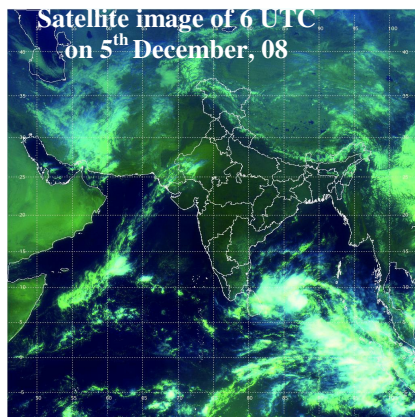




National Agromet Advisory Bulletin

Thursday, 4th December, 2008
(For the period 4th to 8th December, 2008)



Forecast for South India (valid upto 1430 hours IST of 7th December 2008)

- Rain/thundershowers are likely at many places over Andaman & Nicobar Islands.
- Rain/thundershowers are likely at isolated places over Tamilnadu & Puducherry, Kerala, Karnataka, Rayalaseema and Lakshadweep during next 24 hours and scattered to fairly widespread thereafter.
- Mainly dry weather is likely over the rest region.

Status of Northeast Monsoon

Widespread rainfall occurred over Tamil Nadu & Puducherry, Rayalaseema and south Coastal Andhra Pradesh during first two days of the week. Scattered heavy to very heavy falls with isolated extremely heavy falls occurred over these regions during the same period. The activity gradually decreased thereafter. Scattered to isolated rainfall occurred over Kerala, Karnataka and Andaman & Nicobar Islands during many days of the week.

Advisories for Tamil Nadu

- As there was sufficient rain during earlier weeks in most of the districts of the state and rain is likely to occur for the next five days, farmers are advised to postpone irrigation to the crops.
- Due to fall in temperature in Nilgiris, protect the crops from cold injury by providing thatches.

Advisories for Kerala, Andhra Pradesh and Karnataka

- As there was sufficient rain during earlier weeks in most of the districts of Kerala and rain is likely to occur for the next five days, farmers are advised to postpone irrigation to the crops in the state.
- As Karnataka and also Rayalaseema of Andhra Pradesh are likely to receive rain during next five days, farmers are advised to postpone irrigation to the crops over these regions.
- As there was no significant rainfall during last couple of weeks and mainly dry weather is likely to prevail for the next five days in Telangana and Coastal Andhra Pradesh, apply irrigation to the crops in these regions except in Guntur, Krishna, Nellore and Prakasam districts. Postpone irrigation in the above districts as there was excess rainfall during last week.
- Undertake planting of tapioca by utilizing northeast monsoon rainfall in Kerala.

Issued by


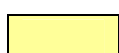

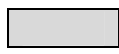

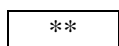
National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.

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

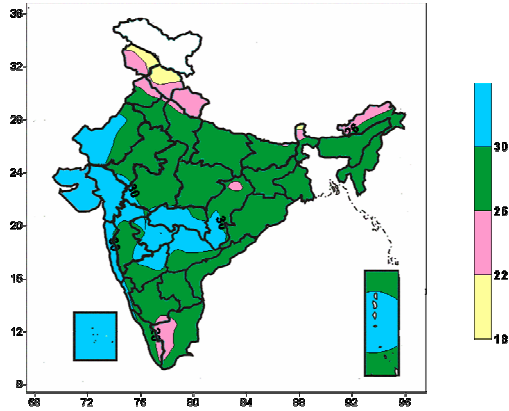
Sub-division	Cumulative Rainfall (% Dep.) for the period				
	5 th November	12 th November	19 th November	26 th November	3 rd December
A & N Islands	-52	73	98	35	-55
Arunachal Pradesh	-98	-40	-100	-17	-99
Assam and Meghalaya	-98	-100	-100	-65	-99
NNMT	-96	-94	-100	-100	-100
SH West Bengal & Sikkim	33	-100	-98	-85	-93
Gangetic West Bengal	-100	-100	-100	-100	-100
Orissa	-100	-100	-99	-87	-99
Jharkhand	-100	-100	-100	12	-100
Bihar	-100	-100	-100	-100	-100
East Uttar Pradesh	-100	-100	-22	-98	-100
West Uttar Pradesh	-100	-100	-11	367	-100
Uttarakhand	-100	-100	-100	43	-100
Haryana, Chandigarh and Delhi	-100	-100	-100	159	-100
Punjab	-100	-100	-100	-86	-100
Himachal Pradesh	-100	-100	-100	-75	-100
J & K	-97	-100	194	-86	-99
West Rajasthan	-100	-100	-100	-99	-100
East Rajasthan	-100	-100	-42	-91	-92
West M. P.	-100	-100	347	-43	-97
East M. P.	-100	-100	-83	-20	-100
Gujarat region	-100	-100	-95	-100	93
Saurashtra & Kutch	-100	-100	-100	-100	2493
Konkan and Goa	-100	-100	-97	-98	31
Madhya Maharashtra	-100	-100	-96	-46	-26
Marathwada	-100	-100	-89	37	-87
Vidarbha	-100	-100	-99	-82	-87
Chhattisgarh	-100	-100	-100	-78	-100
Coastal A. P.	-100	-95	144	-42	1129
Telangana	-100	-100	51	-59	281
Rayalseema	-100	-98	109	-12	1018
TamilNadu & Pondicherry	-99	-95	-90	307	415
Coastal Karnataka	-100	-91	-86	-97	221
N. I. Karnataka	-100	-100	158	-46	505
S. I. Karnataka	-100	-100	-60	-49	291
Kerala	-96	-73	-81	-33	73
Lakshadweep	-98	-90	-97	139	-73

The sub divisions like Assam and Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Gangetic West Bengal, Orissa, Bihar, East Uttar Pradesh, Punjab, Himachal Pradesh, Rajasthan, East Madhya Pradesh, Madhya Maharashtra, Vidarbha and Chhattisgarh received scanty / deficient rain in all the 5 weeks; Arunachal Pradesh, Sub Himalayan West Bengal & Sikkim, Jharkhand, Uttarakhand, Haryana, Chandigarh and Delhi, Jammu & Kashmir, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, Konkan & Goa, Marathwada, Coastal Karnataka, South Interior Karnataka, Kerala and Lakshdweep received scanty / deficient rain in 4 out of last 5 weeks; West Uttar Pradesh, Coastal Andhra Pradesh, Telangana, Tamil Nadu & Pondicherry and North Interior Karnataka received scanty / deficient rain in 3 out of last 5 weeks. Other subdivisions received normal or excess rain for at least 3 weeks out of 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

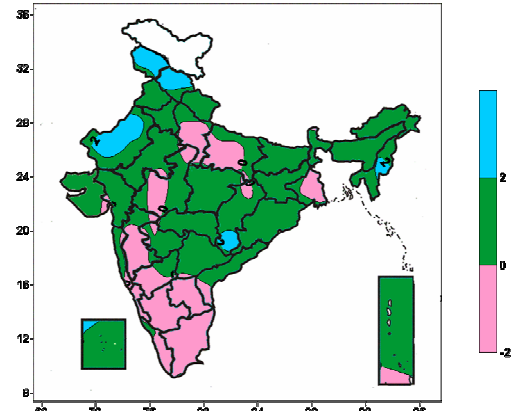
Contour maps for the week ending 3.12.08

Actual Mean Maximum Temperature (°C) in India for the week ending 3.12.08



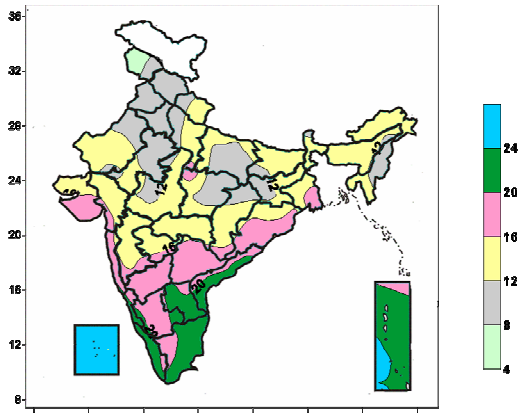
Actual Mean Maximum Temperature ranged between 30 to 34°C in some parts of Rajasthan, Madhya Maharashtra, West Madhya Pradesh, Orissa, Konkan, North Interior Karnataka, Chhattisgarh and Andaman & Nicobar Island, in most parts of Gujarat, Marathwada, Vidarbha, Lakshdweep, 22 to 26°C in some parts of Jammu & Kashmir, Punjab, Himachal Pradesh, Sikkim, Arunachal Pradesh, Chhattisgarh, Kerala, Tamil Nadu, in most parts of Uttarakhand, 18 to 22°C in some parts of Jammu & Kashmir, Himachal Pradesh and 26 to 30°C in remaining parts of the country.

Maximum Temperature (°C) Anomaly in India for the week ending 3.12.08



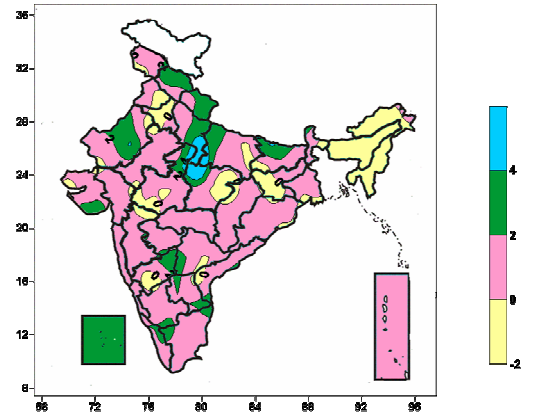
Maximum Temperature anomaly ranged between 2 to 4°C in some parts of Jammu & Kashmir, West Rajasthan, Chhattisgarh Manipur, Lakshdweep, most parts in Himachal Pradesh, -2 to 0°C over some parts of Uttar Pradesh, Chhattisgarh, East Rajasthan, Madhya Pradesh, Marathwada, Gujarat, Telangana, coastal Andhra Pradesh, Andaman and Nicobar Island, most parts in Karnataka, Rayalaseema, Kerala, Tamil Nadu 0 to 2°C in remaining parts of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 3.12.08



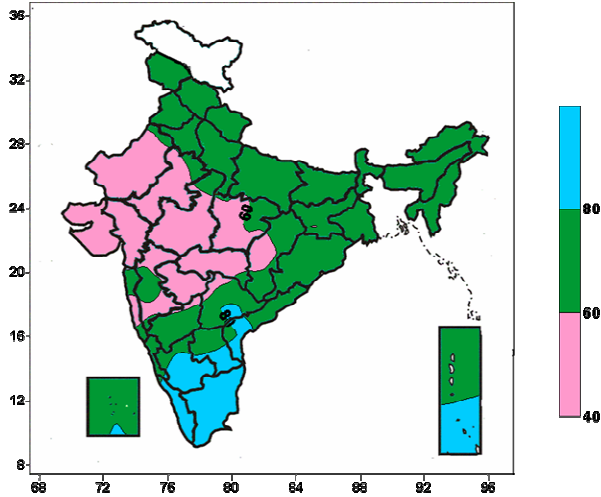
Actual Mean Minimum Temperature ranged between 24 to 26°C over some parts of Andaman Nicobar Islands, most parts of Lakshdweep 20 to 24°C over some parts of coastal Karnataka, most parts of Coastal Andhra Pradesh, Rayalaseema, Kerala, Tamil Nadu, Andaman Nicobar Islands, 16 to 20 °C over some parts of West Uttar Pradesh, East Madhya Pradesh, Gangetic West Bengal, Chhattisgarh, Gujarat, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh, Rayalaseema, Kerala, Tamil Nadu, Andaman Nicobar Islands, most parts in Konkan & Goa, Orissa, Telangana, Interior Karnataka, 8 to 12 °C over some parts of Jammu & Kashmir, Rajasthan, Uttar Pradesh, Madhya Pradesh, Bihar, Jharkhand, Chhattisgarh, Assam & Meghalaya, most parts of Himachal Pradesh, Punjab, Haryana, New Delhi, Uttarakhand, Nagaland, Manipur, 4 to 8 °C over some parts of Jammu & Kashmir, and 12 to 16°C over remaining parts of the country.

Minimum Temperature (°C) Anomaly in India for the week ending 3.12.08



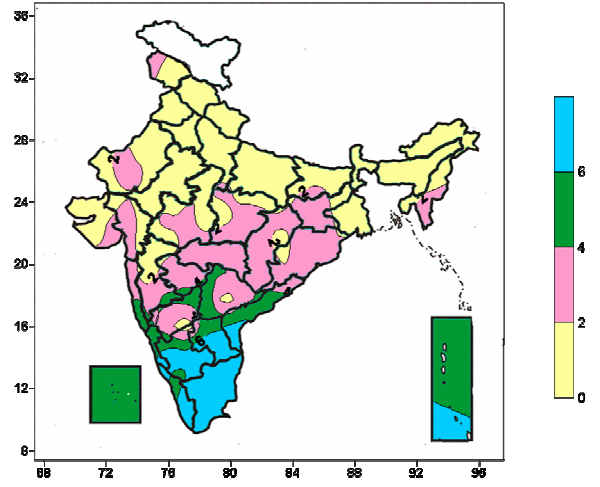
Minimum Temperature anomaly ranged between 4 to 6°C over some parts of Uttar Pradesh, East Madhya Pradesh, 2 to 4°C in some parts of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Bihar, East Rajasthan, Madhya Pradesh, North Interior Karnataka, Coastal Andhra Pradesh, Rayalaseema, Telangana, Tamil Nadu, Kerala, most parts of Lakshdweep and -2 to 0°C over some parts of Jammu & Kashmir, Punjab, Haryana, Rajasthan, Saurashtra & Kutch, Gujarat, Madhya Pradesh, Chhattisgarh, Madhya Maharashtra, East India, Interior Karnataka, Telangana, Coastal Andhra Pradesh, in most parts of North East India and 0 to 2 °C over remaining parts of the country.

Relative Humidity (%) over India for the week ending 3.12.08



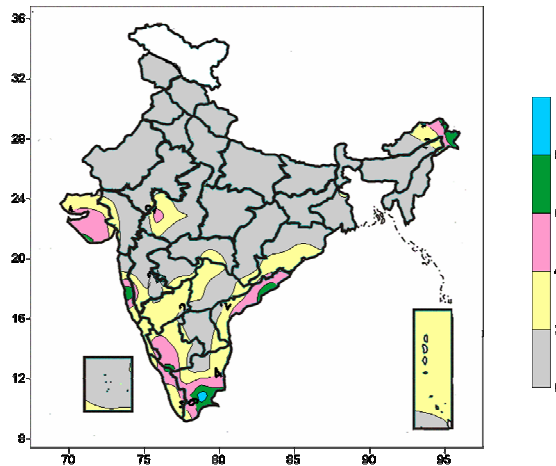
Relative humidity ranged from 80 to 100% over some parts of Andhra Pradesh, Lakshdweep, Andaman & Nicobar Islands most parts over Tamil Nadu, Kerala, South Interior Karnataka, 40 to 60% over some parts of Chhattisgarh, most parts of West India including Vidarbha, Madhya Pradesh, and 60 to 80% over remaining parts of the country.

Cloud amount (okta) over India for the week ending 3.12.08



Cloud amount ranged from 6 to 8 okta over some parts of Rayalaseema, Coastal Andhra Pradesh, Coastal Karnataka, South Interior Karnataka, Andaman & Nicobar Islands, most parts of Tamil Nadu, Kerala, 4 to 6 okta over some parts of, Madhya Maharashtra, Konkan and Goa, Marathwada, Telangana, Rayalaseema, Karnataka, Kerala, most parts over Coastal Andhra Pradesh, Andaman & Nicobar Islands, Lakshdweep, 0 to 2 okta over some parts of Chhatisgarh, Orissa, Madhya Maharashtra, Madhya Pradesh, Telangana, North Interior Karnataka, most parts over North India, Rajasthan, Gujarat, Madhya Pradesh, Bihar, West Bengal, North East India and 0 to 2 okta in remaining parts of the country.

Wind speed (knots) over India for the week ending 3.12.08









Wind speed ranged between 8 to 10 knots over some parts of Tamil Nadu, 6 to 8 knots over some parts of Saurashtra & Kutch, Konkan & Goa, Tamil Nadu, Arunachal Pradesh, 4 to 6 knots over some parts of Saurashtra & Kutch, West Madhya Pradesh, Arunachal Pradesh, Konkan & Goa, Coastal Andhra Pradesh, South Interior Karnataka, Kerala, Tamil Nadu, 2 to 4 knots over saurashtra & kutch, Gujarat, West Madhya Pradesh, South Maharashtra, Kerala, Tamil Nadu, Andhra Pradesh, Orissa, Arunachal Pradesh, Assam & Meghalaya, Lakshdweep, most parts over Interior Karnataka, Andaman Nicobar Islands and 0 to 2 knots over remaining parts of the country .

Districts experiencing stress condition (% Departure of weekly rainfall) in South India

*** Most Stress Districts of South India					
State/Districts	05/11/08	12/11/08	19/11/08	26/11/08	03/12/08
Kerala					
Kozhikode	-100	-100	-100	-59	-100
Malappuram	-100	-100	-95	-61	-21
Palakkad	-100	-100	-97	-76	-89
Thrissur	-100	-100	-100	-96	-36
Wyanad	-100	-100	-71	-65	-39
Andhra Pradesh					
Coastal Andhra Pradesh					
Sirkakulam	-100	-100	-37	-100	-100
Telangana					
Adilabad	-100	-100	-100	-95	-95
Nizamabad	-100	-100	-72	-100	-21
Warangal	-100	-100	-38	-100	-87

* Stress Districts of South India					
State/Districts	05/11/08	12/11/08	19/11/08	26/11/08	03/12/08
Andhra Pradesh					
Coastal Andhra Pradesh					
Visakhapatnam	-100	-100	77	-100	-57
Vizianagram	-100	-100	19	-100	-100

No district in Southern States experienced more stress situation during earlier 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

*** Most stress (more than 3 weeks continuously deficient to no rain)

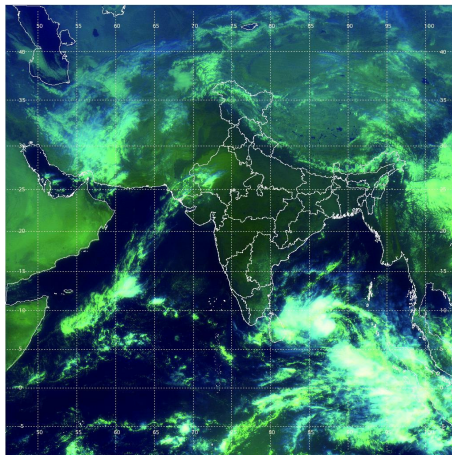
** More stress (3 weeks continuously deficient to no rain)

* Stress (2 weeks continuously deficient to no rain).

Chief Synoptic Feature (Based on 1430 hours IST observations of 4th December, 2008)

- The Depression over southeast Bay of Bengal moved northwestwards and lay centred at 1430 hours IST of today, the 4th December 2008 near Lat. 7.0° N and long. 89.5° E, about 630 km south-southwest of Port Blair, 1200 km southeast of Chennai and about 900 km east-southeast of Trincomalee (Srilanka). The system is likely to intensify further and move in a west-northwesterly direction.
- Under its influence, rainfall at many places with isolated heavy falls is likely over Nicobar Islands during next 24 hours. Squally winds speed reaching 45-55 kmph gusting to 65 kmph are likely over Nicobar Islands and adjoining sea areas during next 24 hours. Sea condition is rough to very rough along and off Nicobar Islands. Fishermen are advised not to venture into the sea.
- Minimum temperatures are above normal by 4-6 ° C over west India, by 2-4 ° C over east, Central and adjoining plains of Northwest India. This scenario is likely to continue during next 3-4 days.

Satellite image of 6 UTC on 5th December 08



Zone-wise Forecast

NORTHWEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP] (Forecast valid upto 1430 hours IST of 7th December, 2008)

- Mainly dry weather is likely over the region.

Quantitative District Weather Forecast for next five days:

- Mainly dry weather is likely over the region.

EAST INDIA [EAST UP, JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM] (Forecast valid upto 1430 hours IST of 7th December, 2008)

- Mainly dry weather is likely over the region.

Quantitative District Weather Forecast for next five days:

- Mainly dry weather is likely over the region.

NORTHEAST INDIA [Arunachal Pradesh, NMM & T, Assam, Meghalaya] (Forecast valid upto 1430 hours IST of 7th December, 2008)

- Mainly dry weather is likely over the region.

Quantitative District Weather Forecast for next five days:

- Mainly dry weather is likely over the region.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS] (Forecast valid upto 1430 hours IST of 7th December, 2008)

- Rain/thundershowers are likely at many places over Andaman & Nicobar Islands.
- Rain/thundershowers are likely at isolated places over Tamilnadu & Puducherry, Kerala, Karnataka, Rayalaseema and Lakshadweep during next 24 hours and scattered to fairly widespread thereafter.
- Mainly dry weather is likely over the rest region.

Quantitative District Weather Forecast for next five days:

- Rather moderate to heavy rainfall is likely to occur over Andaman & Nicobar Island, light rainfall is likely to occur over Tamilnadu & Puducherry, Kerala, Karnataka, Rayalaseema and Lakshadweep during next 24 hours and light to rather moderate rainfall is likely to occur thereafter.
- Mainly dry weather is likely over the rest region.

WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT, RAJASTHAN] (Forecast valid upto 1430 hours IST of 7th December, 2008)

- Rain/thundershowers are likely at isolated places over Konkan & Goa during next 24 hours and mainly dry weather thereafter.
- Mainly dry weather is likely over the rest region.

Quantitative District Weather Forecast for next five days:

- Light rainfall is likely to occur over Konkan & Goa during next 24 hours and mainly dry weather thereafter. Mainly dry weather is likely over the rest region.

CENTRAL INDIA [M.P., CHHATTISGARH, VIDARBHA] (Forecast valid upto 1430 hours IST of 7th December, 2008)

- Mainly dry weather is likely over the region.

Quantitative District Weather Forecast for next five days:

- Mainly dry weather is likely over the region.

Warning:

- Isolated heavy rainfall is likely over Nicobar Islands during next 24 hours.
- Squally winds speed reaching 45-55 kmph gusting to 65 kmph are likely over Nicobar islands and adjoining sea areas during 24 hours. Sea condition is rough to very rough along and off Nicobar Islands. Fishermen are advised not to venture into the sea.

Weather Outlook from 1430 IST of 7th to 1430 IST of 9th December, 2008 (Based on numerical weather products):

- Fairly widespread rainfall activity is likely over extreme south peninsula and over Andaman & Nicobar Islands.
- A western disturbance is likely to affect western Himalayan region and adjoining plains of northwest India.

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), apple (fruit maturity / harvesting), tea (plucking), wheat, barley, oat and oil seeds (land preparation / sowing / early vegetative), cabbage, cauliflower and broccoli (nursery sowing / transplanting), pea and knoll khol (nursery sowing), carrot, raddish, turnip and the leafy vegetables like letuce, methi, palak, dhania etc. (sowing), seed crop of onion (planting).
- As dry condition is prevailing, farmers are advised to harvest matured crops of maize and pulses.
- As there was no significant rain during last few weeks in most of the districts of the State and mainly dry weather is likely to prevail over the State during next five days, apply irrigation to the standing crops.
- As the atmospheric humidity goes on decreasing during coming days, use mulch over the tree basins to conserve moisture. Use waste materials like dry grass, broken leaves etc. for mulching.
- As weather condition is favourable, undertake land preparation and sowing of wheat, barley, oat and oil seeds.
- Under prevailing weather condition, undertake nursery sowing of pea, cauliflower, cabbage, knoll khol and broccoli. Also undertake transplanting of seedlings if nurseries of cabbage, cauliflower and broccoli are 4-6 weeks old.
- Weather condition is also favourable to undertake sowing of carrot, raddish and turnip and also the leafy vegetables like letuce, methi, palak, dhania etc.
- Under prevailing weather condition, for taking seed crop of onion, plant bulbs at 45 X 45 cm apart directly in the field. It is also time for sowing of peas and garlic.
- Whitewash the stems of the trees in orchards with 10 kg Chuna + 100 g of Copper sulphate + 25 liters of water to protect the plants from diseases and direct solar radiation.
- Details of crop varieties are mentioned in Annexure I.

Uttarakhand

- **Major Standing Crops:** Sugarcane (harvesting), maize and groundnut (grain / pod development / early maturity), Lahi (flowering / pod formation), wheat (early vegetative), mustard (early vegetative).
- As there was no rainfall in the State during last few weeks and mainly dry weather is likely to prevail for the next three days, apply irrigation to the standing crops.
- Farmers in Nainital and Udham Singh Nagar districts are advised to continue sowing of wheat. Select among late varieties like UP-2565 or UP-2425 for Udham Singh Nagar district and HS-295 or HS-420 for Nainital district.
- Undertake intercultural operations and application of fertilisers in early sown *rabi* crops like wheat, gram, pea and lentil as favourable weather conditions prevail during these days.
- Weather conditions are favourable for sowing of lentil in Udham Singh Nagar district. Select recommended varieties of lentil such as PL-639, PL-406, Pant Masoor-4 & Pant Masoor-5.
- Undertake harvesting of potato in Nainital as conducive weather prevails during these days.
- Due to cloudy weather conditions, there are chances of mild attack of aphids in toria and mustard in Nainital district and in Lahi crop in Udham Singh Nagar district. Spray Neem oil @ 2 ml/litre of water to control the pest.
- Due to favourable weather conditions, there are chances of mild incidences of late blight in potato in Udham Singh Nagar. Spray Indofil M 45 @ 2 ml/litre of water to control the disease.

Punjab

- **Major Standing Crops:** Horticultural crops (vegetative), Sugarcane (vegetative), maize (grain development), cotton (picking), groundnut (pod development), sunflower (grain development/maturity) and wheat, gram and lentil (germination/early vegetative). This is proper time for sowing of pea, raya and vegetable crops like chilly, tomato, brinjal and onion.
- As most of the districts received no significant rain during last few weeks and mainly dry weather is likely for the next five days, farmers are advised to apply irrigation to the standing crops.
- Due to favourable weather conditions, farmers are advised to continue picking of cotton.
- Farmers in Amritsar, Fatehgarh, Jalandhar, Ludhiana and Kapurthala districts are advised to undertake sowing of raya, pea and vegetable crops like chilli, tomato, brinjal, onion etc. For raya, select among PBR-210, RLM-619, PBR-91, RL-1359 under irrigated conditions and PBR-97 under rainfed conditions. African sarson PC-5 can also be sown during this month. For pea select among Punjab – 87, P6-88, P6-89 and Mitthi Phalli.
- Complete transplanting of sweet pepper and indeterminate tomato under net house.
- It is proper time for layering of litchi trees and side grafting of mango for their propagation.
- Farmers are advised to continue sowing of *desi* varieties of radish, potato, palak and late season varieties of cauliflower and planting of fruit crops like sweet orange, lime mango and guava with irrigation facilities in Central and Western plain zones.
- Weather conditions are favourable for mild incidences of dieback and fruit rot in chillies. Spray Indofil M-45 @ 750 g or Blitox in 250 litres of water per acre. Repeat spraying after 10 days
- In view of expected fall in temperature farmers are advised to take care of animal sheds for protection against cold and give 50 g iodised salt along with 50 to 100 gm mineral mixture daily to keep them healthy.

Haryana

- **Major Standing Crops:** Sugarcane (vegetative), Horticulture crops (vegetative), Sunflower (grain development/maturity), cotton (picking stage), bajra (harvesting), early sown wheat (germination).
- As most of the districts received no significant rain during last few weeks and mainly dry weather is likely for the next five days, farmers are advised to apply irrigation to the standing crops.
- In view of fall in temperature, cold injury may occur in sugarcane in Eastern and Western zones. Apply light and frequent irrigation to prevent the young crop.
- Continue planting of *spring* sugarcane in Eastern zone.
- Undertake sowing of late sown wheat. Select among 373 and 1210.
- Farmers are advised to continue picking/harvesting of cotton, sunflower and bajra as favourable weather conditions prevail during these days.
- Farmers are advised to continue sowing of *desi* varieties of radish, peas, potato, palak and late season varieties of cauliflower and planting of fruit crops like sweet orange, lime, mango and guava with irrigation facilities in Eastern and Western zones.

Delhi

- **Major Standing crops:** Vegetables (early vegetative / vegetative), mustard, potato, gram (early vegetative / vegetative), wheat (sowing / CRI), *rabi* onion (nursery sowing).
- Prevailing weather conditions are highly congenial for the attack of aphids in mustard and cucurbitaceous crops. Regular monitoring of crops against the attack of aphids is advised.
- The forecasted cloud cover and low temperatures, in the days to follow, are highly congenial for appearance and proliferation of late blight in potato, especially for those farmers who have sown Kufri Lalima, Kufri Bahar, Kufri Chandramukhi and Kufri Sinduri. Farmers are advised to regularly monitor the crops against the deadly disease. To protect the seed crops of potato against the disease, farmers are advised to spray Dithane M 45 as a preventive measure.
- The prevailing and forecasted low temperatures are ideal for sowing of late varieties of wheat. The seed rate should be 125 kg per hectare. As dry weather is prevailing for last few weeks and is also

likely to prevail for next five days, farmers are advised to apply irrigation to wheat wherever the crops are at CRI stage.

- In late sown mustard crops, farmers are advised to follow thinning operations, as it will reduce inter-competition and thus favour healthy crop stand. In timely sown crops, farmers are advised to irrigate to facilitate proper branching.
- In the prevailing weather conditions, farmers are advised to prune the apical buds of gram to facilitate growth of more number of lateral branches.
- Light irrigation is advised to 40-45 days old gram crops and also to field pea crop.
- Present weather conditions are highly congenial for sowing of *rabi* onion in the nursery. Those farmers who have already sown the crop are advised to take steps to control weeds and to irrigate the crop and to apply nitrogenous fertilizer.
- Farmers are advised not to irrigate peach, pear and grape to facilitate the crop to enter dormancy (winter sleep) and thus conserve its resources for next crop.
- Details of crop varieties are mentioned in Annexure I.

Uttar Pradesh

- Major Standing crops: Summer sugarcane (grand growth), Mango (fruit setting), *Rabi* rai, mustard, gram, pea and lentil (vegetative).
- As there was no significant rain in the state during last few weeks and mainly dry weather is likely to prevail for the next three days, apply irrigation to sugarcane and early sown *rabi* crops.
- Farmers in Bahraich, Balrampur, Gonda, Kushinagar, Siddharthnagar, Maharajganj, Lalitpur, Mahoba, Banda, Hamirpur, Kannuj and Hatras districts are advised to undertake sowing of wheat. Select among improved varieties like PBW- 343, UP-2338, Malviya etc.
- Also undertake sowing of onion seeds in the nursery in Bahraich, Balrampur, Gonda, Kushinagar, Siddharthnagar, Maharajganj and Lalitpur districts.
- Undertake weeding, intercultural operations, application of fertilizers and pesticides in the standing crops like gram, pea, lentil, toria, rai, mustard, garlic and potato as conducive weather conditions prevail during these days.
- Start picking of vegetable crops depending upon the market demand.
- Weather conditions are favourable for mild incidences of mealy bug in mango and Jhulsa disease in potato in Bahraich, Balrampur, Gonda, Kushinagar, Siddharthnagar, Maharajganj and Lalitpur districts; spray Folidol @ 250 g/ha for mealy bugs in mango and Mancozeb @ 250 g/ha for Jhulsa disease.

J & K

- **Major Standing Crops:** Wheat (vegetative), pulses (vegetative), mustard (vegetative). This is proper time for sowing of wheat and lentil (lower belts) and planting of vegetable crops in Jammu and Kashmir divisions, planting of spinach, beet and mongol in Leh and sowing of wheat in Rajouri.
- As dry weather is likely to prevail for the next three days, apply irrigation to the crops.
- Undertake intercultural operations in brown sarson, pulses and wheat in Srinagar, mustard in Jammu division and mustard, bersem, pulses and vegetable crops in Rajouri division to keep the field weed free as conducive weather prevails during these days.
- Complete planting of onion and garlic in Kashmir divisions. Also continue transplanting of root crops.
- Undertake sowing late varieties of wheat in Rajouri division. Select among Raj 3077, PBW-373 and Raj 3765.
- Undertake planting of beet, mongol and spinach in Leh division.
- Undertake sowing of wheat and barley and transplanting of cauliflower in Jammu division.
- Due to the forecast of 4-5⁰C night temperature, cold/frost injury may occur in newly planted orchards crops like mango, litchi, papaya, guava and citrus in Rajouri. Protect the crops from cold injury by providing thatches.

Bihar

- **Major Standing Crops:** Sugarcane (vegetative), *Kharif* rice (harvesting), *Rabi* maize, pulses, potato (germination/early vegetative). Early sown what is at crown root initiation stage.
- As mainly dry weather is likely to prevail for the next three days, apply irrigation to the standing crops.

North West alluvial plain zone:

- Farmers are advised to continue harvesting the matured rice crop.
- Farmers are advised to complete sowing of wheat within 10th December with late varieties. Continue sowing of rapeseed and mustard. Select among Rajendra rai, Pichheti, Rajendar, Anukul and Rajendar Sufalam.
- The day temperature is remaining 2 to 3 °C above the normal. In this condition, the germination and growth of *rabi* crops will be affected. Farmers are advised to maintain proper moisture in the field. Care should be taken to ensure proper moisture at the time of sowing of crops.
- Undertake intercultural operations in early sown rapeseed and mustard crop.
- There are chances of mild incidences of stem borer in the maize crop. Apply Sevin or Carbufuran granular @ 3 to 4 granules per plant.

Flood affected North East alluvial plain zone:

- Farmers are advised to complete sowing of wheat with irrigation facilities.
- Undertake intercultural operations, application of fertilizers and pesticides in early sown maize, rai, toria and mustard as favourable weather conditions prevail during these days.

South Bihar:

- Farmers are advised to continue sowing of wheat during first fortnight of December. Select among late varieties like HUW 234, PBW 373, HW 2045, HPI 744 (Rajeshwari), HD 2643 (Ganga), NW 1014 and 2036.
- Undertake intercultural operations, irrigation, application of fertilizers and pesticides in early sown maize, pulse, potato and sunflower crops as favourable weather conditions prevail during these days.
- Apply irrigation to wheat crop at crown root initiation stage.
- In irrigated condition, planting of potato tuber and sugarcane sets may be completed the earliest. The improved varieties of potato are Kufri Chandramukhi, K. Badsah, K. Sinduri, K.Lalima and Rajendra Potato 1, 2 and 3.
- Late cauliflower, cabbage and tomato may be transplanted as early as possible. Sowing/planting of onion, garlic, radish and carrot may be done.

Jharkhand

- **Major Standing Crops:** Arhar and maize (grain formation).
- As mainly dry weather is likely to prevail for the next three days, apply irrigation to the standing crops.
- Farmers are advised to complete sowing of wheat. Select among K 9107, HUW 468, PBW 343, HD 2402, HUW 468 and C 306 for irrigated conditions in midland and C 306, K 8027 and WR 544 for unirrigated condition.
- Farmers are advised to continue planting of late variety of potato Kufri Bashah and Kufri Sinduri utilising the residual soil moisture.

Orissa

- **Major Standing crops:** *Kharif* rice (harvesting), Sugarcane (vegetative), vegetables (vegetative / flowering / fruiting), potato (germination).
- As there was no significant rainfall in most of the districts of Orissa during last few weeks and mainly dry weather is likely to prevail, apply irrigation to the standing crops.

- Farmers are advised to continue sowing of pea. Select among Rachana, Arkel, etc. Complete sowing of *rabi* groundnut and gram.
- Undertake sowing of coriander. Select high yielding variety like CO-1, CO-2, CO-3, Swati, Sadhana, Ram Selection and Udi.
- Complete sowing of onion in the nursery bed. The best varieties are NH-53& Agrifound-light-red. Start transplanting when the seedlings attain proper age.
- Farmers in Balasore, Bhadrak and Jajpur districts are advised to undertake planting of marigold.
- Undertake intercultural operations, application of fertilizers and pesticides in early sown *rabi* crops.
- Weather conditions are congenial for mild incidences of damping off in vegetable crops, shoot borer in brinjal and thrips in chilly in Balasore, Bhadrak and Jajpur districts; undertake plant protection measure to control the pests and diseases.

West Bengal

- **Major Standing Crops:** Sugarcane (cane development), *aman* rice (maturity / harvesting), mustard, gram and lentil (germination / early vegetative), wheat (land preparation / sowing / early vegetative) and potato (land preparation / planting / early vegetative).
- As there was no significant rain during last few weeks in most of the districts of the State and mainly dry weather is likely to prevail over the State during next five days, apply irrigation to mustard, gram, lentil, wheat, vegetables and potato.
- Under prevailing weather condition, complete harvesting of already matured crops of *aman* rice.
- As mainly dry weather is likely to prevail, farmers are advised to undertake intercultural operation to keep the fields weed free.
- As weather condition is favourable, continue land preparation and complete sowing of seeds of wheat within this week, complete planting of potato and start nursery bed preparation of *boro* rice in New Alluvial zone. Seed rate is 14 kg per bigha for sowing of wheat.
- Under prevailing weather condition, farmers of Coastal Saline Zone are also advised to undertake planting of potato and nursery bed preparation of *boro* rice. Seed weight varies from 250-300 kg per bigha according to the size of the seed tuber for potato.
- Prevailing weather condition is also congenial for transplanting of cabbage and knoll khol in Coastal Saline Zone.
- Details of crop varieties are mentioned in Annexure I.

Sikkim

- **Major Standing Crops:** Orange (fruiting/harvesting), rice (grain development/maturity), large cardamom (harvesting and nursery). This is proper time for sowing of *rabi* wheat. Early sown *rabi* crops like mustard, potato and vegetable crops are at vegetative stage.
- As there was no significant rainfall during last week in the state and mainly dry weather is likely to prevail for the next three days, apply irrigation to the standing crops, orange and large cardamom.
- Undertake intercultural operations in early sown *rabi* mustard and vegetable crops like potato, cabbage, cauliflower, carrot, Chinese cabbage, knol-khol, garden peas, radish, turnip, lettuce, celery, spinach, etc., in medium and low hills as dry weather prevails during these days.
- Continue harvesting of rice and large cardamom as dry weather prevails during these days.
- Continue sowing of wheat when the temperature is in the range of 20-23⁰C.
- After the harvest of capsules of large cardamom, maintain sucker nursery; apply FYM and undertake intercultural operations.
- **Plant Protection:** Regular inspections may be carried out to observe caterpillar/ shoot borer/shoot fly incidence if any and may be hand picked and destroyed mechanically. 1% Bordeaux mixture or copper oxychloride @ 3gm/ltr of water may be sprayed to the cardamom plants to protect from fungal diseases.

- Weather conditions are congenial for mild incidences of fruit fly and trunk borer in orange. Monitor the trees and undertake plant protection measures to control the pests.
- Monitor ginger for bacterial wilt in medium and low hills and collect and destroy the affected plants completely to prevent further spread of the disease.

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

Assam

- **Major Standing crops:** Arhar (flowering / pod formation), *sali* rice (grain maturity / harvesting), black gram and green gram (pod maturity / harvesting), cauliflower, cabbage, raddish, brinjal, tomato, knolkhol, onion and carrot (early vegetative / vegetative / flowering / fruiting), mustard, lentil and pea (sowing / germination / early vegetative), wheat (sowing / crown root initiation stage) and potato (planting / early vegetative).
- As there was no significant rain over the State during last few weeks and weather will be mainly dry for next five days, farmers are advised to apply irrigation to arhar and vegetable crops like cauliflower, cabbage, raddish, brinjal, tomato, knolkhol, onion and carrot and also to wheat (at CRI stage), mustard, lentil and pea.
- As mainly dry weather is likely to prevail, farmers are advised to undertake intercultural operation to keep the fields weed free.
- Under prevailing dry weather condition, farmers are advised to harvest already matured crops of *sali* rice, black gram and green gram.
- Farmers may apply fertilizers in citrus orchard as no rainfall is predicted in the coming week. The fertilizer dose for the plants older than 4 years and above is 650 gm Urea, 1250 gm SSP and 500 gm MOP per plant.
- As the weather condition is favourable, this is proper time to prepare land and undertake sowing of wheat, mustard, lentil and pea and planting of potato with presowing irrigation.
- As the temperature is favourable for germination, nursery bed preparation and sowing of *boro* rice seeds in nursery bed should be started immediately.
- Details of crop varieties are mentioned in Annexure I.

Arunachal Pradesh

- **Major Standing crops:** *Rabi* vegetables (early vegetative / vegetative), wet seeded rice (harvesting), millets (harvesting), wheat (germination / CRI), mustard, pea (germination / early vegetative), *rabi* maize (vegetative), potato (germination / early vegetative).
- As there was no significant rainfall in most of the districts during last few weeks and no significant rain is likely to occur during next five days, apply irrigation to *rabi* vegetables, wheat, mustard, pea, *rabi* maize and potato. Apply 1st irrigation in wheat at crown root initiation stage i.e.20-25 days after sowing.
- As dry condition is prevailing, farmers are advised to continue harvesting of matured crops of wet seeded rice and millets.
- Under prevailing weather condition, apply top dressing in maize with urea @ 65 kg / ha at 35 days after emergence of seedlings followed by light irrigation.

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

Andhra Pradesh

- **Major Standing Crops:** Groundnut, Jowar, Bajra, Ragi and Maize (all harvesting), Sugarcane (grand growth), Rice (flowering/grain formation), Chilly (late vegetative)
- As Rayalaseema is likely to receive rain during next five days, farmers are advised to postpone irrigation to the crops.

- Apply irrigation to the crops in Telangana and Coastal Andhra Pradesh except in Guntur, Krishna, Nellore and Prakasam as there was no significant rainfall during last week and mainly dry weather is likely to prevail for the next three days. Postpone irrigation in the above districts as there was excess rainfall during last week.

Coastal AP

Plain Land

- Farmers in upland areas of West Godavari, Krishna, Guntur and Praskasam districts are advised to undertake intercultural operations in *rabi* pulse crops like green gram. Apply 25 kg urea and 10 kg potash per acre to cotton as sufficient moisture is available in the soil.
- **Plant Protection:** Weather conditions are congenial for the incidences of
- blast and cut worm in rice, ring spot and rust in sugarcane, *Spodoptera* in cabbage and cauliflower, thrips and mites in chilly and tea mosquito bug in cashew in Srikakulam, Vishakappattinam and Vijayanagaram districts; undertake plant protection measures.
- BPH, blast, sheath blight in rice, white fly in cotton, stem borer in maize, pod borer in red gram, spotted pod borer in black gram and green gram in Krishna, West Godavari, Guntur and Prakasam districts; undertake plant protection measures.

High Altitude Areas

- Farmers in high altitude regions of Srikakulam, East Godavari, Vijayanagaram, Visakappattinam and Khammam are advised to undertake intercultural operations and application of fertilizers and pesticides in *rabi* crops like mustard.
- Farmers are advised to complete harvesting of rice, rajma and ragi.

Rayalaseema

- Farmers in Anantapur are advised undertake intercultural operations and application of fertilizers and pesticides in *rabi* crops like sunflower, maize and Bengal gram after spells of rain.
- Farmers in Chiththoor are advised to complete transplanting of rice in the main field after spells of rain.

Telangana

- Farmers in Karimnagar, Nizamabad and Adilabad districts are advised to undertake intercultural operations in early sown *rabi* crops.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- sucking pests in cotton, thrips in chillies, leaf spot in turmeric, wilt in chick pea, stem and fruit borer in brinjal, late BPH in rice and necrosis in onion in Karimnagar, Nizamabad, Warranagl and Medak districts; undertake plant protection measures.

Karnataka

- **Major Standing Crops:** Annual sugarcane (grand growth). Early sown *rabi* crops are at vegetative stage.
- As the state is likely to receive rain during next five days, farmers are advised to postpone irrigation to the crops.

Coastal Karnataka

- Farmers in Udupi and Dakshin Kannada districts are advised to undertake intercultural operations and application of fertilizers and pesticides in arecanut, coconut, cashew and banana after spells of rain.

North Interior Karnataka

- Farmers in Bidar region are advised to undertake planting of sugarcane and sowing of vegetable crops like brinjal, tomato, cabbage and cauliflower in the nursery. Start transplanting of vegetable seedlings in the main field when they attain proper age.
- Farmers in Dharwad, Bijapur and Raichur are advised to undertake intercultural operations in early sown wheat, gram and safflower after spells of rain.
- Farmers in Raichur are advised to undertake harvesting of red gram and early sown sunflower. Due to forecast of rainfall in the next three days, arrange proper storage for harvested produce.
- Reddening of cotton is observed in Raichur due to decrease in temperature. Spray MgSO₄ @ 1.5 kg/acre after spells of rain to overcome the problem.

- **Animal Husbandry:** In and around Dharwad and surrounding villages Foot and Mouth disease has been noticed. Undertake vaccination. Flies menace is also observed due to dumping of garbage. Maintain sanitation.
- Due to cold weather sneezing is noticed indicating respiratory problem. Consult with the nearby veterinary doctor.

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

- *Heliothis* in gram and red gram, necrosis and *Alternaria* leaf spot in sunflower in Dharwad;
- aphids in safflower, mired bug and wilt in Bt cotton and powdery mildew in mango in Raichur;
- Undertake plant protection measures after spells of rain.

South Interior Karnataka

- Farmers in Bangalore, Kolar, Tumkur, Chitradurga and Shimoga are advised to undertake intercultural operations and application of fertilizers in early sown crops after spells of rain.
- Farmers in Shimoga are advised to undertake harvesting of rice and maize. Arrange proper storage for harvested produce

Plant Protection: weather conditions are favourable for

- leaf spot in sugarcane, *Sigatoka* leaf spot in banana, powdery mildew in bhindi and grey blight in coconut in Shimoga;
- Undertake plant protection measures after spells of rain.

Kerala

- **Major Standing Crops:** *Mundakan* rice (tillering), vegetable (vegetative/flowering) and plantation crops (Coconut, Arecanut, Pepper and Cashew).
- As there was sufficient rain during earlier weeks in most of the districts of Kerala and rain is likely to occur for the next five days, farmers are advised to postpone irrigation to the crops in the state.
- Undertake planting of tapioca by utilizing northeast monsoon rainfall.
- Undertake sowing of water melon and vegetable crops like bitter melon (Preethi), snake gourd (Baby and Manusree) and cowpea (Lola and Anaswara).
- Tapping of rubber may be continued after spells of rain.
- Undertake intercultural operations and application of fertilizers and pesticides in plantation crops (coconut, arecanut, pepper and cashew) after spells of rain.
- **Animal Husbandry:** Flies menace may occur in cattle due to present weather conditions in Kasaragod, Kozhikode, Kannur and Malappuram. Maintain sanitation and consult veterinarian to prevent flies attack.

Plant Protection:

- Due to cloudy sky and high RH, sheath blight and blast diseases may attack rice in Thiruvananthapuram. Spray Hinosan @ 200 ml in 200 litres of water per acre.
- Weather conditions are favourable for the attack of
- mahali disease in arecanut in Thrissur, Malappuram, Kasargod, Kozhikode and Kannur districts; apply 1% Bordeaux mixture.
- *Epilachna* beetle in brinjal and cucurbits in Thrissur. Collect and destroy the egg masses. To control the beetle, spray Carbaryl @ 0.2%.
- red palm weevil, rhinoceros beetle, bud rot and stem bleeding in coconut in Kasaragod and Wayanad.
- pollu beetle and quick wilt in pepper in Wayanad.
- Undertake plant protection measures after spells of rain.

Tamilnadu

- **Major Standing Crops:** Special season sugarcane (grand growth stage), Cotton (boll maturity/picking stage). *Rabi* crops like rice, pulses, millets and oilseeds are at vegetative stage.
- As there was sufficient rain during earlier weeks in most of the districts of the state and rain is likely to occur for the next five days, farmers are advised to postpone irrigation to the crops.

- Undertake intercultural operations in rice, banana and sugarcane crops in Thirunelveli, cotton, maize, sorghum and pulse crops in Virudhunagar and rice, maize, cotton, gram and oilseed crops in Namakkal after spells of rain.
- Farmers in Chennai, Cuddalore, Kanchipuram, Thiruvapur, Thiruvannamalai and Villupuram districts are advised to undertake intercultural operations in rice and vegetable crops after spells of rain.
- Due to fall in temperature in Nilgiris, protect the crops from cold injury by providing thatches.
- **Animal Husbandry:**
- Ranikhet and *E. coli* incidences may spread among the poultry birds during these days in and around Namakkal. Consult veterinarians and undertake vaccination to prevent further spread.
- As the day time temperature is expected to increase beyond 35°C, heat stress may occur in chickens in Namakkal. Hang down wet gunny bags in the shed at frequent intervals to protect chicks from the heat stress.
- **Plant Protection:** Present weather is conducive for mild incidences of
- Leaf folder and stem borer attack in rice in Namakkal; spray 5% neem seed kernel extract.
- Sigatoka leaf spot in banana and stem borer in rice in Coimbatore; spray Carbendazim @ 1 g/litre of water for Sigatoka leaf spot in banana and Monocrotophos @ 1 litre/ha for stem borer in rice.
- Undertake plant protection measures after spells of rain.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT, RAJASTHAN]

Maharashtra

- **Major Standing Crops:** Sugarcane (pre-seasonal & suru) (cane maturity), irrigated & *kharif* cotton (picking), *kharif* rice (harvesting of late maturing varieties in Nagpur division), tur (pod maturity in Konkan & pod formation in other divisions), *rabi* jowar (vegetative growth / flag leaf initiation in Pune division & early vegetative / vegetative in other divisions), *rabi* sunflower, maize (germination / early vegetative), gram (branching / pod formation in Pune & Kolhapur divisions and germination / branching in other divisions), wheat (sowing / germination in Pune, Kolhapur, Aurangabad, Nashik, Amravati & Nagpur divisions), safflower (vegetative).
- Rain received in Ratnagiri (Konkan), Satara, Sangli, Kolhapur, Pune districts (Madhya Maharashtra) & Washim district (West Vidarbha) is beneficial for standing *rabi* crops.
- As there was no significant rain in most of the districts of Konkan, North Madhya Maharashtra, Marathwada & Vidarbha during last few weeks and no significant rain is likely to occur during next five days, apply irrigation to the standing *rabi* crops.
- As dry weather is prevailing, farmers are advised to undertake harvesting of rice and sugarcane and picking of fully opened cotton boll.
- As there is no possibility of rainfall, farmers in Madhya Maharashtra & Marathwada are advised to complete final earthing up in 16 to 20 weeks old *adsali* sugarcane crop and also to apply 160 kg N, 85 kg P₂O₅ & 85 kg K₂O / ha at the time of earthing up followed by light irrigation.
- As weather condition is favourable, farmers are advised to complete the land preparation and sowing of wheat.
- Under prevailing weather condition, prepare main field and undertake transplanting of vegetables like watermelon, brinjal, chilli and tomato in north konkan. Complete land preparation and undertake sowing of *rabi* maize in sub montane zone.
- Prevailing weather condition is also congenial for sowing of *rabi* groundnut, mustard and sunflower.
- Details of crop varieties are mentioned in Annexure I.
- **Plant protection**
- Vine crop (grapes) is likely to be affected by downy mildew due to untimely rain and prevailing cloudy weather condition during last 4-5 days. For control spray, Mancozeb fungicide @ 25 g in 10 liters of water.
- Under prevailing weather condition gram is likely to be infested by pod borer in Sub Montane zone & Western Maharashtra Plain zone. For control spray 35 EC Endosulphan @ 15 ml in 10 litres of water for the control of pod borer in early sown crops.

Gujarat

- **Major Standing Crops:** Sugarcane (early maturity / harvesting), *Kharif* cotton (boll formation / boll maturity / picking), castor (spike formation / maturity), mustard (early vegetative / vegetative), vegetables (sowing / transplanting / early vegetative), potato (planting / early vegetative) and wheat and cumin (sowing / early vegetative).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail during next five days, apply irrigation to *kharif* cotton, castor, mustard, wheat, potato and vegetables.
- As dry condition is likely to prevail, undertake intercultural operation in above mentioned crops to keep the fields weed free.
- Prevailing weather is conducive for harvesting of already matured crops castor and picking of *kharif* cotton.
- Under prevailing weather condition farmers are advised to apply top dressing of Nitrogen @ 40 kg / ha before initiation of tasseling of maize in Middle Gujarat zone.
- Prevailing weather condition is favorable for out break of early blight in early sown potato (before 40 days) in North Gujarat zone. For the control of this disease spray Mancozeb 0.2% @ 25 g plus 25 ml of concentrated desi soap solution in 10 litres of water. Spray second dose after 10 to 15 days.
- As weather condition is favourable, undertake land preparation and sowing of isabgul varieties Gujarat Isabgul-1 or Gujarat Isabgul-2 in Middle Gujarat zone, wheat variety G.W.-173 for late sowing and also transplanting of onion seedling in North Gujarat zone. Farmers are advised to use seed rate of 125 kg / ha for wheat and 4 kg / ha for isabgol.

Rajasthan

- **Major Standing Crops:** This is proper time for sowing *rabi* crops. Early sown *rabi* crops (wheat, mustard, gram, vegetable crops, etc.) are at vegetative stage.
- As there was no significant rainfall during last week in the state and dry weather is likely to prevail for the next three days, apply irrigation to the crops.

East Rajasthan

- Undertake intercultural operations in mustard, gram, onion and garlic in Alwar, Bharatpur, Dholpur, Karauli and Sawai Madhepur districts.
- Undertake land preparation and sowing of cumin, fenugreek, isabgol, garlic and radish in Ajmer, Dausa, Jaipur and Tonk districts. Select among RMT 1 and RMT 143 for fenugreek, RS 1, RZ 209 and RZ 19 for cumin and G-1, G-41, G-50, G-282 and G-313 for garlic.
- Farmers in Banswara district are advised to complete sowing of wheat and maize during this week as suitable temperature is prevailing for sowing. Undertake thinning in early sown crops and maintain optimum plant population.
- Complete land preparation and planting of fodder oats slips.
- Incidences of new disease infecting rapeseed-mustard are observed in Alwar, Dholpur, Bharatpur, Karauli and Sawai Madhepur districts leading to decaying and drying of plants. Some cases are noticed after irrigation only. Hence it is advised to postpone irrigation. If incidence is observed in small patches, remove the affected plants and destroy completely by burning. In case of epidemic, drench Carbendazim @ 20 g/ 20 litre or garlic extract @ 20 g/ 10 litre or Tetracycline @ 200 mg capsule/10 litre water near roots and avoid application of urea.
- Farmers in Alwar, Dholpur, Bharatpur, Karauli and Sawai Madhepur districts are advised to complete sowing of wheat. Select among Lok-1, Raj-1972, HD-2236, HD-2329, WH-147, PBW-343 and CPAN-3004. Also complete sowing of radish and cauliflower. Select among Pusa Deshi and Janani White for radish and Pusa Hybrid-2, Pusa Snowball-1, Pusa Snowball K- 1 and Pusa Snowball K-25 for cauliflower.
- **Plant Protection:** Weather conditions are favourable for mild incidences of

- white fly and jassids in cotton in Alwar and Dholpur; spray Dimethoate or Methyl Demeton @ 1 litre/ha.
- sucking pests in vegetable crops in Banswara; spray Dimethoate @ 2 ml/litre of water.
- cut worm in gram in Alwar, Dholpur, Bharatpur, Karauli and Sawai Madhepur districts, dust Endosulphan 4 % or Methyl Parathion 2%.
- aphids attack in mustard, barley, cauliflower and radish in Ajmer, Dausa, Tonk and Jaipur districts; spray Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 litre per hectare.
- pod borer in pea (at pod formation stage) in Ajmer, Dausa, Tonk and Jaipur districts; spray Endosulfan 35 EC or Melathion 50 EC @ 1 ml per litre water is suggested.
- blight, white rust and powdery mildew in mustard, in Ajmer, Dausa, Tonk and Jaipur districts; spray Blitox-50 @ 3 gm or Mencozeb 2 gm per litre of water.

West Rajasthan

- Farmers in Bikaner and Jaisalmer are advised to complete sowing of *rabi* crops like wheat, oats and methi crops.
- Undertake sowing of sweet gourd, cucumber, pumpkin, bitter gourd, tinda, tomato and ladies finger in Barmer, Churu, Jalore and Jodhpur. Also undertake sowing of cumin.
- Farmers in Pali are advised to complete sowing of wheat (Raj 3765, Raj 3077A and KRL 19) and cumin (RC 19 and GC 4)
- Farmers in Jodhpur, Barmer, churu, Jalore and Pali are advised to undertake planting of onion.
- Harvesting of cotton and castor
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- leaf eating caterpillar in fruits and vegetable crops in Barmer, Churu, Jalore and Jodhpur; spray Qunalphos @ 1.5 kg or Endosulphan @ 4.25 kg/hectre.
- white fly in sugarcane in Sriganganagar and Hanumangarh; undertake plant protection measures.
- Fruit fly in ber in Pali; spray Monocrotophos @ 1 ml + Endosulphan @ 1 ml/litr of water

CENTRAL INDIA [M.P., CHHATTISGARH]

Madhya Pradesh

- **Major Standing Crops:** Sugarcane (grand growth), soyabean (pod development/maturity), maize (cob development/maturity), cotton (boll development) and vegetable crops (transplanting/vegetative). This is proper time for sowing of *rabi* crops.
- As there was no significant rainfall during last week and dry weather is likely to prevail over the state, apply irrigation to the standing crops.
- Undertake land preparation and planting of vegetables like mid cauliflower, cabbage, radish, onion and carrot and sowing of coriander in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- Farmers in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh are advised to undertake planting/sowing of potato, onion, garlic and pea. Also undertake sowing of wheat with late varieties in areas where wheat crop could not be sown earlier.
- Farmers in Sehore, Bhopal, Damoh, Raisen, Sagar, Vidisha are advised to undertake planting of sugarcane.
- Undertake sowing of potato, berseem, garlic, pea, coriander, spinach and methi in Chhindwara and Betul districts with irrigation facilities. Also undertake planting of *autumn* sugarcane and onion.
- Due to favourable weather conditions, farmers in Tikamgarh, Datia and Chattarpur are advised to complete land preparation and sowing of wheat and alsii. Do seed treatment before sowing. Undertake transplanting of radish, carrot, spinach, methi and cabbage.
- Farmers in Jhabua are advised to undertake land preparation and sowing of *rabi* crops:
Wheat: Unirrigated/ Semi-irrigated: JWS-17, HW-2004, HI-1500, Malav Ratna (HD-4672) and Malav Shri (HI-8381).

Irrigated: GW-273, Kanchan (DL-803-3), WH- 147, GW- 190, GW- 322 and Malav Shakti (HI-8498).

Gram: JG- 412, JG- 226, JG- 11, JG- 130.

Maize: JM- 421, JM- 8, JM- 12, Chandan makka- 3, Ganga- 3, Ganga- 4, HPQM – 1.

- Also undertake transplanting of winter vegetables i.e. tomato, brinjal, chilli, cauliflower, cabbage etc. Berseem and sowing of vegetable pea (Arkil) in Jhabua.
- **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. Create smoke during the night in cattle shed to prevent cattle from mosquitoes and bees.
- Undertake vaccination in cattle against Anthrax, Galgotu, Black quarter and FMD in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh. Also undertake deworming.
- Cattle should be kept in aeration condition and in dry place, provide balanced and nutrient rich feed having protein, carbohydrate, fat vitamins and antibiotics in Jhabua
- **Plant Protection:** Weather conditions are favourable for
- pod fly in pigeonpea and fruit fly in Ber; spray Propenophos 40 EC @ 2ml/l of water for pod fly and Endosulphon 35 EC @ 2 ml/l of water & second spray after 15 days for fruit fly in Jabhua hills zone.
- agathi in tomato in Chhindwara and Betul districts. Spray Dithane-M-45 @ 2.5 g/litre of water.
- red pumpkin beetle in cucurbits, sucking pest and powdery mildew in vegetables in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh districts. Apply Methyl parathion @ 2% dust before fruiting to control red pumpkin beetle, spray Dimethoate @ 1.5 ml/litre of water to control sucking pests and spray Carbendazime @ 1 g/litre of water to control powdery mildew in vegetables.
- pod borer in red gram in Damoh, Bhopal, Sagar, Raisen, Sehore and Vidisha districts. Spray Endosulphan 35 EC or Malathion @ 2 ml/litre of water to control the pests.
- spider in chilli in Khargone district. Spray Carbedizem 1% and 1% Dicophol and sticker.

Chhattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), pigeon pea (seed formation / early maturity), wheat (sowing / germination / early vegetative), gram, pea, mustard, berseem, pigeon pea and linseed (germination / early vegetative), potato (planting / early vegetative), vegetables (early vegetative / vegetative).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail during next five days, apply irrigation to the standing crops.
- As dry condition is likely to prevail, undertake intercultural operation to keep the fields weed free.
- Considering the clear weather forecast for the next 3-4 days, farmers are advised to harvest the matured crop of rice and ensure proper sun drying and safe storage of the harvested produce. Wherever *utera* crops are sown in rice fields, transfer the harvested rice from such fields as early as possible to avoid losses in *utrea* crops.
- As present weather condition is ideal for proper germination of wheat, farmers are advised for sowing as early as possible after harvesting of rice. For wheat - GW-273, Kanchan, GW-173, Amar, Lok-1, Ratan and HD-2329 are suitable varieties for Chhattisgarh Plain zone. However, under limited irrigation conditions, sowing of Sujata variety is recommended. For sowing of wheat seed rate should be 125 kg / ha for all the varieties.
- Present weather conditions are favorable for planting of potato. Hence, sowing of potato should be done at the earliest after proper seed treatment with Carbendazim solution @ 2 g / liter of water. As the winter span is less, short duration varieties of potato should be preferred.

Annexure I

Crop varieties of Assam

- **Wheat:** Sonalika, UP-262, K-7410, WH-291, HDR-77 etc.
- **Potato:** Kufri Chandramukhi, Kufri Jyoti, Kufri Megha, Kufri Badshah, Kufri Sindhuri etc.
- **Mustard:** TS-36, TS-38, Varuna, TM-2, TM-4, M-27 etc.
- **Pea:** T-163, Rasna, Banevila, Arkel, Azad, Alankar, HUP-2 etc.
- **Lentil:** B-77, L-9-12, P-L-406 etc.

Crop varieties of Delhi

- **Late varieties of wheat:** HD 2932, DVW 16 etc.
- **Onion:** Pusa Red, Pusa Madhabi, Agrifound Light Red.

Crop varieties of West Bengal

New Alluvial zone

- **Wheat:** Rajlakshmi, H.P. 1701, Janak, HP-1209, BW-11 etc.

Coastal Saline zone

- **Potato:** Kufri Alankar and Kufri Chandramukhi.
- **Cabbage:** Golden Acre, Pride of India.
- **Knoll khol:** White Viena.
- **Boro rice:** IET - 1444, IET – 4786 (Satabdi), IET – 4094, Lalat, MTU - 1010, JGI –1798 etc.

Crop varieties of Himachal Pradesh

- **Wheat:** HPW-89,147 VL-738 and HS-240.
- **Barley:** HBL-316 and Dolma.
- **Oat:** Palampur-1.
- **Cabbage:** Snow ball K-1, Palam Uphar, Golden Acre.
- **Knol khol:** White Viena.
- **Broccoli:** Palam Kanchan, Palam Vichitrta and Palam Samridhi.
- **Cauliflower:** Pride of India.
- **Peas for nursery sowing:** Mater ageta-6.
- **Raddish:** Japani white and Early Mino White.
- **Turnip:** PTWG-1.
- **Peas:** Agad, Lincoln and Priya.

Crop varieties of Maharashtra

- **Wheat:** HD-2189, MACS-3185, NIAW-301 (Trimbak), NIDW-295 (Godawari).

- **Mustard:** Pusa Bold and Varuna.
- **Sunflower:** Modern, SS-56, BSH-1 etc.