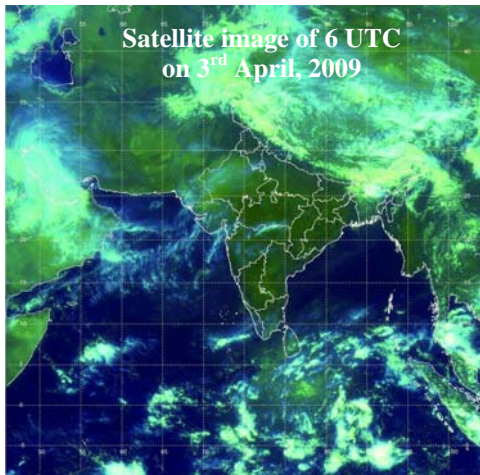




National Agromet Advisory Bulletin

Thursday, 2nd April, 2009
(For the period 2nd to 6th April, 2009)



Chief Synoptic Feature (Based on 1430 hours IST observations of 2nd April, 2009)

- The western disturbance which is lying over Jammu & Kashmir and neighbourhood is likely to cause scattered to fairly wide spread rain/thundershowers activity over western Himalayan region and adjoining plains of northwest India during next 48 hours.
- Current meteorological analysis and numerical weather prediction models suggest that scattered rain / thundershower activity accompanied with isolated thunder squall is likely over northeastern states and isolated rain / thundershower with thunder squall is also over north Orissa and West Bengal & Sikkim during next 2 -3 days.
- Heat wave conditions prevailed over some parts of Saurashtra & Kutch. They are likely to continue during next 48 hours.

Advisories for high temperature

- There is chance of rainfall and high wind due to passage of western disturbance over northern part of the country during next three days. Farmers of the region, especially in Jammu and Kashmir, Himachal Pradesh and Punjab, are advised to harvest the already matured crops immediately and to put cover to the harvested crops to protect from rain.
- As there is chance of rain due to thunderstorm activity in north eastern part of the country, farmers of this region are also advised to harvest the already matured crops and provide cover to protect them from rain.
- Heat wave conditions prevailed over some parts of Saurashtra & Kutch and they are likely to continue during next 48 hours. Farmers are advised to apply light and frequent irrigation to the standing crops.

Advisories for irrigation

- 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 for next five days, farmers are advised to apply irrigation to the crops as and when required.

Advisories for pest and disease

- Weather conditions are favourable for the incidence of pests and diseases in the following States:
 - flag smut and yellow rust in late sown wheat in Punjab.
 - aphids in late sown lentil in Uttarakhand.
 - leaf miner, mites and thrips in summer groundnut in Karnataka.
 - shoot borer in sugarcane in Orissa.
- Monitor the crops for the pest and disease incidences and undertake plant protection measures, if required.

Issued by

National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division, India Meteorological Department, Shivajinagar, Pune.

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

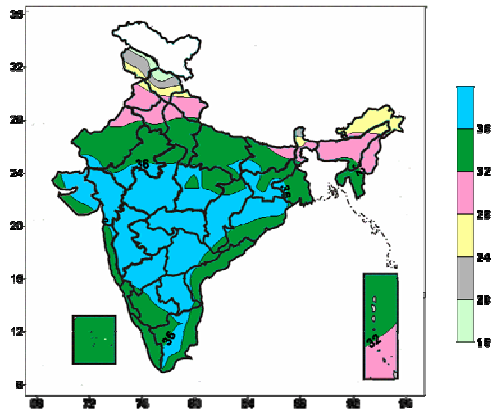
Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks					
Sub-division	Cumulative Rainfall (% Dep.) for the period				
	4 th March	11 th March	18 th March	25 th March	1 st April
A & N Islands	-27	-72	119	256	242
Arunachal Pradesh	29	-84	-99	-83	9
Assam and Meghalaya	-45	-85	-100	-90	43
NMMT	-54	-98	-100	-100	49
SH West Bengal & Sikkim	-91	-99	-100	-27	147
Gangetic West Bengal	-100	-90	-40	-70	82
Orissa	-100	-100	-100	-77	-64
Jharkhand	-100	190	-100	-87	-98
Bihar	-100	-98	-100	-98	-32
East Uttar Pradesh	-100	-100	-100	-70	-29
West Uttar Pradesh	-100	-100	-100	-87	-53
Uttarakhand	-100	-100	-100	-97	-85
Haryana, Chandigarh & Delhi	-100	-100	-100	-8	76
Punjab	-100	-100	-100	-26	52
Himachal Pradesh	-99	-97	-99	-36	-51
J & K	-95	-88	-98	-53	16
West Rajasthan	-100	-100	-100	7	-8
East Rajasthan	-100	-100	-100	-67	-94
West M. P.	-100	-99	-84	-94	-97
East M. P.	-100	-95	-95	-94	-92
Gujarat region	-100	-100	-100	-96	-100
Saurashtra & Kutch	-100	-100	-100	-100	-100
Konkan and Goa	-100	-100	113	-100	-33
Madhya Maharashtra	-100	-100	7	-92	-88
Marathwada	-100	-100	-96	-84	-100
Vidarbha	-100	-100	358	-46	-100
Chhattisgarh	-100	-100	-100	-100	-100
Coastal A. P.	-100	-99	-99	41	-76
Telangana	-100	-100	-90	127	-100
Rayalseema	-100	-100	-35	175	-100
TamilNadu & Pondicherry	-100	111	289	-6	-83
Coastal Karnataka	-100	-97	1117	2450	403
N. I. Karnataka	-100	-99	52	292	-63
S. I. Karnataka	-100	-100	943	206	51
Kerala	-99	-34	432	51	-68
Lakshadweep	-100	-100	-100	-95	-100

The subdivisions like Orissa, Bihar, Uttar Pradesh, Uttarakhand, Himachal Pradesh East Rajasthan, Madhya Pradesh, Gujarat, Saurashtra & Kutch, Marathwada, Chhattisgarh, and Lakshadweep Islands received scanty / deficient rain in all the 5 weeks; Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, West Bengal, Sikkim, Jharkhand, Punjab, Jammu & Kashmir, Konkan & Goa, Madhya Maharashtra, Vidarbha and Andhra Pradesh, received scanty / deficient rain in 4 out of last 5 weeks; Arunachal Pradesh, Haryana, Chandigarh, Delhi, West Rajasthan, North Interior Karnataka and Kerala received scanty / deficient rain in 3 out of last 5 weeks. Remaining States received normal / excess rain

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

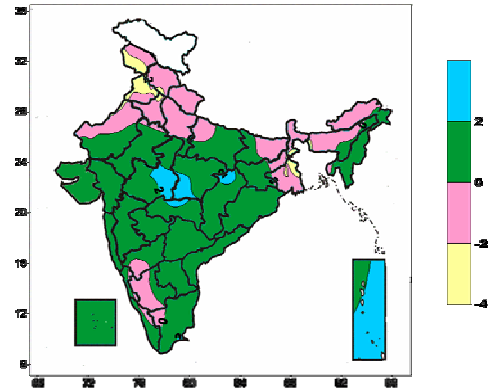
Contour maps for the week ending 01.04.09

Actual Mean Maximum Temperature (°C) in India for the week ending 01.04.09



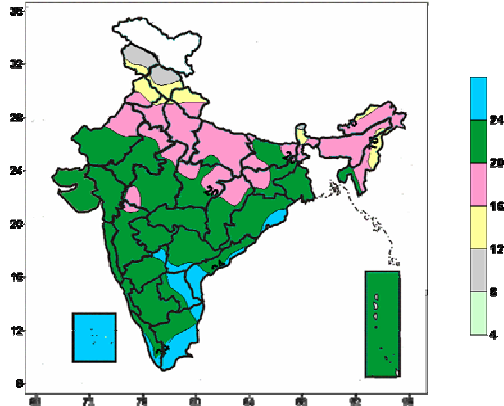
Actual Mean Maximum temperature ranged between 36 to 40°C over most parts of North Orissa, Gujarat, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Central India, Telangana, Rayalaseema, North Interior Karnataka, some parts of East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Rajasthan, Konkan & Goa, Coastal Andhra Pradesh, South Interior Karnataka, Tamil Nadu, 28 to 32°C over most parts of Uttarakhand, Punjab, Haryana, Assam, Nagaland, Manipur, some parts of West Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, West Rajasthan, Andaman & Nicobar Islands, 24 to 28°C over most parts of Arunachal Pradesh, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, sub-Himalayan West Bengal & Sikkim, Assam, 20 to 24°C over some parts of Jammu & Kashmir, Himachal Pradesh, Sikkim, 16 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh, 32 to 36°C over remaining parts of the Country.

Maximum Temperature (°C) Anomaly in India for the week ending 01.04.09



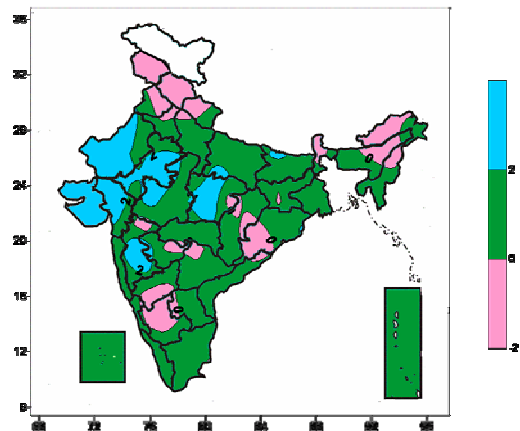
Actual Mean Maximum temperature anomaly ranged between 2 to 4°C over most parts of Andaman & Nicobar Islands, some parts of Madhya Pradesh, Chhattisgarh, Vidarbha, -2 to 0°C over most parts of Himachal Pradesh, Uttarakhand, Haryana, Delhi, West Uttar Pradesh, West Bengal, Sikkim, Assam, Arunachal Pradesh, some parts of Jammu & Kashmir, Punjab, Bihar, Jharkhand, Tripura, Rajasthan, Karnataka, Kerala, Tamil Nadu, -4 to -2°C over some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, West Bengal, 0 to 2°C over remaining parts of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 01.04.09



Actual Mean Minimum Temperature ranged between 24 to 28°C over most parts of Lakshdweep, some parts of Orissa, Andhra Pradesh, North Interior Karnataka, Kerala, Tamil Nadu, 16 to 20°C over most parts of Haryana, Delhi, Uttar Pradesh, Sub Himalayan West Bengal, North East India, over some parts of Punjab, Uttarakhand, Bihar, Jharkhand, Rajasthan, Madhya Maharashtra, Madhya Pradesh, Chhattisgarh, 12 to 16

Minimum Temperature (°C) Anomaly in India for the week ending 01.04.09

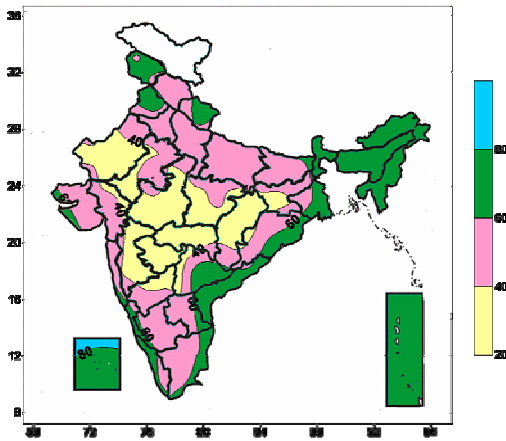


Minimum Temperature anomaly ranged between 2 to 4°C over most parts of Rajasthan, Gujarat, some parts of East Uttar Pradesh, Bihar, Madhya Pradesh, Madhya Maharashtra, Marathwada, -2 to 0°C over most parts of Jammu & Kashmir, Himachal Pradesh, Sikkim, Arunachal Pradesh, Nagaland, Interior Karnataka, some parts of the Uttarakhand, Punjab, Haryana, Jharkhand, Sub-Himalayan West Bengal, Assam, Orissa, Madhya

0°C over some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttarakhand, West Uttar Pradesh, Sikkim, Assam, Arunachal Pradesh, Nagaland, Manipur, 8 to 12°C over some parts of Jammu & Kashmir, Himachal Pradesh, Sikkim, 20 to 24°C over remaining parts of country.

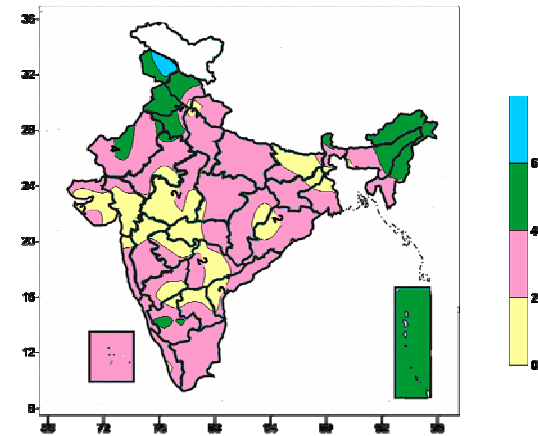
Maharashtra, Marathwada, Vidarbha, East Madhya Pradesh, Chhattisgarh, Andhra Pradesh 0 to 2°C over remaining parts of the Country.

Relative Humidity (%) over India for the week ending 01.04.09



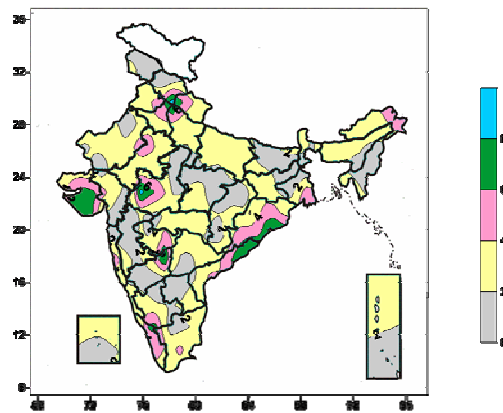
Relative humidity more than 80% to 100% over some parts of Lakshadweep, 60 to 80% over most parts of Jammu & Kashmir, Punjab, Uttarakhand, West Bengal & Sikkim, North East India, Coastal Andhra Pradesh, Coastal Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Bihar, Orissa, Telangana, Rayalaseema, Konkan, Saurashtra & kutch, Tamil Nadu Kerala, 20 to 40% over most parts of West Rajasthan, Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, Chattisgarh, some parts of East Rajasthan, Jharkhand, Telengana, North Interior Karnataka, 40 to 60 % over remaining parts of the country..

Cloud amount (okta) over India for the week ending 01.04.09



Cloud amount ranged from 6 to 8 okta over some parts of Jammu & Kashmir, 4 to 6 okta over most parts of Himachal Pradesh, Punjab, Haryana, Sikkim, Arunachal Pradesh, Nagaland, Manipur, Andaman & Nicobar Island, some parts of Jammu & Kashmir, West Rajasthan, Assam, South Interior Karnataka, 0 to 2 okta over most parts of Gujarat, Saurashtra & Kutch, some parts of Himachal Pradesh, Uttarakhand, West Uttar Pradesh, East Rajasthan, Maharashtra, Madhya Pradesh, Chattisgarh, Orissa, Bihar, Jharkhand, Andhra Pradesh, Interior Karnataka, Kerala, 2 to 4 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 01.04.09

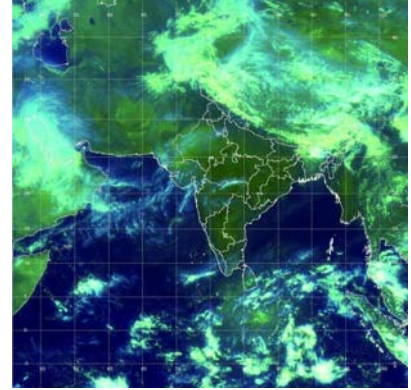


Wind speed ranged between 8 to 10 knots over some parts of Himachal Pradesh, West Madhya Pradesh, 6 to 8 knots over some parts of Himachal Pradesh, Uttarakhand, Haryana, West Uttar Pradesh, Suarashtra & Kutch, Marathwada, West Madhya Pradesh, Orissa, Coastal Andhra Pradesh, Interior Karnataka, Kerala, 4 to 6 knots over some parts of Punjab, Haryana, Himachal Pradesh, Uttarakhand, Rajasthan, West Uttar Pradesh, Arunachal Pradesh, Saurashtra & Kutch, West Madhya Pradesh, Konkan & Goa, Marathwada, Gangetic West Bengal, Orissa, Coastal Andhra Pradesh, Interior Karnataka, Kerala, Tamil Nadu, 0 to 2 knots over most parts of Jammu & Kashmir, East Madhya Pradesh, Bihar, Nagaland, Manipur, Mizoram, some parts over Himachal Pradesh, West Rajasthan Chattisgarh, Jharkhand, West Bengal, Assam, Gujarat, West Madhya Pradesh, Maharashtra, Interior Karnataka, Andhra Pradesh, Tamil Nadu, Lakhshadweep, Andaman Nicobar Island, 2 to 4 knots over remaining parts of the country.

Chief Synoptic Feature (Based on 1430 hours IST observations of 2nd April, 2009)

- The western disturbance which is lying over Jammu & Kashmir and neighbourhood is likely to cause scattered to fairly wide spread rain/thundershowers activity over western Himalayan region and adjoining plains of northwest India during next 48 hours.
- Current meteorological analysis and numerical weather prediction models suggest that scattered rain / thundershower activity accompanied with isolated thunder squall is likely over northeastern states and isolated rain / thundershower with thunder squall is also over north Orissa and West Bengal & Sikkim during next 2 -3 days.
- Heat wave conditions prevailed over some parts of Saurashtra & Kutch. They are likely to continue during next 48 hours.

Satellite image of 6 UTC on 3rd April, 2009



Zone-wise Forecast (Forecast valid upto 1430 hours IST of 5th April, 2009)

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

- Rain/thundershowers are likely at many places over Jammu & Kashmir during next 24 hours and at a few places thereafter.
- Rain/thundershowers are likely at a few places over Punjab and Himachal Pradesh during next 24 hours and Isolated thereafter.
- Isolated rain/thundershowers are likely over Uttarakhand during next 48 hours and mainly dry weather thereafter.
- Isolated duststorm/thunderstorm is likely over the rest region during next 48 hours.

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

- Rain/thundershowers are likely at isolated places over West Bengal & Sikkim and north Orissa.
- Mainly dry weather is likely over the rest region.

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

- Rain/thundershowers are likely at a few places over the region.

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

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

WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT, RAJASTHAN]

- Isolated thunderstorm is likely over south Madhya Maharashtra and Marathwada.
- Isolated duststorm/thunderstorms are likely over Rajasthan during next 48 hours.
- Mainly dry weather is likely over the rest region.

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

- Mainly dry weather is likely over the region.

WARNING: (For next 48 hours)

- Isolated thunder squall is likely over Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Arunachal Pradesh, West Bengal & Sikkim, north Orissa, Punjab and Himachal Pradesh.

Weather Outlook from 1430 IST of 5th April, 2009 to 1430 IST of 7th April, 2009 (Based on numerical weather products):

- A fresh western disturbance is likely to affect northwest India during 5th to 8th April.

Zonewise Agromet Advisories

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

Himachal Pradesh

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), wheat (flowering / grain formation), barley and oat (flowering / grain formation), oil seeds (pod formation), potato (planting / vegetative / tuber formation), cabbage, cauliflower and broccoli (head formation), pea (pod formation / early maturity), leafy vegetables like lettuce, methi, palak, dhania etc. (vegetative).
- As rain / thundershower is likely at a few places over the state during next 24 hours, farmers are advised to harvest matured crops and provide suitable protection for covering the harvested crops.
- Apply anti-hail nets in apricot and plum as chances of hails and high wind may affect the fruit setting and nets also provide necessary shelter. Hail-nets may also be provided for protection of orchards and other horticulture crops during the period.
- For seed crop of berseem and oat one cut can be taken.
- Weather is favourable and also it is optimum time for sowing of chari, bajra and maize in low hills.
- Under prevailing weather it is advised for nursery sowing of tomato, chilli, summer squash, capsicum, brinjal, ridge gourd, bitter gourd and pepper in poly houses.
- It is time for sowing of ageti bhindi and french bean in the field.
- It is optimum time for plantation of gladiolus and liliium. It is also optimum time for raising nursery of summer flowers viz. China aster, glardia, rudevekia, Kochia, African Marigold, French Marigold, partulaca, Tithinia, Torinia and cleome etc.
- Weather is congenial for production of white button mushroom in the closed room. Maintain room temperature at 18-22⁰C and relative humidity around 85% for successful cultivation.
- Details of crop varieties are mentioned in Annexure I.

Plant protection

- The weather is conducive for attacks of aphids in sarson, for control spray Rogar @ 1ml per litre of water.
- There are chances of attack of peach leaf curl disease in peach and pear fruit plant where fruit bearing has started. For control spray Nuvan @ 1 ml + 3 g Blitox per litre of water.
- There is report of attack of late blight of potato and infestation may increase due to congenial weather condition. For the control of late blight of potato spray Dithane M-45 @ 25 g in 10 litres of water and repeat the spray at 10-15 days interval.
- Aphids are appearing in the seed crop of cole crops and there is also chance of increase of the infestation under prevailing weather. For control, spray Rogor @ 1 ml per litre of water.
- Under prevailing weather condition there is possibility of infestation of powdery mildew. For control of powdery mildew in peas spray Sulfex @ 25 g per 10 litres of water or karathane @ 5 ml per 10 litres of water.
- Weather condition is also congenial for downy mildew in seed crop of onion. For control spray Redomil M-Z @ 25 g per litre of water at 15 days interval.
- Spray the pesticides on a non-rainy day.

Honeybees

- The winter packing may be taken away as the temperature is rising. The weak apiary should be given artificial food. Also insert empty frame /combs for egg laying to the queen as the population starts building up.
- Dust sulphur on sealed brood in the colony and not on larvae to control mite attack on honeybees.

Animal Husbandry

- Pregnant and lactating cows and buffaloes should be given 2 kg feed for their body maintenance and additional 1 kg for developing calves with mineral mixture @ 15-30 g per day. For milch animals 2 kg feed + one kg additional feed per 2.5 kg milk production should be given.

Poultry

- Replace the poultry houses with fresh litter to avoid wetting. Give clean water to birds. For precautionary measures spray formaline 40% @ one litre in 9 litres of water outside or surrounding the farm.
- Also do not allow human and birds from outside. This will help in protection from bird flu.

Uttarakhand

- **Major Standing Crops:** Sugarcane ratoon (early vegetative), wheat (early maturity), mustard, chickpea and lentil (maturity), cabbage, onion, garlic and tomato (vegetative), summer sunflower, moong, urd (early vegetative).
- Undertake field preparation and planting of sugarcane with irrigation facilities.
- As there was no significant rainfall during last few weeks and no significant rainfall is likely for next five days over the State, apply irrigation to the crops.
- Farmers are also advised to continue sowing of foxtail millet with improved local varieties as sufficient soil moisture is available due to rainfall during last week.
- Undertake harvesting of matured crops of wheat, mustard, chickpea, potato, lentil, sugarcane and *toria* due to expected dry weather during this week.
- Farmers are advised to apply 40 kg Urea, 180 kg SSP and 20 kg MOP in ratoon sugarcane crop and irrigate within 24 hours for enhancing its growth.
- Start harvesting of matured garlic crop as dry weather is likely for the next five days.
- Farmers are advised to undertake field preparation and sowing of non seasonal pea with improved varieties in high hills.
- Farmers are also advised to undertake sowing of bhindi, french bean and tomato. Details of varieties are given in Annexure I.
- Undertake weeding, intercultural operations and top dressing in earlier sown chaiti dhan, onion, potato and chilli crops.
- **Plant Protection:** Weather conditions are favourable for mild incidences of aphids in late sown lentil crop, hence farmers are advised to go for spraying of 35 EC Endosulphan @ 2 ml per liter of water.

Punjab

- **Major Standing Crops:** Horticultural crops (vegetative), spring sugarcane (early vegetative), wheat (grain formation / early maturity), gram and lentil (maturity), pea and vegetable crops like chilli, tomato, brinjal, bhindi and onion (early vegetative) and oilseeds (maturity), summer pulses, sunflower (vegetative), summer rice (tillering).
- Complete field preparation and planting of sugarcane with irrigation facilities.
- Farmers are advised to undertake field preparation and nursery sowing of bhindi.
- Details of crop varieties are mentioned in Annexure I.
- Farmers are advised to undertake sowing of cucurbits in polythene bags for raising early crop as weather is favourable for sowing.
- Complete the transplanting of seedlings of carrot for seed production.
- Undertake sowing of cowpea and sweet potato as the weather is favourable for sowing.
- Undertake harvesting of matured crops as rain and high wind are expected in the coming days due to passage of western disturbance. Farmers are also advised to put cover to protect the harvested crops from rain.
- Undertake intercultural operations in tomato, onion and chilli on a non rainy day.
- Weather is favourable for sowing greens (*Khada*). Lay out small beds of 5ft long and 4 ft width with bunds all around and use 4-6 kg seeds per acre. Because of small size seeds, mix the seeds with coarse sands for easy sowing. Cover the seeds with soil by hands followed by straw to avoid high temperature.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- flag smut and yellow rust in wheat cultivar PBW-343. Apply Tilt @ 200 ml in 200 litres of water as spot application on a non rainy day. Remove the flag smut affected plants from wheat fields, wherever the disease has appeared.
- Fruit and shoot borer in bhindi. Apply Sevin 500g or Thiodan 350 ml per acre at the appearance of borer. Repeat the spray after 15 days.
- powdery mildew in early sown cucurbits. Apply 50-80 ml Karathane 25 EC per acre to check the disease.

Haryana

- **Major Standing Crops:** Spring sugarcane (early vegetative), vegetable crops (early vegetative), wheat (grain formation / early maturity) and oilseeds (maturity), summer pulses, sunflower(early vegetative).
- As there was no significant rainfall during last two weeks and no significant rainfall is likely for next five days over the State, apply irrigation to the crops.
- Complete the planting of sugarcane with irrigation facilities. Intercrop of summer moong or summer mash may be sown.
- Complete sowing of berseem. Also undertake sowing of bajra, lobia, sudan and napiar grass for fodder.
- Details of crop varieties are mentioned in Annexure I.
- Farmers are advised to prepare the field and continue sowing of cucurbits.
- Undertake intercultural operations in tomato, onion and chilli on a non rainy day.
- Farmers are also advised to continue sowing of pigeon pea.
- The newly planted young fruit plants should be watered at frequent interval. Young plants may be given nitrogenous fertilizer in small split dose. Undertake planting of fruit crops like citrus, mango, litchi, guava and ber.
- Farmers are advised to get the animal examined for routine pregnancy check up and foetus welfare. Don't feed green sprouted, rotten or soiled potatoes to diary animals. These can cause serious and fatal poisoning.
- **Plant Protection:** Weather conditions are favourable for mild incidence of yellow rust in wheat. Apply Tilt @ 200 ml in 200 litres of water as spot application on a non rainy day.

Delhi

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), mustard (seed maturity / harvesting), gram (grain maturity / harvesting), wheat (milk / dough).
- As there was no significant rain during last few weeks and no significant rain is expected over the State, apply light and frequent irrigation to wheat and vegetables.
- Conserve moisture in the soil where the crops are at maturity stage.
- As dry weather is likely to prevail, farmers are advised to continue harvesting of already matured crops of mustard, gram etc.
- Early threshing after harvest of mustard and proper disposal of stalks are advised, as it attracts painted bug.
- Irrigation should be totally stopped in mango as it may result in fruit drops. Spraying is also not advised as it may affect pollination by honey bees. Use light trap against hoppers.
- Present weather conditions are highly favourable for the powdery mildew and even downy mildew infection in cucurbitaceous crops. Spraying of Redomil against powdery mildew and Confidor against downy mildew is advised.
- Monitor thrips in tomato as weather conditions are favourable. Spraying Endosulfan @ 2 ml per litre of water where ETL has crossed is advised.

Uttar Pradesh

- **Major Standing crops:** Sugarcane (grand growth / cane formation), mango (fruit setting), rai, mustard, gram, pea and lentil (harvesting), wheat (grain formation), *zaid* maize (seedling / early vegetative).
- As there was no significant rain during last few weeks and no significant rainfall is likely to occur for next five days over the State, apply irrigation to the crops.
- Undertake weeding, intercultural operations, application of fertilizers and pesticides in the standing crops like early sown *zaid* maize, garlic, onion, brinjal, tomato and chilli as favourable weather conditions prevail during these days.
- Farmers are advised to continue harvesting of the matured crops of garlic, pea, sugarcane and rai as favourable weather conditions are prevailing.
- Sowing of *zaid* maize at seed rate of 18-20 kg / hectare may be continued.
- Prepare field and continue sowing of vegetables, sunflower, moong, lobia and urd and complete planting of summer sugarcane with irrigation facilities. Details of crop varieties are mentioned in Annexure I.
- To save the mango fruits from falling, spray the solution of Naphthalene acetic acid 15 ppm.

- **Plant Protection:** Weather conditions are favourable for mild incidences of fruit borer in tomato and brinjal, spray the solution of Carbaryl 2 gm / litre in water. Monitor the crops for the pests and undertake plant protection measures to control the pests.

J & K

- **Major Standing Crops:** Wheat (grain formation), pulses (pod formation), mustard (capsule formation/development). This is proper time for planting of orchard tree saplings in Jammu and sowing/transplanting of vegetable crops in nursery/main field in Leh, Jammu and Rajouri divisions.
- As rain/thundershowers is likely to occur at many places over the state during next 24 hours and a few places thereafter, postpone irrigation to the crops.
- Harvest the matured crops immediately and keep the harvested produce in
- Continue planting of saplings in orchard and nursery sowing of cole crops in Leh and Rajouri divisions.
- Undertake sowing of vegetable crops like bhindi, beans, cucurbits and transplanting of tomato, brinjal and chillies in Jammu and Rajouri divisions. Undertake transplanting of popular trees in main field in Jammu division.
- Intercultural operations, sowing of crops and application of fertilizers and pesticides may be undertaken after spells of rain.
- Weather conditions are congenial for mild incidences of aphids in late sown mustard and loose smut and flag smut in wheat/barley in Jammu division; monitor the crops for the pests and diseases and undertake plant protection measures on a non rainy day.

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

Bihar

- **Major Standing Crops:** Sugarcane (vegetative), *rabi* maize (cob formation), pulses (maturity / harvesting), sunflower (head formation), wheat (grain formation / maturity) and *boro* rice (tillering / panicle initiation), summer moong, urd, sunflower, sesame (early vegetative).
- As there was no significant rain during last few weeks and mainly dry weather is likely for next five days over the State, apply irrigation to the crops.
- Avoid moisture stress in summer vegetables and maize crop by maintaining adequate soil moisture as moisture stress at this stage affects the yield of these crops. Avoid irrigation to fruit crops during flowering.
- Undertake intercultural operations, application of fertilizers and pesticides in summer vegetables, tomato, brinjal, cauliflower, cabbage and *boro* rice.
- Farmers are advised to complete the planting of sugarcane. Complete sowing of summer urd, maize, sunflower and moong crops.
- Start harvesting of early sown wheat as dry weather is likely for the next five days. Thresh harvested wheat and store grain below 12% moisture level.
- Farmers are also advised to harvest the matured rapeseed, gram, pea, lentil and mustard crops as weather favourable for undertaking harvesting.
- **Plant Protection:** Weather conditions are favourable for mild incidence of fruit fly in mango and litchi. Spray insecticide Endosulphan @ 1.5 ml / liter of water on flower to manage.

Jharkhand

- **Major Standing Crops:** wheat (grain formation / maturity), *rabi* oilseeds (maturity), summer maize (early vegetative(and rice (tillering / panicle initiation).
- As there was no significant rain during last few weeks and mainly dry weather is likely for next five days over the State, apply irrigation to the crops.
- Undertake field preparation and sowing of summer moong. Use seed rate of 30 kg per hectare and apply 44 kg Urea, 250 kg SSP and 34 kg MOP per hectare before sowing. Treat the seed with *Rhizobium* culture.
- Undertake transplanting of onion and sowing of bitter gourd, sponge gourd, ridge gourd, bhindi and water melon in the main field.
- Farmers are advised to undertake intercultural operations in early sown summer rice and maize as weather is favourable.

Orissa

- **Major Standing crops:** Sugarcane (seedling / early vegetative), sunflower, mustard (maturity), vegetables (fruiting / harvesting), wheat (grain maturity), onion (vegetative) and summer rice (flowering), summer sunflower (vegetative), summer sesame, pulses like cowpea, green gram(early vegetative / vegetative), summer maize (vegetative / flowering) and summer groundnut (flowering / peg formation).
- As there was no significant rain during last few weeks and no significant rainfall is likely to occur for next five days over the State, apply irrigation to the crops. Sprinkler irrigation should be provided to the orchard crops and vegetables.
- As weather conditions are favourable for jute sowing, sow the recommended variety JRO-524 (Naveen) which is resistant to mite. Use 2 kg seeds / acre for line sowing and 3 kg seeds for broadcasting. Before sowing seeds are to be treated with Carbendazim 2 G or 3 g Thiram / kg seeds to avoid root and stem rot. To maintain 2 lakh healthy plants per acre, sow the seeds in lines at 25 cm apart with 3 cm depth.
- Spray 2% Urea and 2% DAP in green gram and black gram twice i.e. at pre-flowering and 15 days after 1st spray.
- Maintain 3-5 cm standing water in the summer rice field.
- The early sown sesame crop is at 3 to 4 week stage. Apply 13 kg urea per acre. Irrigate the crop after fertilizer application.
- Summer sunflower crop is at pre-flowering stage. Spray 2-3 g Borax per litre water.
- Current weather conditions are favourable for planting of pine apple, tuberose and marigold. Use healthy, robust 3-4 months aged pineapple rhizomes of 350-400 g by weight. Plant the seedlings in 0.5x0.5x0.5 m pit at a spacing of 1x 0.3 m distance.
- Transplanting of vegetables should be done in afternoon hour to avoid high temperature and place the paper cap over the freshly transplanted seedlings.
- Farmers are advised to complete planting of papaya. Details of crop varieties are mentioned in Annexure I.
- As weather is favourable, undertake intercultural operations and top dressing in early sown summer groundnut, sunflower, sesame and pulses.
- Maintain average water depth at 5 ft level in the fish pond. Feed fishes with oil cake, bran mixture at 2% of their body weight daily. Start partial harvesting of fishes above ABW 750g.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
- shoot borer in sugarcane, for which *Trichogramma* can be released in the field @ 20000 / acre. Release the parasite 2-3 times at an interval of 7 days.
- blast, bacterial leaf blight and sheath blight disease in summer rice. To control the diseases spray the crop with following chemicals. Spray Beam @ 1 gm or Hinosan @ 1 ml or Biomycin @ 2 ml / litre of water to control blast, Plantomycin @ 1.5 gm + Copper Oxychloride @ 2 gm / litre of water for bacterial leaf blight and Sheethmar/Rhizocin @3ml/l or Hexaconazol@2ml/l of water to control sheath blight. Repeat the spray after 10-12days.
- thrips, white ant and white grub in summer groundnut. Spray 400 ml Dimethoate or Endosulphan or 50 ml Imidachloprid in 200 litre water per acre.

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

Uttarakhand:

- **Major Standing crops:** Sugarcane (grand growth / cane formation), mango (fruit setting), rai, mustard, gram, pea and lentil (harvesting), wheat (grain formation), *zaid* maize(seedling/early vegetative).
- As there was no significant rain during last few weeks and no significant rainfall is likely to occur for next five days over the State, apply irrigation to the crops.
- Undertake weeding, intercultural operations, application of fertilizers and pesticides in the standing crops like early sown *zaid* maize, garlic, onion, brinjal, tomato and chilly as favourable weather conditions prevail during these days.
- Farmers are advised to continue harvesting of the matured crops of garlic, pea, sugarcane, rai and *toria* as favourable weather conditions are prevailing.
- Sowing of *zaid* maize at seed rate of 18-20 kg / hectare may be continued.

- Prepare field and continue sowing of, vegetables, sunflower, moong, lobia and urd and complete planting of summer sugarcane with irrigation facilities. Details of crop varieties are mentioned in Annexure I.
- To save the mango fruits from falling, spray the solution of Naphthalene acetic acid 15 ppm.
- **Plant Protection:** Weather conditions are favourable for mild incidences of fruit borer in tomato and brinjal spray the solution of Carbaryl 2gm/litre in water. Monitor the crops for the pests and undertake plant protection measures to control the pests.

West Bengal

- **Major Standing Crops:** Sugarcane (cane maturity / harvesting), gram and lentil (seed maturity / harvesting), wheat (maturity) and *boro* rice (tillering / panicle initiation / flowering), sesame, green gram (early vegetative / vegetative), groundnut (vegetative / flowering) and jute (sowing).
- As no significant rain is likely to occur during next five days over the State, apply irrigation to standing crops.
- As congenial weather is likely to prevail, farmers are advised to undertake intercultural operation to keep the fields weed free.
- Keep 5 to 7 cm standing water in *boro* rice field. Apply second top dressing of 9 Kg Urea per bigha of land wherever crops are at tillering / panicle initiation stage.
- As no significant rainfall is likely to occur for the next five days, wheat and other *rabi* crops should be harvested and threshed at the earliest.
- Prepare the land for sowing of jute. Apply two cart of FYM during land preparation. Collect good quality seed material in advance.
- Also prepare well drained and sandy loam soil for green gram. The seed rate varies from 2.5 to 3 kg / bigha when sown in broadcasting. Seed should be inoculated with *Rhizobium* culture before sowing.
- As weather condition is favourable, sowing of maize should be started in Hill zone. Proper drainage facility should be maintained in the field.
- Details of crop varieties are mentioned in Annexure I.
- In the prevailing weather condition, there is chance of infestation of stem borer attack in rice in Coastal saline zone. Apply Triozophos 40EC @ 1.2 ml / litre or Chloropyriphos 20 EC @ 2.5 ml / litre or Phosphamidon 85 EC @ 1 ml / litre when 5% dead heart or one egg mass or one moth / sq.m. is noticed.
- Due to congenial weather condition for last few days incidence of fruit & shoot borer may occur in ladies finger in Coastal saline zone. Apply alternatively Phosphamidon 85 EC @ 1 ml / litre or Endosulfan 36 EC @ 1.5 ml / litre or Triazophos 40 EC @ 1.2 ml / litre of water when the symptoms appear.
- The fruits may be affected by fruit borer in chilli in Coastal saline zone. Spraying alternatively with Deltamethin+Triozophos or Spinosad or Indoxacarb or Fipronil @ 2 ml / litre of water at evening time is recommended.
- The seedlings of cucurbitaceous crops may be infested by whitefly under prevailing weather condition. For controlling the same spraying should be done with Monocrotophos @ 1.5 ml / liter or Acephate @ 1 g / liter of water.

Sikkim

- **Major standing crops: (a) High hills: Off-season vegetable crops** (nursery sowing/ seedlings) **(b) Medium & Low hills: Orange** (flowering); **large cardamom** (flowering); **wheat** (milk/ dough); **mustard** (capsule/grain development/maturity); **vegetable crops** (flowering/ fruiting/ harvesting); **rabi potato** (maturity/harvesting).
- Apply mulches around Orange trees in the mid hills in order to conserve sufficient moisture in the soil.
- Protect the young crops from squall by providing mechanical support.
- Pre-treated, healthy & certified seeds of kharif vegetable crops like tomato, chilly, capsicum brinjal, lali sag, ladies finger, radish etc. may be sown in nursery beds and climbing plants like bodi, iscus, bitter and other gourds in suitable places after applying FYM/compost and irrigating the soil for proper germination.
- Maintain large cardamom sucker nursery; apply FYM (dry and powdered)/compost; and undertake intercultural operations.
- All the disease/pest infected suckers in the nursery and all the aged/diseased/unproductive plants in the field of large cardamom crop may be removed/uprooted and destroyed.

- Chirke and Foorkey infected cardamom plants may be destroyed by uprooting and buried in the pits at regular intervals.

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

Assam

- **Major Standing crops:** vegetables (vegetative / flowering / fruiting / harvesting), wheat (maturity), *boro* rice (flowering / grain formation), *ahu* rice (direct sowing / transplanting), jute, black gram, green gram, maize and summer vegetables (sowing), sugarcane (planting).
- As there was rain in most of the districts during last week and rain is likely to occur at a few places during coming days over the State, farmers are advised to postpone irrigation to the crops.
- In view of expected rain, farmers are also advised to harvest matured crops of wheat immediately and provide suitable protection for covering the harvested crops.
- Maintain 3-5 cm stagnant water in *boro* rice field.
- Sowing of direct seeded *ahu* rice and also transplanting of *ahu* rice may be undertaken during these days.
- Farmers may go for cultivation of summer vegetables like ladies finger, bottle gourd, pumpkin, ridge gourd, cucumber, bitter gourd, snake gourd etc.
- As March-April is the high time for sowing of jute seeds, prepare land and undertake sowing of jute.
- Prepare land and undertake sowing of maize and planting of 3 – 4 budded sugarcane setts.
- Undertake sowing of black gram and green gram also.
- Soil and air temperatures are favourable for the attack of stem borer in *boro* rice. If eggs of the pests are noticed, apply ‘Darsban’ or ‘Monocrotophos’ at the rate of 2 tea spoon full per 5 litres of water in the field on a non rainy day.
- Details of crop varieties are mentioned in Annexure I.

Fishery

- Fishery tanks where the depth of water has fallen below 1 metre, erect bamboo sticks on the banks and bind some ribbons to distract birds and other natural enemies of fishes. Temporarily stop applying fertilizers to the tank water.

Animals

- Immunizations of animals against Foot and Mouth disease in cattle & buffaloes and swine-fever in pigs may carried out during pre-monsoon season.

Arunachal Pradesh

- **Major Standing crops:** Pea (harvesting), wheat (maturity), mustard (maturity), *rabi* maize (grain formation / maturity).
- As there was sufficient rain in Lower Subansiri, Papumpara, Tawang, Tirap and West Siang districts during last week, farmers are advised not to irrigate the maize crop in grain formation stage. As there was no significant rain during last few weeks and no significant rainfall is likely in the next five days in the remaining districts, apply irrigation the crop.
- Also undertake harvesting of matured mustard, wheat, pea and *rabi* maize.
- Farmers are advised to continue land preparation and sowing of maize, summer vegetables and ginger utilizing the rainfall received during last week.
- Farmers are advised to prepare the field for *jhum* rice and early *khariif* rice utilizing the rainfall received during last week.

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

Andhra Pradesh

- **Major Standing Crops:** sugarcane (grand growth), gram, maize, sunflower (grain maturity/harvesting) and chilli (fruit development), summer rice(vegetative)
- As there was no significant rain during last few weeks and mainly dry weather is likely for next five days over the State and there is also persisting above normal temperature in some parts of coastal Andhra Pradesh, apply light and frequent irrigation to the crops.

- Undertake planting of sugarcane.
- Undertake harvesting of matured crops of maize, gram and sunflower as mainly dry weather is likely for next five days.
- **Poultry:** Protect the poultry birds from heat stress by the way of providing fans and foggers.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- *Colletotrichum* die-back disease in chillies. Prevent the disease by prophylactic spraying of Mancozeb @ 2.5 g or Chlorothalonil @ 2 g per litre of water.
- yellow and red spider mites in sugarcane. To control, spray wettable sulphur @ 3 g per litre of water to cover the under surface of the leaves.
- stem borer in summer rice. Farmers are advised not to apply high dose of nitrogen fertilizers. Arrange 4 pheromone traps per acre to monitor the pest. Spray Cartap hydrochloride @ 2 g or Phosphomidon @ 2 ml per litre of water, if 5 % dead hearts or 1 adult or egg mass is noticed per square meter area.
- leaf blast in summer rice in East and West Godavari, Nellore, Medak, Ranga Reddy, Nizamabad, Karimnagar, Prakasam, Khammam and Guntur districts, and neck blast in East Godavari district. To control, spray Tricyclazole @ 0.6 g per litre of water.

Karnataka

- **Major Standing Crops:** Annual sugarcane (grand growth). *rabi* crops (grain development/maturity/harvesting), summer irrigated groundnut (vegetative/flowering)
- As there was no rainfall during last few weeks in the state and isolated rainfall is likely to occur for the next five days, apply irrigation to the crops.
- Irrigation must be given to coconut at an interval of 5-10 days depending upon the type of soil weather, which helps to control dropping of fruits. Also apply mulches in the soil to conserve moisture.
- In summer irrigated groundnut, undertake weeding, intercultural operations at 15, 30 and 45 days after sowing. Intercultural operations should not be done 50 days after sowing. Apply 200 kg Agricultural gypsum/ acre one month after sowing.
- If farmers have irrigation facility, provide irrigation to mango trees up to first week of April, then stop the irrigation. Then provide one or two irrigation during fruit development stage, which helps for increasing fruit size. To reduce flower and fruit drop in mango spray 4 ml planofix in 16 liter of water.
- Complete sowing of summer crops like water melon, snake gourd and ribbed gourd.
- After the harvest of *rabi* crops, farmers are advised to undertake summer ploughing to conserve moisture and to control weeds and soil borne pathogens.
- As temperature is rising, undertake intercultural operations and mulching with crop residues in summer crops to reduce the moisture loss (evaporation) from the soil.
- Undertake harvesting of cotton in Dharwad as dry weather conditions prevail during these days.
- Continue planting of seed nuts for coconut and arecanut in nursery in Sirsi region.
- Irrigation should be continued for arecanut (10 lts/day), coconut (50 lts/day) and black pepper (2 lts/day). Irrigation should be given through drip irrigation to save water and to reduce evaporation of water and also provide the mulch around the trees/plants.
- **Plant Protection:** Weather conditions are favourable for mild incidences of:
- leaf minor, mites and thrips in summer groundnut. Spray 1.0 ml Monocrotophos 36 S.L or 0.5 ml Phosphamidon 85 W.S.C. per litre of water.
- powdery mildew in mango. Spray 3 g water soluble Sulphur (80%) or 1 ml Tridomorph or 1 ml Hexaconozol or 3 g Carbendazim per liter of water to control powdery mildew of mango. First spraying may be done immediately after the initiation of flower, second at after flowering and third at after fruit set.

Kerala

- **Major Standing Crops:** Rice (tillering), vegetable (vegetative/flowering/fruitletting) and plantation crops (coconut, arecanut, pepper and cashew).
- As there was no significant rainfall during last week in most of the districts and isolated rainfall is likely to occur for the next five days, apply irrigation to the crops.
- Complete sowing of puncha rice in nursery in Malappuram, Kasargod, Kozhikode and Kannur districts.
- Intercultural operations, mulching and shading of young plants may be continued in plantation crops.

- Provide thatches to young plants of arecanut and coconut to prevent from sun scorching.
- Tapping and plant protection operations may be continued in rubber. In defoliated trees, tapping may be discontinued. The basal trunk portion may be painted with lime to protect the young trees from sun scorching. The plantation may be kept clean.

Plant Protection:

- Due to high temperature and high humidity, pest and disease incidences like stem bleeding in coconut, blast and sheath blight in rice, pollu beetle and thrips in pepper, Sigatoka leaf spot in banana and leaf rust in coffee may occur. Monitor the crops for the pest and diseases and undertake plant protection measures.

Tamilnadu

- **Major Standing Crops:** Sugarcane (cane development), cotton (picking stage).
- As there was no rainfall during last week in the state except in Kanyakumari and Namakkal districts and mainly dry weather is likely to prevail for the next five days, apply irrigation to the crops. Postpone irrigation in the above districts as there is sufficient moisture in the soil due to excess rainfall during last two weeks.
- Undertake land preparation and sowing of bitter gourd, pumpkin, snake gourd and water melon as conducive weather conditions prevail during these days.
- Complete transplanting of vegetable crops such as bhendi, tomato, cowpea, dolichos and chilly with irrigation facilities.
- Continue land preparation for sowing of summer irrigated crops like cotton, black gram and bajra in Thirunelveli, Tuticorin and Virudhunagar districts.
- Details of varieties are given in Annexure I.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT, RAJASTHAN]

Maharashtra

- **Major Standing Crops:** Summer rice (grain formation in South Konkan, active growth / panicle initiation in North Konkan, tillering in East Vidarbha), summer groundnut (pod formation in Konkan and vegetative / flowering in other divisions), summer maize (active vegetative to flowering), summer sunflower (floral bud initiation / head formation / flowering) and summer bajra (vegetative / ear head emergence / flowering).
- As there was no significant rain in most of the districts during last few weeks over the State and no significant rain is likely to occur for next five days, apply irrigation to the standing crops. Irrigation may be applied for summer rice in north konkan at an interval of 4 to 5 days, groundnut at an interval of 8 to 10 days and to vegetables at an interval of 3 to 4 days as there is increase in temperature and evaporation.
- As mainly dry weather is prevailing, apply 100 kg N / ha to sugarcane (*suru*) at 6 to 8 weeks after planting and 136 kg N, 85 kg P₂O₅ & 85 kg K₂O / ha to sugarcane (pre seasonal) at vegetative stage.
- As weather is favourable, apply a dose of Nitrogen @ 40 kg / ha to summer rice after 30 days from transplanting in East vidarbha.
- Under prevailing weather, apply third dose of 330 g Nitrogen (700 g urea) and 330 g Potash (550 g muriate of potash) per plant of coconut of age 5 years and more and also apply 75 g Nitrogen (160 g urea) and 75 g Potash (125 g Muriate of potash) per plant of arecanut of age 3 years and more followed by irrigation in Konkan.

Plant protection

- As there is possibility of increase in infestation of tea mosquito bug on cashew in Konkan due to favourable weather, spray Profenophos 50 EC @ 10 ml or Lambda cyhalothrin 5 EC @ 6 ml per 10 liters of water.
- Weather conditions are favourable for mild incidence of –
 - blight in summer rice in south konkan; spray Carbendazim @ 1 gm / 1 liter or Copper oxichloride @ 2.5 gm / liter.
 - tikka and rust disease in groundnut in Konkan; spray Mancozeb @ 25 g per 10 liters of water.
 - anthracnose on Sugarcane (*suru*); spray Endosulfan @ 1 ml per lit of water.

Gujarat

- **Major Standing Crops:** Sugarcane (vegetative), vegetables (vegetative / flowering / fruiting / harvesting), wheat (maturity), groundnut (flowering / pegging / pod formation), summer rice (flowering / grain

formation) and green gram, black gram, cow pea, cluster bean and pearl millet (sowing / early vegetative / vegetative).

- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail for next five days, apply light and frequent irrigation to the standing crops to meet the excess demands for evapotranspiration. Also maintain 5 – 7 cm stagnant water in the rice field.
- As there is no possibility of rain, undertake intercultural operation to keep the fields weed free.
- As dry condition is prevailing, farmers are advised to undertake intercultural operation followed by first earthing up in 3 – 4 months old crops of sugarcane.
- If yellowing of leaves is seen in the fields of groundnut, spray 100 gm ferrus sulphate + 10 gm citric acid in 10 litres of water at 8 to 10 days intervals as weather condition is favourable for spraying.
- Under prevailing weather condition there is chance of attack of thrips in chilli and powdery mildew in mango in North Saurashtra region. For control of thrips in chilli, spray triphose @ 15 ml / 10 litres of water. To control powdery mildew in mango spray sulphur 80 WP @ 30 gm or dinocap @ 10 ml / 10 litres of water.
- There is chance of infestation of white fly in vegetables in Bhal and coastal Zone. To control white fly in vegetable crops like brinjal and okra, the farmers of the region are advised to spray Methyle-O-Demeton 25 EC @ 10 ml in 10 litres of water.
- Make arrangements for shade with proper ventilation to protect the animals form sunlight and temperature.

Poultry

- Put curtains on north-east direction in poultry to protect against hot winds.

Rajasthan

- **Major Standing Crops:** Wheat (grain formation/ development), mustard, gram (pod formation/ development), vegetable crops (flowering/fruitletting).
- As there was no significant rain during last few weeks and duststrom/thunderstorm is likely at isolated places during next five days over the State, apply light and frequent irrigation to the crops.
- Conserve moisture in the soil where the crops are at maturity stage.
- Complete sowing of cucurbits like bitter gourd, water melon, pumpkin (kaddu), cucumber, round gourd (tinda), ridged gourd (turai), loki, muskmelon in Bhilwara, Sirohi, Udaipur and Chittorgarh.
- Complete sowing of okra, cucurbits, zaid pearl millet fodder, zaid sorghum fodder, zaid green gram and okra in Ajmer, Dausa, Tonk and Jaipur.
- Complete sowing of bajra, jowar, sweet gourd, cucumber, pumpkin, bitter gourd, tinda, tomato and ladies finger in Pali, Barmer, Churu, Jalore and Jodhpur.
- Details of varieties are given in Annexure I.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- mango hopper in mango tree at flowering stage, in Ajmer, Dausa, Jaipur and Tonk districts . This insect sucks sap of tender leaves and flowers, spray Melathion 50 EC@ 1.0 ml or Endosulfan 35 EC @ 1.5 ml per litre water.
- termite in onion, in Ajmer, Dausa, Jaipur and Tonk districts spray Endosulfan 35 EC or Chlorpyriphos 25 EC @ 4 litre per hectare.
- stem borer in okra in Udaipur, Bhilwara and Chittorgarh districts, spray Endosulfan 35 EC @ 1.5 ml/lit of water.

CENTRAL INDIA [M.P., CHHATTISGARH]

Madhya Pradesh

- **Major Standing Crops:** Sugarcane (grand growth), soyabean (pod maturity), maize (cob maturity), cotton (boll development) and vegetable crops (vegetative).
- As there was no significant rain during last few weeks and mainly dry weather is likely to prevail for next five days over the State, apply irrigation to the crops. This also prevents the crops from heat injury due to above normal temperature prevailing over the state.
- Complete sowing of summer vegetables like cucurbits, ladies finger and also cow pea.

- Complete sowing of moong and urad in Khandwa, Khargone and Harda districts and sunflower in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- Undertake transplanting of brinjal in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh. Prepare the nursery of papaya, summer vegetables such as brinjal and chilli. Apply irrigation and nitrogen to onion.
- Undertake planting of sugarcane in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- Undertake sowing of summer okra, summer moong and urd in Jhabua and Dhar districts.
- Undertake sowing of maize, sorghum, jowar, moong, urad, Sunflower and vegetables like lady's finger, cow-pea and cucurbitaceous crops in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts. Prepare nursery for Tomato, Brinjal and chilly for raising summer season crop.
- Undertake sowing of summer moong and urad in Sehore, Bhopal, Sagar, Vidisha, Damoh districts.
- Undertake sowing of moong, maize, urd, til, lobia in Chhindwara and Betul districts
- Details of varieties are given in Annexure I.
- **Animal Husbandry:** Provide proper ventilation and clean water to cattle and arrange for vaccination to save them from infectious disease in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- To control ticks and mite in cattle, sheep and goat, apply butox / deltox @ 4 ml/ l of water on the body in Jhabua and Dhar districts.
- **Plant Protection:** Weather conditions are favourable for
 - sucking pest in okra in Jhabua and Dhar, spray Mithyl Dimetron 25 EC.@ 1 ml/l of water;
 - caterpillar in pomegranate in Sehore, Bhopal, Sagar, Vidisha, Damoh, Raisen districts; spray Melathion 50 E.C @ 1ml/lit water.
 - mealy bug in mango in Khargone district; spray 25 g Asiphate amd 30 ml prophenose

Chattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), wheat (maturity / harvesting), gram, pea, mustard, berseem, pigeon pea and linseed (maturity / harvesting), vegetables (vegetative / flowering / fruiting / harvesting), summer rice (panicle initiation / flowering), groundnut (flowering / pegging), sunflower (flowering / head formation), summer vegetables and sesame (early vegetative / vegetative / flowering) and green gram (sowing / early vegetative).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail for next five days, evaporation rates are presently quite higher and it is being recorded between 7-8 mm / day. This has increased the water requirements of summer crops like rice, vegetables, sunflower, mung, groundnut etc. Hence, farmers are advised for proper water management in these crops and to irrigate.
- As dry weather is prevailing, it is advised to undertake intercultural operation, fertilizer application, earthing up followed by irrigation in sugarcane crop wherever the crop is at knee height stage.
- As weather condition is favourable, it is time for sowing of summer green gram and also some cucurbitaceous crops, like pumpkin, bitter gourd, bottle gourd, okra etc. Hence, the sowing of these vegetables should be completed within this week.
- Wherever summer rice is at panicle initiation stage, under prevailing weather, application of second top dressing of N is recommended at this stage.
- As weather condition is congenial, intercultural operation and weeding are advised in sunflower and groundnut. Complete final intercultural operation in groundnut within flowering stage. Fertilizer application followed by irrigation should also be done in sunflower after weeding.
- After harvesting of wheat and other *rabi* crops, prepare the field well pulverized and complete the sowing of summer green gram within this month.
- Farmers are advised to undertake land preparation and sowing of maize after harvesting of *rabi* crops.

Annexure I Crop varieties

Himachal Pradesh

- **Ageti bhindi:** Prabhini kranti, Arka anamika.
- **French bean:** Conender.
- **Brinjal:** Arka Nidhi, PPC.
- **Capicum:** California wonder.
- **Peper:** Surjmukhi.

Uttarakhand

- **Sugarcane:** Co- Pant 84211, COS-95255, COS-8436, COS-88230, COS-96268 and Moderate to late varieties like Co-Pant 97222, Co-Pant-96219, Co-Pant-84212, Co-Pant-90223.
- **Sunflower:** MSFS-8, NSFH-9, Ranjha, Heer, Badshah etc.(hybrids), Morden and Paradobic (varieties).
- **French bean:** Pant Anupama, Pant Bean-2, VL Vonibean-1 and Pusa Parvati
- **Pea:** VL Ageti, Matar-7 or Vivek Matar-10
- **Moong:** Pant Moong-2, Pant Moong-4, Pant Moong-5 & Narendra Moong-1.
- **Tomato:** VL-Tomato – 3
- **Urd:** Pant Urd – 30, Pant Urd-35 & Narendra Urd -1.
- **Fox tail millet:** VL-29, VL-21, VL Madira-172
- **Bhindi:** Pusa Savany, Parbhani Krant

Punjab

- **Sugarcane:**
Early maturing: COJ 64, COH 56 and COH 92, **mid-season:** CoJ-88 CoS-8436, and **late maturing variety:** CoJ-89 and Co-1148
- **Bhindi:** Punjab Padmini, Punjab 7, Punjab 8 and Pusa sawni.

Haryana

- **Sugarcane:** COJ 64, COH 56 and COH 92.
- **Pigeon pea:** UPAS 120 and T-21.

Uttar Pradesh

- **Sunflower:** Modern, Sankar, Surya, Jwalamukhi
- **Moong:** Pant-1, pant-2, 3, Narendra-1, Malviya, jyoti

J & K

- **Potato** Kufri Jyoti and Kufri Badshah

Bihar

- **Summer maize:** Suwan, Ganga 11, Deoki, Shaktiman 3 and 4
- **Summer moong:** Pusa Vishal, Samrat, PS 16 and SML 668

Jharkhand

- **Summer moong:** Sunayana, Pusha baishakhi, K851

Orissa

- **Maize:** Hybrid varieties-MRM-3838, MRM-3765, Shaktiman 1, Bio 9681, Cargil 633, Deccan 105, K.H. 510 , Composite varieties – Navjot, Arun, Kiran.
- **Sesame:** Uma, Usha, Kalika, Nirmala, Prachi and Amrit.
- **Summer moong:** PDM 11, PDM 54, K 851 and TARM 1.
- **Cowpea:** Bush type- Pusa Phalguni, Pusa Komal, and runner type- American long, and Banarasi long, other improved varieties like Russian Giant, EC-4316, NP-3, C-152, UPC-286, UPC-5286 and IGFI-450 can be grown.
- **Papaya:** Honey dew, Coorg honey dew, Coimbatore-1, Coimbatore-2, Pusa delicious, Pusa Majestic, Pusa Dwarf and Pusa Giant.

- **Pineapple:** Que, queen, Simachalan and Maritius.
- **Tube rose:** Shringar, Coimbatore Single and Kolkatta Single and Suhasini double.

West Bengal

- **Green gram:** TM-99-50, PDM-54, TARM-1, 2 etc.
- **Olitorious jute:** Basudev, Navin, Chaitali.
- **Capsularis jute:** Sonali, Sabuj Sona.

Assam

- **Direct seeded *ahu* rice:** Luit, Kapili,disang, Pusa-2-21, Culture-1 etc.
- **Transplanted *ahu* rice:** Lachit, Chilarai, Govind, IR-50, Rachi, Jaya etc.
- **Ridge Gourd:** Pusa Nasder, Surekha etc.
- **Bitter gourd:** Monsoon Monarch, Long green Monsoon, Coimbatore long etc.
- **Pumpkin:** Arka Suryyamukhi, Arka-Chandan, Large green etc.
- **Snake gourd:** Long green, Long white, Extra long etc.
- **Cucumber:** Chinese Green, Pusa Sonjog, AAUC-I, AAUC-2, AAUC-3, UC-4 etc.
- **Jute:** JTC 212, JRC 312, UPC 94.
- **Maize:** Ganga-5, Highstars, NLD, Dhawal, Navjot etc.

Andhra Pradesh

- **Black gram:** LBG 402, 648, 645, 685, 709 and 752.

Kerala

- **Bhindi:** Arka anamica, Arka Abhay, Susthira

Tamilnadu

- **Groundnut:** TMB-13, VRI-6 and VRI-7
- **Gingelly:** SVPR-1, TMB-5, 6 and VRI-2.
- **Rice:** ADT-36, ADT-37, ADT-39, ADT-43, ADT(R)-45, ADT(R)-47,Co-43, Co-47
- **Maize:**Co-1, Co.H.(M)-4, Co.H.(M)-5, Private Hybrids
- **Cotton:** MCU 5, SVPR 2 and LRA 5166
- **Black gram:** Co 5, KM 2
- **Bajra:** WCC 75, Co 7

Gujarat

- **Green gram:** Guj. GG-3 & Guj. GG-4 etc.
- **Sesamum:** Gujarat Til -2.

Rajasthan

- **Green gram:** SML-686, Pusa Vishal, PDM-139 & G-8.
- **Groundnut:** TAG-24, SB-11, DH-86 and GG-2.
- **Bhindi:** Pusa sawani, Pusa Makhmali, Parbhani, Kranti, Arka Abhay & Arka Anamika
- **Bottle guard:** Pusa Naveen, Arka Bahar
- **Pumpkin -** Pusa Vishwas, Arka Chandan, Pusa Alankar, Arka Suryamukhi
- **Bitter guard:** Arka Harit Pusa Vishesh, Priya
- **Round gourd-** Arka tinda, Bikaneri green, Punjab-48.

Madhya Pradesh

- **Maize:** JM- 421, JM- 8, JM- 12, Chandan makka- 3, Ganga- 3, Ganga- 4 and HPQM – 1.
- **Sugarcane:** Co Jawahar-86141, Co Jawahar-86572, Co Jawahar-86600, Co 86032.
- **Summer moong:** PDM-11, JM-721, TJM-1
- **Urad:** Jawahar Urad-2, PDU-1, TPU-4