the period.
- **Major Rabi Crops:** Groundnut, pulses and *thaladi* rice, sugarcane, banana and vegetables.
- **Crop Stage:** grain formation/development (rice), pod 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 crops.
  - Farmers in Tuticorin, Virudunagar and Thirunelveli are advised to undertake harvesting of sorghum, sunflower and cotton as dry weather conditions prevail during these days.
  - Farmers in Thanjavur, Trichy, Nagappattinam and Thiruvarur 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.
  - Undertake intercultural operations and application of fertilizers in vegetables and sugarcane.
  - 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.
  - Conserve moisture in orchard crops as dry weather conditions prevail during these days.
  - During this summer, farmers who have sown Capsicum and green chillies experience problems like early flower dropping and poor formation of mature chillies due to early growth retardation. To overcome this, spraying of solution containing 10 mg of Planofix per litre of water over the plants aged between 60 and 90 days is advised.
- **Plant Protection:** Weather conditions are favourable for
  - fruit borer incidence in brinjal crop. To control spray Imidachlor @ 3 ml/ lit of water.
  - blast disease in rice. Foliar application of Pseudomonas florescens @ 400g/acre or Tricyclazole @ 120 g/acre can be applied to avoid spread of this disease.
  - white fly incidence in rice fallow black gram. To control spray with Monocrotophos and Dimethoate @ 400 ml /acre.
  - leaf eating insect and bugs in rice fallow pulse crops. To control spray Endosulphon 35E.C @ 400 ml per acre along with sticking agent khadi bar soap 600g + palm sugar 200g + cotton seed extract 200 ml in 200 L of water.
  - muranai disease in chilli. To control spray dimethoate or dicofol 2ml/lt.
  - white fly in rice fallow black gram spray Monocrotophos (or) Dimethoate @ 400 ml /acre to prevent the incidence, which could spread yellow mosaic disease.
  - The expected weather is conducive for the brown spot incidence in rice varieties in Coimbatore. Spray Edifenphos @ 500 ml.

- Since high temperature is expected in coming days which conducive for mealy bug incidence in cotton, sunflower, vegetables and fruit crops like guava in Coimbatore. Look out for the incidence and spray fish oil rosin soap 4%.

- **Animal Husbandry**

- Calves above 3 months and sheep and goat above 2 months should be vaccinated against Foot and Mouth disease.
- Calves should be protected against intestinal worm to achieve good growth and perform to their potential in later stages.

## WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

### Maharashtra

- **Realised Rainfall:** Some rain occurred in Pune, Parbhani and Amravati districts of the State during last week. No significant rain occurred in most of the districts of the State.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State during the period.
- **Major rabi Crops:** *jowar*, safflower, sunflower, linseed, gram, wheat, mustard and vegetables.
- **Major summer crops:** summer rice, groundnut, sunflower, maize and *bajra*.
- **Other crops:** Fruit crops, sugarcane (pre-seasonal) and sugarcane (*Suru*).
- **Crop Stage:** *rabi* *jowar*, safflower & gram (maturity / harvesting), wheat (early maturity / harvesting), mustard, linseed (seed maturity / harvesting), vegetables(vegetative / flowering / fruiting / harvesting) and summer rice (panicle initiation / flowering in South Konkan & tillering in east Vidarbha), summer groundnut (vegetative growth / flowering & pegging in South Konkan), summer sunflower (early vegetative / vegetative), summer maize (early vegetative / vegetative), summer *bajra* (early vegetative), sugarcane (pre-seasonal) (tillering), sugarcane (*Suru*) (early tillering).
- **Crop Condition:** Satisfactory.
- **Advisory:**
  - Conserve moisture in the crop field at maturity stage of *rabi* crops.
  - Complete the harvesting of already matured *jowar*, safflower, sunflower, gram, mustard, linseed in morning hours and continue harvesting of already matured wheat.
  - Maintain 5-8 cm water level in the rice field. Apply Nitrogenous fertilizer @ 40 kg / ha for one month old rice crop.
  - Apply fourth dose of 136 kg Nitrogen and 85 kg Phosphorous and potash each / ha, after 4 to 4.5 months from planting followed by irrigation in pre-seasonal sugarcane.
  - Apply second dose of 100 kg Nitrogen / ha with 1 kg neem powder for 6 kg urea to *suru* sugarcane after 6 to 8 weeks from planting followed by irrigation.
  - Apply 300 kg gypsum / ha to summer groundnut at flowering stage.
  - To reduce the transpiration rate in banana, spray mixture of 800 g Kaolin dissolved in 10 liters of water.
  - Due to increase in evaporation, irrigation in groundnut may be given 8-10 days interval.
  - Use sprinkler and drip irrigation system in summer season in order to save the water.
  - As there was no significant rain in most of the districts (except Pune, Parbhani & Amravati districts) during last few weeks and dry weather is likely to prevail during next five days, apply protective irrigation to the standing crops.
- **Plant Protection:**
  - Due to change in weather there is chance of attack of thrips in mango, spray Phosalon 35% @ 15 ml or Dimethoate 30% @ 10 ml / 10litres of water.
  - Due to cloudy weather condition during last week and expected cloudy condition during next three days, there is chance of infestation of hopper in mango in Konkan. For control spraying of Fenthoate 50% @ 15 ml or Phosalon 35% @ 10 ml or Dimethoate 30% @ 15 ml in 10 liters of water after 2 weeks of earlier spraying may be done.
  - Weather conditions are favourable for mild incidences of –
    - blight in rice in Konkan, spray Carbendazim @ 1 g / liter or Copper oxychloride @ 2.5 g / litre of water.

- fruit fly in cucumber, watermelon, bitter gourd, destroy infected fruits and spray 4% neem ark or spray Endosulfan @ 400 ml + 200 g jaggery per acre in 200 liters of water at border row only.
- early blight in tomato, spray Mancozeb (Diathane M-45) @ 25 g per 10 liters of water four times at the interval of 10 to 15 days.
- thrips and blight disease in onion, spray Chlorothalonil or Mancozeb or Copper oxychloride or Iprodion @ 25 g + Carbosulfan @ 10 ml or Trizophos + Deltamethrin @ 20 ml or Cypermethrin @ 5 ml + sticker @ 10 ml in 10 litres of water.
- **Fishery:**
  - The growth of fishes and water in the pond may be checked periodically. Natural feed and supplementary feed like groundnut cake, rice or whet bran be mixed in 1:1 proportion and mixed with water and given twice a day.

## Gujarat

- **Realised Rainfall:** Dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State. Heat wave conditions would continue over north Gujarat region during next 2 days and may abate thereafter.
- **Major Rabi Crops:** Wheat, potato, mustard, gram, vegetables.
- **Crop Stage:** wheat (early maturity / maturity), mustard (maturity / harvesting), gram (maturity / harvesting), potato (maturity / harvesting) and vegetables (vegetative / flowering / fruiting / harvesting).
- **Crop Condition:** Satisfactory.
- **Advisory:**
  - In view of prevailing dry weather condition during last few weeks and also during next five days along with persisting high temperature and heat wave conditions, farmers are advised to apply light and frequent irrigation to the standing crops to meet the excess evaporative demands.
  - Prepare land and undertake sowing of green gram. Select the improved variety from K-851, Mung Gujarat-3, 4 and CO-4. The seed rate should be 25 kg / ha with spacing of 30 x 10 cm. Treat seeds with *Rhizobium* culture @ 1 packet / 8 kg seeds. At the time of sowing fertilizer dose of N and P should be applied @ 20 kg and 40 kg / ha.
  - Start sowing of cow pea and black gram. Procure seeds of Guj-1, Guj. Cowpea-4, 5 and Pusa Falguni for cow pea and T9 for black gram for summer sowing under assured irrigation. Treat seeds with *Rhizobium* culture @ 1 packet / 8 kg seed. Apply 20 kg N and 40 kg P<sub>2</sub>O<sub>5</sub> / ha as basal dose before sowing.
  - In view of prevailing dry weather, undertake harvesting of already matured crops of wheat, pulses and mustard.
  - Due to mainly clear sky likely to prevail during next week, harvest matured crop of isabgul and fenugreek during afternoon hours and dry in barnyard.
  - 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 MH-169, GHB-526, GHB-558 and GHB-538. Adopt seed rate of 3.75 kg / ha and 45 x 15 cm spacing for sowing. Apply 40+40+0 kg / ha NPK as basal dose. Thinning should be carried out at 20 DAS maintaining distance of 15 cm between the plants.
  - Farmers are advised to sow summer sesamum variety Guj. Til-2. Apply irrigation at 6 to 7 days after sowing for obtaining better and even germination. Thinning should be carried out 15 to 20 DAS.
  - Complete harvesting of potato crops.
- **Major Seasonal Crop:** Fruit crops and Sugarcane (vegetative / harvesting).
  - Carry out weeding in citrus orchard and apply fertiliser.
  - Spray a solution of 200 mg NAA + 200 g urea in 10 litres of water to mango tree to enhance fruit size and reduce fruit drop.
- **Plant Protection:**
  - 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 or Dimethoate 30 EC @ 10 ml / 10 litres of water is recommended.
- powdery mildew in mango, spray Carbendazim @ 10 g or Wettable Sulphur 30 g / 10 liters of water at 15 days interval as per requirement.
- thrips causing leaf curl in chilli, spray Triazophos 40 EC @ 10 ml or Acephate 75 SP @ 10 g / 10 litres of water at 10 to 12 days interval.
- mealy bug in mango, dust 2% methyl parathion powder around the mango tree for effective control of mealy bug.
- leaf miner in groundnut, spray DDVP 76 EC @ 5 ml / 10 litres of water to manage leaf miner.
- **Animal Husbandry:**
  - Due to high temperature and humidity, keep the animals under shade during noon hours and avoid feeding between 11 to 15 hrs. Make arrangement of curtains for poultry house.

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

### Madhya Pradesh

- **Realised Rainfall:** No significant rainfall over the State during last week.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State during the period.
- **Major Rabi Crops:** wheat, pulses, gram (grain development), sugarcane (cane development), cotton (boll development/ maturity) and vegetable crops (late vegetative)
- **Crop Condition:** Satisfactory.
- **Advisory:**
  - In view of prevailing dry weather condition during last few weeks and also during next five days along with persisting high temperature and heat wave conditions over central India, farmers are advised to apply light and frequent irrigation to the standing crops to meet the excess evaporative demands.
  - Undertake planting of sugarcane under irrigated conditions during summer.
  - 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.
  - Prepare field and sow cucurbitaceous vegetables i.e. water melon, musk melon and other cucurbitaceous vegetables.
  - Undertake sowing of summer ladyfinger and cow pea.
- **Animal Husbandry:**
  - Arrange for vaccination for Foot and Mouth disease. Use potassium permanganate @ 5 ml per liter of water for infected animals.
- **Plant Protection:** Weather conditions are favourable for-
  - sucking pest in chilly, tomato, brinjal, spray Dimethoate 1 ml per litre of water or Phosphomedan 3 ml per 10 litre of water.
  - termites in wheat, use chloropyrifos 20 E.C. with Irrigation water and spray of Neem seed kernels Extract (5%),use pheromone traps (4 in one acre),
  - aphids in safflower, spray Rouger @ 750 ml / hac.
  - Sucking pest in bhindi, spray Emydachloroprid 17.8 SL in 0.5 ml per litre of water.
  - Stem borer in sugarcane, spray Foret 10 G 10 Kg per hectre of water.

### Chattisgarh

- **Realised Rainfall:** Mainly dry weather prevailed over the State during last week.
- **Rainfall Forecast:** Isolated rain is likely to occur over the State during next 24 hours and dry weather thereafter.
- **Major Rabi Crops:** Wheat (early maturity / maturity), *boro* rice (tillering / panicle initiation / flowering), gram (maturity / harvesting), mustard (maturity / harvesting).
- **Crop Condition:** Good.

- **Advisory:**
  - As dry weather prevailed during last few weeks and no significant rain is likely to occur during next five days over the State, farmers are advised to irrigate the standing crops of already sown vegetables.
  - The summer rice is at tillering / panicle initiation / flowering stage. Maintain 5 – 7 cm standing water in the rice fields.
  - Complete the intercultural operation followed by irrigation in groundnut before flowering to increase the pegging and finally yield.
  - Undertake harvesting of already matured crops of wheat, potato, mustard and pulse crops.
  - As the weather condition is now suitable for proper germination of summer vegetables like pumpkin, bitter gourd, bottle gourd, okra etc., 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 is advised at knee high stage in sugarcane crop sown during the month of November.
  - Now the temperature conditions are suitable for proper germination of Sugarcane setts. Hence, it is advised to prepare well pulverized field for planting of sugarcane. Top one third portions of the cane should be used for seed purpose. Before planting the sugarcane setts should be treated with hot water / hot air / fungicides.
- **Plant Protection:** Present weather conditions may be favourable for the infestation of stem borer in rice and powdery mildew in cucurbitaceous vegetables.
  - In cucurbitaceous vegetables, if white powder (powdery mildew) is observed, then sulfex dust should be applied.
  - It is advised to keep watch over the summer rice crop for stem borer and if the damage is above ETL, apply granular insecticides Cartep or Fipronil @ 25 kg / ha in the fields.