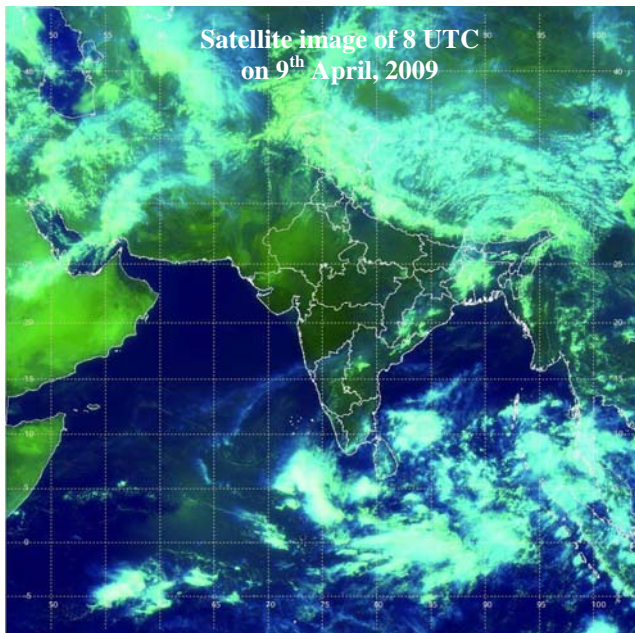




National Agromet Advisory Bulletin

Thursday, 9th April, 2009

(For the period 9th to 13th April, 2009)



Chief Synoptic Feature (Based on 0830 hours IST observations of 9th April, 2009)

- Due to thundershower activity during past 24 hours over northwest, central, east and northeast India, the maximum temperatures are below normal by 4-8°C over parts of central and northwest India and by 2-4°C over most parts of west, east India and northeastern states.
- Current meteorological analysis suggests that rise in maximum temperatures by 2-3°C is likely over the northwest and central and east India during next 2-3 days.
- Current meteorological analysis & Numerical Weather Prediction models suggest that scattered to fairly widespread rain/thundershowers activity with isolated thunder squall is likely over northeastern states during next 48 hours.

Salient Advisories

- There is chance of rainfall in Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 24 hours. Farmers of these States are advised to postpone harvesting of the already matured crops for the next two days and put cover to the already harvested crops to protect from rain.
- As there is also chance of rain due to thunderstorm activity in north eastern parts of the country, farmers of this region are also advised to postpone harvesting and provide cover to protect the already harvested crops from rain.

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:
 - stem borer in maize and sorghum and thrips in onion in Tamil Nadu.
 - yellow and red spider mites in sugarcane in Andhra Pradesh.
 - yellow vein mosaic in summer greengram in Orissa.
 - brown rust in wheat in Jammu & Kashmir.
 - mealy bug in mango and fruit fly and powdery mildew in cucurbitaceous crops in New delhi.
- 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

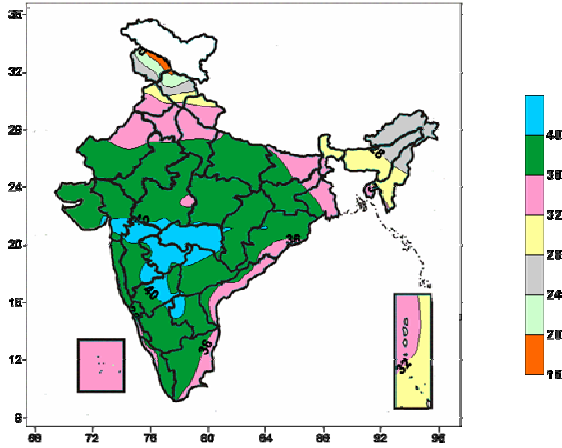
Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks					
Sub-division	Cumulative Rainfall (% Dep.) for the period				
	11 th March	18 th March	25 th March	1 st April	8 th April
A & N Islands	-72	119	256	242	87
Arunachal Pradesh	-84	-99	-83	9	-34
Assam and Meghalaya	-85	-100	-90	43	15
NMMT	-98	-100	-100	49	4
SH West Bengal & Sikkim	-99	-100	-27	147	211
Gangetic West Bengal	-90	-40	-70	82	-100
Orissa	-100	-100	-77	-64	-98
Jharkhand	190	-100	-87	-98	-90
Bihar	-98	-100	-98	-32	-90
East Uttar Pradesh	-100	-100	-70	-29	-100
West Uttar Pradesh	-100	-100	-87	-53	-78
Uttarakhand	-100	-100	-97	-85	-48
Haryana, Chandigarh & Delhi	-100	-100	-8	76	-29
Punjab	-100	-100	-26	52	302
Himachal Pradesh	-97	-99	-36	-51	73
J & K	-88	-98	-53	16	145
West Rajasthan	-100	-100	7	-8	-100
East Rajasthan	-100	-100	-67	-94	-83
West M. P.	-99	-84	-94	-97	25
East M. P.	-95	-95	-94	-92	-62
Gujarat region	-100	-100	-96	-100	-100
Saurashtra & Kutch	-100	-100	-100	-100	-100
Konkan and Goa	-100	113	-100	-33	-100
Madhya Maharashtra	-100	7	-92	-88	-86
Marathwada	-100	-96	-84	-100	-48
Vidarbha	-100	358	-46	-100	-94
Chhattisgarh	-100	-100	-100	-100	-99
Coastal A. P.	-99	-99	41	-76	-100
Telangana	-100	-90	127	-100	-64
Rayalseema	-100	-35	175	-100	-100
TamilNadu & Pondicherry	111	289	-6	-83	-96
Coastal Karnataka	-97	1117	2450	403	-8
N. I. Karnataka	-99	52	292	-63	5
S. I. Karnataka	-100	943	206	51	-83
Kerala	-34	432	51	-68	-48
Lakshadweep	-100	-100	-95	-100	-99

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

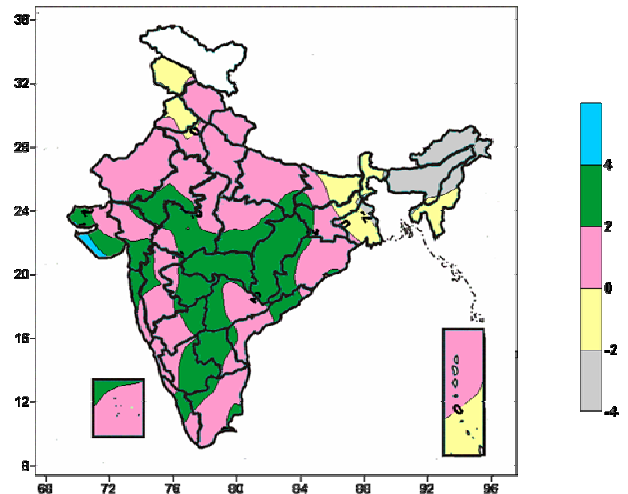
	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall		Data not available

Contour maps for the week ending 08.04.09

Actual Mean Maximum Temperature (°C) in India for the week ending 8.04.09



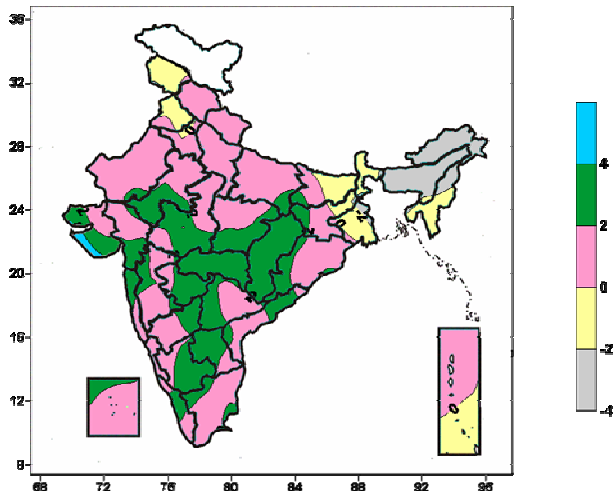
Maximum Temperature (°C) Anomaly in India for the week ending 8.04.09



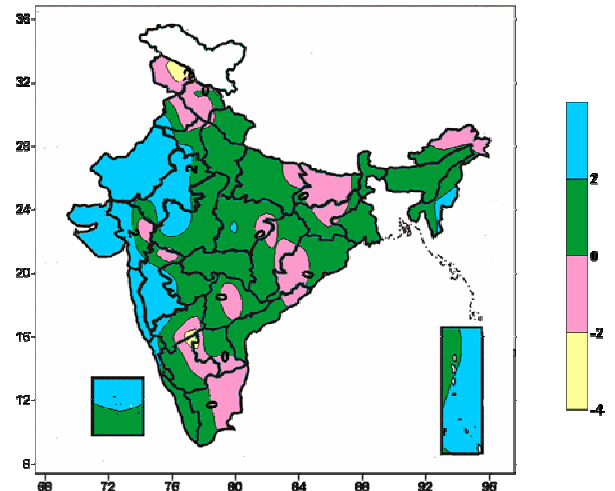
Actual Mean Maximum temperature ranged between 40 to 44°C over most parts of Marathwada, Vidarbha, some parts of Orissa, Gujarat, Saurashtra & Kutch, Madhya Pradesh, Chhattisgarh, Madhya Maharashtra, Interior Karnataka, Telangana, Rayalaseema, 32 to 36°C over most parts of Punjab, Haryana, Delhi, Uttarakhand, West Bengal, Coastal Andhra Pradesh, Lakshadweep Islands, some parts of Uttar Pradesh, Bihar, Jharkhand, Tripura, Rajasthan, West Madhya Pradesh, Orissa, Coastal Karnataka, Kerala, Tamil Nadu, Andaman & Nicobar Islands, 28 to 32°C over most parts of Sub-Himalayan West Bengal & Sikkim, Mizoram, some parts of Punjab, Himachal Pradesh, Uttarakhand, Assam, Manipur, Andaman & Nicobar Islands, 24 to 28°C over most parts of Arunachal Pradesh, Nagaland, some parts of Jammu & Kashmir, Himachal Pradesh, Assam, 16 to 24°C over some parts of Jammu & Kashmir, Himachal Pradesh, 36 to 40°C over remaining parts of the Country.

Actual Mean Maximum temperature anomaly ranged between 4 to 6°C over some parts of Saurashtra & Kutch, 2 to 4°C over most parts of South Madhya Pradesh, Chhattisgarh, Marathwada, Vidarbha, Rayalaseema, South Interior Karnataka, some parts of East Uttar Pradesh, Bihar, Jharkhand, Orissa, Rajasthan, Gujarat, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra, North Interior Karnataka, Kerala, Tamil Nadu, Lakshadweep Islands, -2 to 0°C over most parts of Jammu & Kashmir, Punjab, West Bengal, Sikkim, Manipur, Mizoram, Tripura, some parts of Haryana, Bihar, Jharkhand, Assam, Andaman & Nicobar Islands, -4 to -2°C over most parts of Assam, Arunachal Pradesh, Nagaland, some parts of Jharkhand, West Bengal, 0 to 2°C over remaining parts of the country.

Maximum Temperature (°C) Anomaly In India for the week ending 8.04.09



Minimum Temperature (°C) Anomaly In India for the week ending 8.04.09

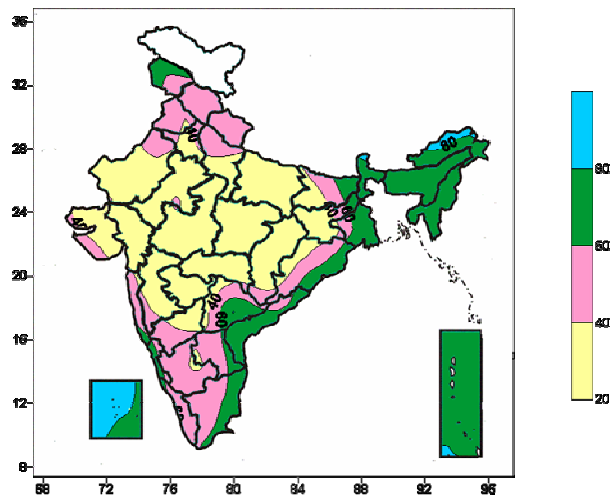


Actual Mean Minimum Temperature ranged between 28 to 32°C over some parts of Lakshadweep, 24 to 28°C over most parts of Saurashtra & Kutch, Andhra Pradesh, Coastal Karnataka, South Konkan & Goa,

Minimum Temperature anomaly ranged between 2 to 4°C over most parts of Rajasthan, Gujarat, Saurashtra & Kutch, Madhya Maharashtra, Konkan & Goa, Lakshadweep, Andaman & Nicobar Islands, some parts

South Madhya Maharashtra, South Marathwada, Gangetic West Bengal, Andaman & Nicobar Islands, some parts of Gujarat, West Rajasthan, Vidarbha, Chhattisgarh, Orissa, Interior Karnataka, Kerala, Tamil Nadu, Lakshadweep Islands, 16 to 20 °C over most parts of Punjab, Haryana, Uttarakhand, Bihar, Sikkim, Arunachal Pradesh, Assam, Nagaland, Manipur, some parts of Uttar Pradesh, Jharkhand, Mizoram, West Rajasthan, East Madhya Pradesh, Chhattisgarh, 12 to 16 °C over most parts of Himachal Pradesh, some parts of Jammu & Kashmir, Punjab, Uttarakhand, 8 to 12 °C over most parts of Jammu & Kashmir, some parts of Himachal Pradesh, 20 to 24 °C over remaining parts of country.

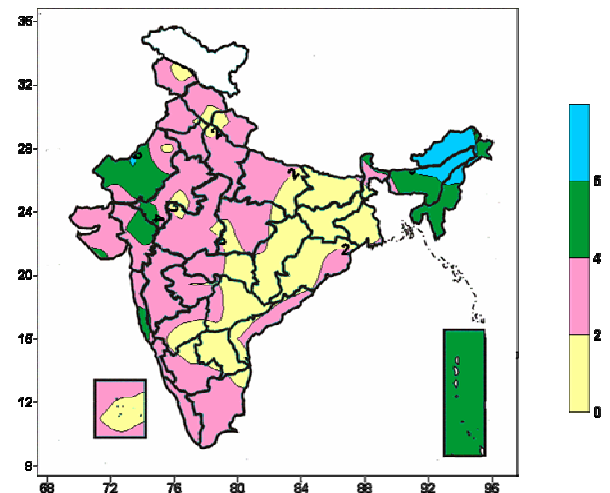
Relative Humidity (%) over India for the week ending 8.04.09



Relative humidity more than 80% to 100% over most parts of Lakshadweep Islands, some parts of Arunachal Pradesh, Sikkim, Andaman & Nicobar Islands, 60 to 80% over most parts of Jammu & Kashmir, West Bengal & Sikkim, North East India, Coastal Orissa, Coastal Andhra Pradesh, Coastal Karnataka, Coastal Tamil Nadu, Andaman & Nicobar Islands, some parts of Bihar, Jharkhand, Telangana, Rayalaseema, Konkan, Lakshadweep Islands, 40 to 60% over most parts of Himachal Pradesh, Punjab, Uttarakhand, Konkan & Goa, South Interior Karnataka, Tamil Nadu, Kerala, some parts of Haryana, Rajasthan, West Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Orissa, Telangana, Rayalaseema, North Interior Karnataka, Madhya Maharashtra, Gujarat, 20 to 40 % over remaining parts of the country..

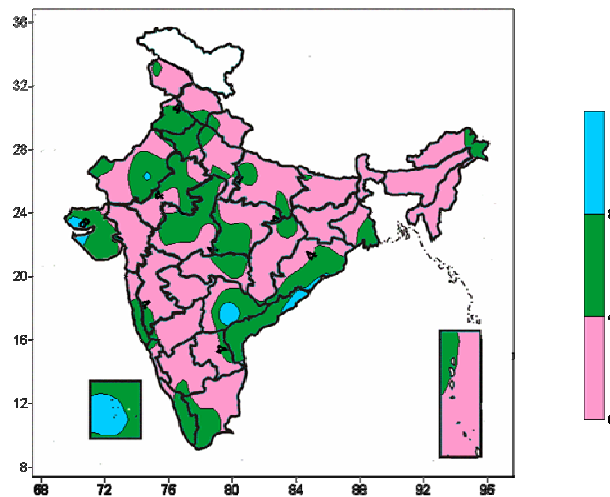
of Punjab, Haryana, Manipur, Mizoram, Madhya Pradesh, Marathwada, Coastal Karnataka and North Interior Karnataka, -2 to 0 °C over most parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Arunachal Pradesh, Tamil Nadu, some parts of Punjab, Haryana, Uttarakhand, Uttar Pradesh, Jharkhand, Orissa, Gujarat, Madhya Maharashtra, East Madhya Pradesh, Chhattisgarh, Andhra Pradesh, Interior Karnataka, -4 to -2 °C over some parts of Jammu & Kashmir, 0 to 2 °C over remaining parts of the Country.

Cloud amount (okta) over India for the week ending 8.04.09



Cloud amount ranged from 6 to 8 okta over most parts of Arunachal Pradesh, some parts of Assam, Meghalaya, West Rajasthan, Nagaland, 4 to 6 okta over most parts of West Rajasthan, Manipur, Mizoram, Tripura, Assam, Andaman Nicobar Island, some parts of East Rajasthan, Gujarat, Saurashtra & Kutch, Konkan, Sikkim, Arunachal Pradesh, Nagaland, 0 to 2 okta over most parts of Bihar, Jharkhand, Gangetic West Bengal, Orissa, Chattisgarh, Rayalaseema, Telangana, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Coastal Andhra Pradesh, Interior Karnataka, Tamil Nadu, Lakshadweep Islands, 2 to 4 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 8.04.09

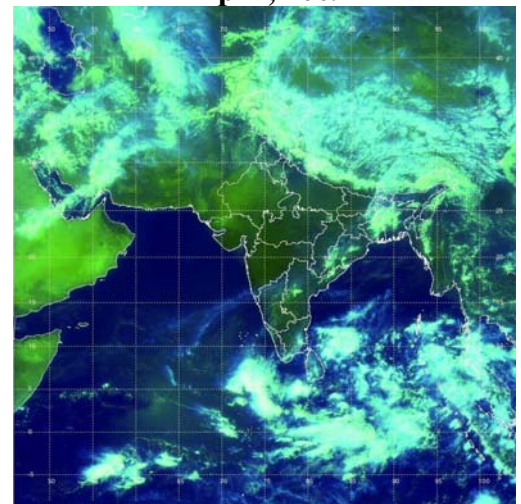


Wind speed ranged between 8 to 12 knots over some parts of Orissa, West Rajasthan, Saurashtra & Kutch, Coastal Andhra Pradesh, Telengana, Lakshadweep Islands, 4 to 8 knots over most parts of Punjab, Haryana, Orissa, Saurashtra & Kutch, Coastal Andhra Pradesh, Telengana, Kerala, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Bihar, Gangetic West Bengal, Arunachal Pradesh, Rajasthan, Madhya Pradesh, Chhattisgarh, Konkan & Goa, Madhya Maharashtra, Vidarbha, Interior Karnataka, Rayalaseema, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, 0 to 4 knots over remaining parts of the country.

Chief Synoptic Feature (Based on 0830 hours IST observations of 9th April, 2009)

Satellite image of 8 UTC on 9th April, 2009

- Due to thundershowers activity during past 24 hours over northwest, central, east and northeast India, the maximum temperatures are below normal by 4-8⁰C over parts of central and northwest India and by 2-4⁰C over most parts of west, east India and northeastern states.
- Current meteorological analysis suggests that rise in maximum temperatures by 2-3⁰C is likely over the northwest and central and east India during next 2-3 days.
- Current meteorological analysis & Numerical Weather Prediction models suggest that scattered to fairly widespread rain/thundershowers activity with isolated thunder squall is likely over northeastern states during next 48 hours.



Zone-wise Forecast (Forecast valid upto 0830 hours IST of 12th April, 2009)

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

- Rain/thundershowers are likely at a few places over Jammu & Kashmir, Himachal Pradesh and Uttaranchal during next 24 hours and mainly dry weather thereafter.
- Mainly dry weather is likely over the rest region.

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

- Isolated rain/thundershowers are likely over West Bengal & Sikkim and Orissa.
- Isolated rain/thundershowers are likely over Bihar, Jharkhand during next 24 hours and mainly dry weather thereafter.

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

- Rain/thundershowers are likely at many places over the region during next 48 hours and isolated thereafter.

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

- Rain/thundershowers are likely at a few places over Andaman & Nicobar Islands during next 24 hours and at many places thereafter.
- Rain/thundershowers are likely at a few places over Kerala, Lakshadweep and south Tamil Nadu.
- Isolated rain/thundershowers are likely over Karnataka, north Tamilnadu , Telengana and coastal Andhra Pradesh.
- Mainly dry weather is likely over the rest region.

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

- Mainly dry weather is likely over the region.

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

- Isolated rain/thunderstorm is likely over Chhattisgarh during next 24 hours and mainly dry weather thereafter.
- Mainly dry weather is likely over the rest region.

WARNING: (For next 48 hours)

- Isolated thunder squall is likely over northeastern states during next 48 hours.

Weather Outlook from 0830 IST of 12th April, 2009 to 0830 IST of 14th April, 2009 (Based on numerical weather products):

- Increase in precipitation activity is likely over south peninsular India.
- A low pressure area is likely to form over south Bay of Bengal around 12th April.
- A fresh western disturbance is likely to affect western Himalayan region from 13th onwards.

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 (grain formation), barley and oat (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).
- 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.
- It is optimum time for sowing of chari, bajra and maize in low hills.
- 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.
- As there is chance of attack of Sanjoje Scale, thrips etc. under prevailing weather condition, to control apply tree spray oil (Servo Orchard Spray oil or Hindustan Petroleum Spray oil) @ 4 litres +4 ml Durmat in 200 litres of water.
- 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.
- In view of expected rain, farmers are advised to postpone harvesting of matured crops like wheat, mustard, chickpea, garlic and lentil for next two days.
- Farmers are also advised to continue sowing of foxtail millet with improved local varieties as weather conditions are favourable for sowing.
- Farmers are advised to apply 40 kg Urea, 180 kg SSP and 20 kg MOP in ratoon sugarcane crop on a non-rainy day for enhancing its growth.
- 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 on a non-rainy day.

- **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 after 24 hours.

Punjab

- **Major Standing Crops:** Horticultural crops (vegetative), spring sugarcane (early vegetative), wheat (early maturity), gram and lentil (harvesting), pea and vegetable crops like chilli, tomato, brinjal, bhindi and onion (early vegetative) and oilseeds (harvesting), summer pulses, sunflower (vegetative), summer rice (tillering).
- Complete field preparation and planting of sugarcane with irrigation facilities. One row summer moong / summer mash may be intercropped.
- Undertake harvesting of matured crops on sunny days.
- 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 intercultural operations in tomato, onion and chilli.
- Young plants may be given nitrogenous fertilizer in small split dose. The evergreen fruit plants like citrus, mango, litchi, guava, and ber may be planted in the field.
- 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. 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 (early maturity) and oilseeds (maturity), summer pulses, sunflower (early vegetative).
- Undertake harvesting of matured crops on bright sunny days.
- As there was no significant rain during last few weeks and no significant rainfall is likely to occur for next five days, 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, summer fodder, also undertake sowing of bajra, lobia, sudan and napjar grass for fodder.
- Farmers are advised to harvest the mustard and after that prepare the field for sowing of cotton crop.
- 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 chillies.
- Farmers are also advised to complete 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 feed the animals with 50 to 100 grams good quality minerals mixture. Vaccinate against sheep pox as per Veterinarian advice.
- **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.

Delhi

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), mustard (seed maturity / harvesting), gram (grain maturity / harvesting), wheat (early maturity / maturity).
- Conserve moisture in the soil where the crops are at maturity stage.
- As dry weather is likely to prevail for next five days, farmers are advised to continue harvesting of already matured crops of wheat, mustard, gram etc.
- Early threshing after harvest of the crops is advised. Grains and seeds are advised to be dried to their recommended moisture content.
- There is chance of attack of mealy bug in mango. Application of sticky strap around the tree trunk to prevent the climbing of mealy bug is recommended. Spraying of Endosulfan in heavily attacked trees is advised.
- Under prevailing weather there is chance of attack of fruit fly in cucurbits. Fruit fly infested fruit should be collected and buried deeply. Installation of pheromone trap and in case of heavy infestation wet spraying of Endosulfan @ 2gm + 50 gm jaggary per litre of water in cucurbitaceous crops is advised.
- Present weather conditions are highly favourable for the powdery mildew and even downy mildew infection in the cucurbitaceous crops. Spraying of Mencozeb against powdery mildew and Redomil against downy mildew should be carried out.
- Spraying of Sevin or Carbaryl against Red Pumpkin Beetle is advised.

Uttar Pradesh

- **Major Standing crops:** Sugarcane (cane formation / harvesting), summer sugarcane and vegetables (early vegetative), mango (fruit setting), rai, mustard, gram, pea and lentil (harvesting), wheat (grain formation / early maturity), *zaid* maize (early vegetative).
- Undertake harvesting of matured crops like garlic, pea, sugarcane and rai on bright sunny days.
- 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.
- 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.
- Prepare the field for undertaking sowing of turmeric.
- 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 g / litre of 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). This is proper time for planting of orchard tree saplings in Jammu and Rajouri and

sowing / transplanting of vegetable crops in nursery / main field in Leh, Jammu and Rajouri divisions.

- In view of expected rain, farmers are advised to postpone harvesting of matured crops like wheat, mustard and pulses for next two days.
- As there was rainfall during last week in most of the districts of the State and rainfall is likely to occur for the next five days, postpone irrigation to the crops.
- Continue planting of saplings in orchard and nursery sowing of cole crops in Leh and Rajouri divisions.
- Undertake sowing of vegetable crops like brinjal, tomato, chilli, capsicum, 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.
- Undertake sowing of summer pulses in Jammu Division.
- Undertake sowing of summer fodder (maize, cow pea, jowar) using a seed rate of 60 kg / ha in 1:2:2 ratio in fields vacated by mustard crop.
- Intercultural operations, sowing of crops and application of fertilizers and pesticides may be undertaken on a non rainy day.
- Undertake planting of evergreen fruit trees such as mango, guava, litchi, citrus etc can be done. Deciduous plants such as pear, peach, plum and grapevine can also be planted, if shifted with the earth ball around their roots. Gap filling in orchards for frost damaged plants may also be done during these days. Transplanting may be done during this week taking advantage of the rainfall received during the last week as well as the rainfall expected during the coming week.
- **Plant Protection:** Weather conditions are congenial for mild incidences of brown rust in wheat. If 10 per cent of the leaves are found to be infested with lesions of brown rust, spray Mancozeb @ 0.2 % or Tropicconazole @ 2% 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 (harvesting), sunflower (head formation / flowering), wheat (grain formation / maturity) and *boro* rice (tillering / panicle initiation), summer moong, urd, sunflower, sesame (vegetative), summer vegetables (early vegetative).
- As there was no significant rain during last few weeks and no significant rainfall 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.
- 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.
- Continue 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 wheat, rapeseed, gram, pea, lentil and mustard crops as weather favourable for undertaking harvesting.
- MP chari variety of sorghum and some cultivars of sudan grass may be sown / planted at the earliest for getting green fodder during lean period i.e. summer season.
- **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 (tasseling / silking) and rice (panicle initiation).
- As there was no significant rain during last few weeks and no significant rainfall 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 30 kg per hectare and apply 44 kg Urea, 250 kg SSP 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 weeding, intercultural operations in summer rice, 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 (vegetative), summer green gram (vegetative/flowering), summer maize (vegetative / tasseling / silking) and summer groundnut (pegging / pod formation).
- As there was no significant rain during last few weeks and no significant rainfall is likely 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 ginger sowing, go for ginger sowing. 6-8 quintals of ginger is required for planting for one acre. Cut the ginger into pieces of 15-19 g each with at least with 2-3 buds. Go for finger treatment by dipping the seed material with 0.25 % Indophil -M- 45 along with 0.15% Bavistin and 0.05% Malathion for 30 minutes before planting. Plant the seed material in lines at 25 cm apart at 5 cm sowing depth. Cover the beds with straw.
- 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. To maintain 2 lakh healthy plants per acre, sow the seeds in lines at 25 cm apart with 3cm 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 late sown sesame crop is at 3 to 4 week stage. Apply 13 kg urea per acre followed by earthing up. 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 hours 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.
- Provide sufficient water to the cattle to drink during hot summer. Never allow cattle to go outside during afternoon hour to save them from thunder / hailstorm / squally wind.
- Maintain average water depth at 5ft 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 incidence of –

- Yellow vein mosaic in summer green gram. Spray 20 ml Rogor / 10 litres of water to control the white fly, the vector of YVM virus.
- shoot borer in sugarcane, for which *Trichogramma* can be released in the field @ 20000 / acre. Release the parasites 2-3 times at an interval of 7 days.
- blast, bacterial leaf blight and sheath blight diseases in summer rice. 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 g / litre of water to control bacterial leaf blight, apply Sheethmar / Rhizocin @ 3 ml / litre or Hexaconazol @ 2 ml / litre of water to control Sheath blight: Repeat the spray after 10-12days.

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

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.
- In view of expected rain, farmers are advised to postpone harvesting of matured crops like wheat, mustard, chickpea, garlic and lentil for next two days.
- Farmers are also advised to continue sowing of foxtail millet with improved local varieties as weather conditions are favourable for sowing.
- Farmers are advised to apply 40 kg Urea, 180 kg SSP and 20 kg MOP in ratoon sugarcane crop on a non-rainy day for enhancing its growth.
- 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 on a non-rainy day.
- **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 after 24 hours.

West Bengal

- **Major Standing Crops:** Sugarcane (planting), wheat (maturity) and *boro* rice (tillering / panicle initiation / flowering), sesame (vegetative / flowering), 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 the standing crops.
- As congenial weather is likely to prevail, farmers are advised to undertake intercultural operation to keep the fields weed free. Complete intercultural operation of groundnut during flowering stage.
- Keep 5 to 7 cm standing water in *boro* rice field.
- As no significant rainfall is likely to occur for the next five days, wheat 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. Maintain seed rate 800 g for Olitorious and 1 kg for Capsularis.
- Under prevailing weather condition undertake land preparation and planting of sugarcane setts.
- Those who have not treated the sesame seeds earlier may encounter collar rot or root rot disease. To combat it spray 1 g Carbendazim and 2 g Mancozeb combinely mixing in one litre water.

- 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.
- 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 / transplanting) (b) **Medium & Low hills:** Orange (flowering); large cardamom (flowering); wheat (milk / dough); mustard (maturity / harvesting); vegetable crops (flowering / fruiting / harvesting); *rabi* potato (maturity / harvesting).
- Farmers are advised to sow maize crop in the mid and low hills within 2nd week of April adopting usual sowing method and apply FYM / recommended compost before sowing the seeds.
- Land preparation may be initiated for sowing of ginger in mid & low hills.
- 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, chilli, 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.
- As there are chances of isolated thundershowers in high hills, the seedlings of off-season organic vegetable crops may be protected from onslaught of hail stone showers by putting hailnets.
- 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 / harvesting), *boro* rice (flowering / grain formation), early *ahu* rice (early vegetative / tillering), regular *ahu* rice (direct sowing / transplanting), jute, black gram, green gram, maize and summer vegetables (sowing), sugarcane, turmeric and ginger (planting).
- As there was rain in most of the districts during last week and rain is likely to occur at many places during coming days over the State along with isolated thunder squall during next 48 hours, 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 regular *ahu* rice and also nursery sowing for transplanted regular *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 and also planting of turmeric and ginger.
- This is the optimum time for sowing high yielding varieties of bhindi. For one bigha of land 2-3.5 kg of seeds are required and seeds should be sown at a spacing of 45 X 30 cm.
- 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 after current spells of rain.
- Details of crop varieties are mentioned in Annexure I.
- As there was rainfall during last few days, farmers are advised to apply fertilizers in the coconut and arecanut trees in ring method. For bearing trees the recommended doses of the fertilizers are –
 - Coconut: 750 g Urea, 1250 g SSP, 850 g MOP and 25 g borax per plant.
 - Arecanuat: 115 g Urea, 125 g SSP, 137 g MOP and 5 g borax per plant.

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).
- Undertake harvesting of matured crops of wheat, mustard, pea and maize immediately as rain is expected in the coming days. Farmers are also advised to put cover to protect the harvested crops from rain.
- As there was sufficient rain in most of the districts in the State during last week and rain / thundershowers are likely at many places over the States during next 48 hours, farmers are advised not to irrigate the maize crop.
- Farmers are advised to continue land preparation and sowing of maize, summer vegetables and ginger utilizing the rainfall received during last week. Prophylactic measure for protection of seed ginger rhizome form fungal disease may be taken.
- Farmers are advised to prepare the field for *jhum* rice and wet seeded rice (early *kharif* 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 (grain maturity) and chilli (fruit development).
- As there was no significant rain during last few weeks and no significant rainfall is likely for next five days over the State, apply irrigation to the crops.
- Complete transplanting of rice and undertake planting of sugarcane.

Poultry: To minimize the summer effect, the following management practices need to be adopted–

- Arrange fans and foggers in sheds.
- Cover the sheds with paddy straw and arrange sprinklers.
- Feed poultry birds with wet mash to increase the feed intake.
- Provide cool water for drinking

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

- spotted pod borer and powdery mildew in black gram, green gram and red gram, sheath blight in maize and fruit rot in chilli in Guntur;
- 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.
- blast and sheath blight in rice.
- undertake plant protection measures to control the pests and diseases.

Karnataka

- **Major Standing Crops:** Annual sugarcane (grand growth). *rabi* crops (grain development / maturity / harvesting).
- As there was no rainfall during last few weeks in the state and no significant 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.
- If farmers have irrigation facilities, 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.
- The dropping of tender nuts and buds in areca nut may be noticed. Spray 1 per cent bordeaux mixture or 2 gm of copper oxy chloride. Apply organic, bio fertilizer and NPK, calcium and boron based on soil test value basis.

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

- powdery mildew in pulse crops namely green gram, black gram and cowpea. Spray Carbendazim @ 1.0 g or water soluble sulphur @ 3 g per liter of water.
- leaf miner, mites and thrips in summer groundnut. Spray 1.0 ml Monocrotophos 36 SL or 0.5 ml Phosphamidon 85 WSC per litre of water.
- purple blotch in onion in Bidar region; spray Mancozeb @ 2 ml / litre of water.
- also necrosis in sunflower; spray Imidachlorpid @ 0.3 ml/litre of water.

Kerala

- **Major Standing Crops:** Rice (tillering), vegetable (vegetative / flowering / fruiting) and plantation crops (coconut, arecanut, pepper and cashew).
- As there was no significant rainfall during last week in most of the districts and no significant 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 areca nut and coconut to prevent from sun scorching.

- Harvesting and nursery propagation operations may be continued in cashew.
- Tapping may be continued in alternate days in rubber. The basal trunk portion may be painted with lime to protect the young trees from sun scorching. The plantation may be kept clean and fire belt may be made to avoid fire incidence.

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 pests 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 and no significant rainfall is likely to prevail for the next five days, apply irrigation to the crops.
- Undertake field preparation for sowing of sunflower, ground nut and gingelly in north western Tamil Nadu. Prepare the land well in advance, and apply 5 tons of manure per acre of land.
- 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 chilli 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.
- Present weather is conducive for stem borer incidence in maize and sorghum crop at flowering stage and thrips in onion. Monitor the pest out break and take appropriate plant protection measures.

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 (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 to summer rice in north konkan at an interval of 4 to 5 days (to maintain 4 – 5 cm standing water), to 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 weather is favourable, apply a dose of Nitrogen @ 40 kg / ha to summer rice in East vidarbha.
- As weather condition is favorable, start harvesting of already matured cow pea, *kulith* & *ragi* in Konkan.

Plant protection

- There is possibility of immature fruit drops in mango due to increase in temperature and wind speed. As there is chance of attack of powdery mildew in mango, spray Carbendazim @10 g or Hexaconazol @ 5 ml per 10 liters of water to control the disease.
- Due to cloudy condition there is chance of infestation of blight in rice in South Konkan and South Madhya Maharashtra. For control spraying of Carbendazim @ 1 g / litre of water or Copper oxy chloride @ 2.5 g / litre of water may be done.

Poultry

- Cool temperature may be maintained in the shed by covering them with paddy straw or wet gunny bags.

Fishery

- Feed management of brackish water shrimps may be followed. Water level in the pond may be maintained at 1.5 m as there is increase in the rate of evaporation and temperature.

Gujarat

- **Major Standing Crops:** Sugarcane (vegetative), vegetables (vegetative / flowering / fruiting / harvesting), wheat (maturity / harvesting), groundnut (flowering / pegging / pod formation), summer rice (flowering / grain formation) and green gram, black gram, cow pea, cluster bean and pearl millet (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.
- Under prevailing weather there is chance of infestation of shoot borer in summer bajra in Middle Gujarat Zone. Spray neem oil @ 0.5 % to control shoot borer in summer bajra.

Animal Husbandry

- Make arrangements for shade with proper ventilation to protect the animals from 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 / fruiting).
- As there was no significant rain during last few weeks and no significant rainfall is expected during next five days over the State, apply 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*), bottle gourd, 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 Chlorpyrifos 25 EC @ 4 litre per hectare.
- stem borer in okra in Udaipur, Bhilwara and Chittogarh 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.
- 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 / litre 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 and 30 ml prophenose / litre of water.

Chattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), wheat (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. 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, 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.

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.
- **Ginger:** Suprava, Suruchi, Surabhi.

West Bengal

- **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, Kishan etc.
- **Ginger:** Nodia, Moran etc.
- **Bhindi:** Pusa Sawani, Arka Anamica, Parvani kranti, Panchasira 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

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 Suryyamukhi
- **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