

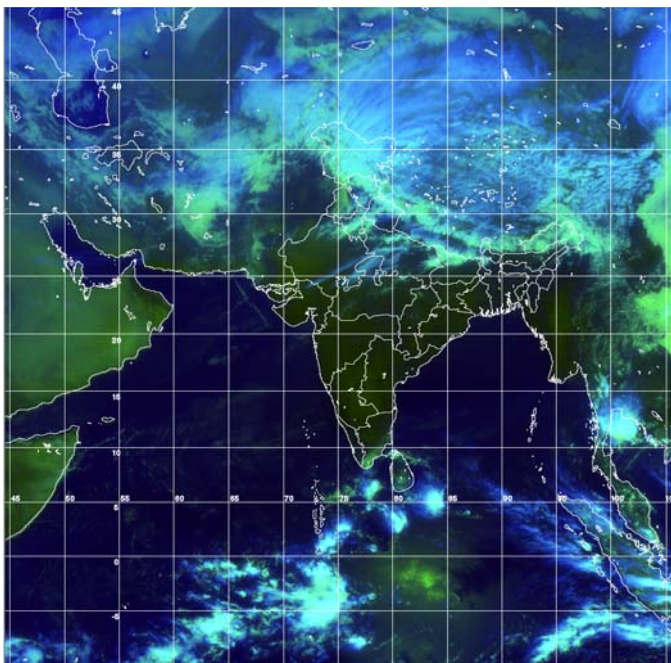


National Agromet Advisory Bulletin

Thursday, 3rd March, 2011

(For the period 3rd to 7th March, 2011)

Satellite image 0600 UTC Dated
4th March, 2011



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.gov.in>) of the Division

Executive Summary

Widespread rain / snowfall has occurred over Jammu & Kashmir and Himachal Pradesh and scattered over Uttarakhand. Fairly widespread rainfall has occurred over Punjab and Delhi and isolated over Haryana, Rajasthan, West Uttar Pradesh and East Madhya Pradesh. Isolated heavy rain / snow would occur over Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 48 hours and isolated hailstorms / thundersqualls may occur over Punjab, Haryana, north Rajasthan and Uttar Pradesh during next 48 hours. These spells of rainfall were useful to the standing crops like wheat and other *rabi* crops. Temperature was also near normal in the region.

Hail storm occurred over some pockets of Ahmednagar and Beed districts of Maharashtra during the week. This has caused some damage to standing crops like wheat, jowar, gram, maize, sugarcane, vegetable and fruit crops (mango, grapes etc.).

Due to high wind in Coastal and Hill zones of Karnataka, standing rice and banana crops are likely to be affected. Farmers are advised to provide staking in banana to protect the crops.

As dry weather is likely to prevail over most parts of the country, farmers are advised to complete intercultural operations utilizing the favourable weather conditions. Harvesting of maize, ragi, groundnut and jowar in Karnataka and maize and gram in Madhya Pradesh may be undertaken during next three days taking the advantage of dry weather. Surface mulching with crop residues may be made in order to reduce loss of water through evaporation.

Weather condition is favourable for sowing of summer moong, urd, sugarcane, fodder crops, water melon and musk melon, cucurbitaceous vegetables, transplanting of brinjal, chillies in Madhya Pradesh, planting of potato in Nilgiri hills of Tamil Nadu and summer moong, vegetable crops in Bihar. Farmers are advised to undertake land preparation and sowing of these crops.

Due to congenial weather conditions there is report of incidences of aphids, leaf spot and powdery mildew in beans in High Altitude zone of Tamil Nadu, leaf eating caterpillar in coriander in Scarce Rainfall zone of Andhra Pradesh, fruit fly in vegetables in Central Zone of Kerala and aphids in safflower in Madhya Maharashtra, *Heliothis* in gram in Madhya Maharashtra, Marathwada and Vidarbha. Farmers are advised to adopt appropriate plant protection measures to avoid severe crop damage.

Distribution of rainfall for the districts of Himachal Pradesh, Punjab, Haryana, Jammu & Kashmir, East Uttar Pradesh, West Uttar Pradesh, Uttarakhand, during last Week

State/Districts	Actual (mm)	% Departure 02.03.11
Himachal Pradesh		
Bilaspur	9.3	-40
Chamba	41.8	27
Hamirpur	9.5	-32
Kangra	10.2	-57
Kinnaur	47.6	119
Kullu	56.8	337
Lahaul and Spiti	6.8	-83
Mandi	17.7	-2
Shimla	16.4	16
Sirmaur	7.1	-22
Solan	16.3	-13
Una	0.0	-100
Punjab		
Amritsar	3.9	-54
Bhatinda	8.0	109
Faridkot	5.2	136
Fatehgarh Sahib	1.8	-55
Ferozpur	4.6	38
Gurdaspur	3.5	-75
Hoshiarpur	0.5	-95
Jalandhar	0.2	-97
Kapurthala	1.0	-64
Ludhiana	1.8	-72
Moga	5.8	132
Muktesar	5.1	87
Nawashahar	0.8	-89
Patiala	8.5	37
Ropar	1.6	-74
Sangrur	13.0	210
Haryana		
Ambala	1.9	-68
Bhiwani	2.5	10
Chandigarh	7.9	-6
Faridabad	0.0	-100
Fatehabad	1.0	-77
Gurgaon	2.3	-31
Hissar	1.5	-53
Jhajar	1.7	-60
Jind	6.8	-39
Katihah	6.2	77
Karnal	4.0	-10
Kurukshetra	4.6	-6
Mahendragarh	0.7	-76
Panchkkula	5.8	-32
Panipat	4.0	-20
Rewari	6.1	105

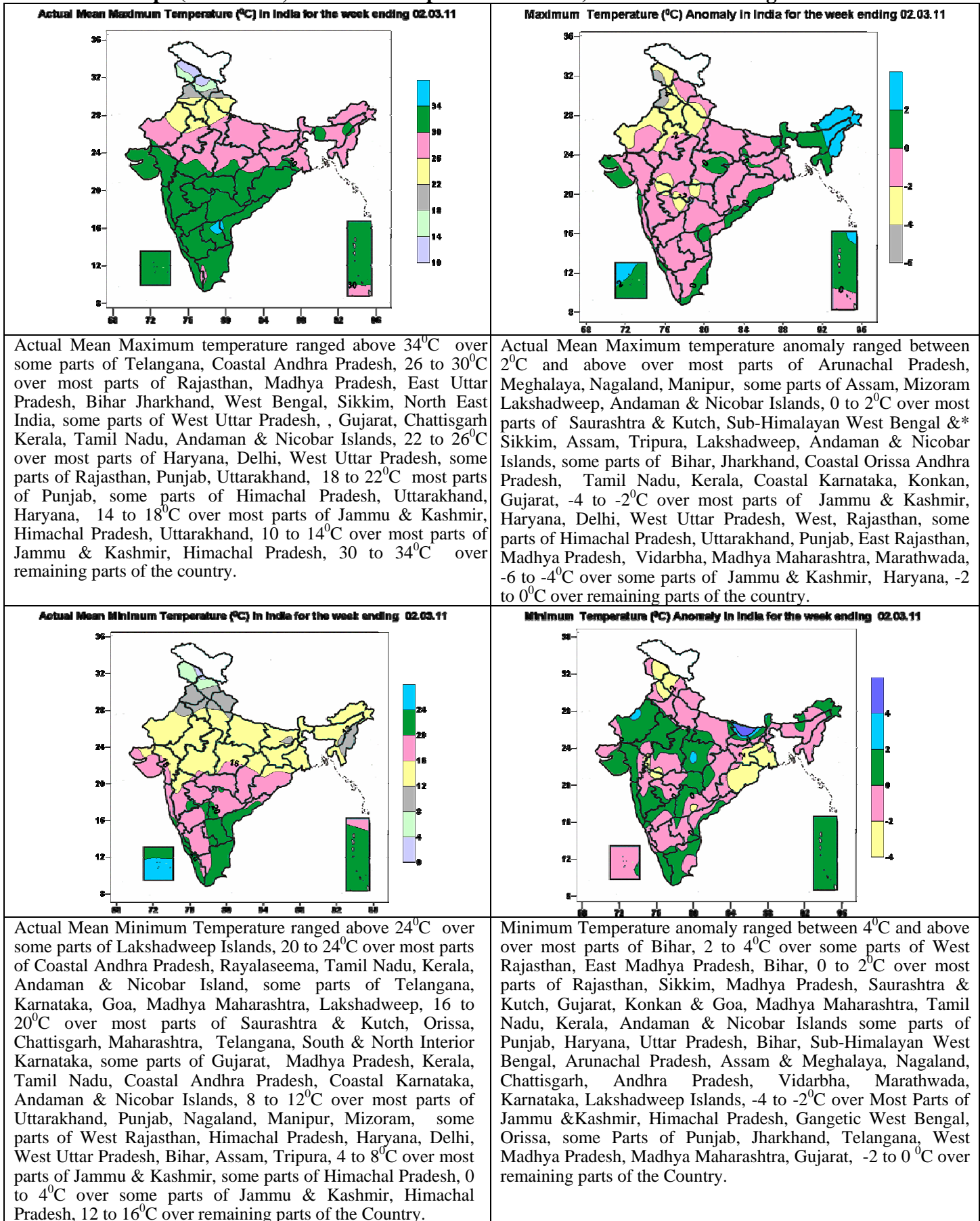
State/Districts	Actual (mm)	% Departure 02.03.11
Rohtak	1.5	-72
Sirsa	7.2	167
Sonepat	9.9	98
Yamunanagar	1.1	-86
New Delhi	6.2	-2
Jammu & Kashmir		
Anantnag	39.6	34
Badgam	14.0	-30
Doda	41.6	-22
Jammu	6.5	-58
Kathua	5.0	-63
Kupwara	47.4	22
Ladakh(Leh)	0.0	-100
Pulwama	9.1	-44
Srinagar	16.5	-11
Udhampur	18.0	-58
East Uttar Pradesh		
Allahabad	3.9	19
Ambedkar Nagar	1.3	-43
Azamgarh	3.2	33
Bahraich	0.0	-100
Ballia	0.1	-94
Balrampur	0.0	-100
Banda	0.0	-100
Barabanki	0.8	-50
Basti	0.8	-53
Deoria	0.0	-100
Faizabad	0.7	-69
Farrukhabad	0.0	-100
Fatehpur	0.0	-100
Gazipur	0.0	-100
Gonda	0.0	-100
Gorakhpur	0.0	-100
Hardoi	0.3	-87
Jaunpur	0.0	-100
Kanpur City	0.7	-65
Kanpur Dehat	0.0	-100
Kheri	0.3	-90
Kushi nagar	0.0	-100
Lucknow	0.7	-61
Maharajganj	0.0	-100
Mau	0.0	-100
Mirzapur	0.3	-89
Pratapgarh	4.0	67
RaiBareilly	0.0	-100
Sant Ravidas Nagar	0.0	-100
Shrawasti	0.0	-100
Sidharthnagar	0.0	-100
Sitapur	0.0	-100

State/Districts	Actual (mm)	% Departure 02.03.11
Sonbhadra	0.0	-100
Sultanpur	1.7	-38
Unnao	2.0	-9
Varanasi	1.8	6
West Uttar Pradesh		
Agra	2.3	32
Aligarh	1.1	-59
Auraiya	0.0	-100
Badaun	0.6	-74
Baghpat	7.6	90
Bareilly	1.0	-66
Bijnor	0.5	-93
Bulandsahar	3.2	-1
Etah	1.0	-47
Etawah	0.0	-100
Firozabad	4.7	292
Ghaziabad	2.5	-51
Hamirpur	0.0	-100
Jalaun	0.0	-100
Jhansi	0.0	-100
Jotirba Phule Nagar	6.5	62
Lalitpur	0.0	-100
Mahamaya Nagar	0.0	-100
Mainpuri	2.5	79
Mathura	1.0	-41
Meerut	2.7	-47
Moradabad	5.2	27
Muzzaffarnagar	1.0	-66
Pilibhit	0.0	-100
Rampur	3.4	-41
Saharanpur	9.0	157
Shahjahanpur	0.2	-91
UttaraKhand		
Almora	0.0	-100
Chamoli	2.2	-87
Champawat	0.0	-100
Dehradun	12.6	36
Garhwal Pauri	0.2	-97
Garhwal Tehri	0.8	-94
Haridwar	2.0	-80
Nainital	4.3	-51
Pithorgarh	4.6	-63
Rudraprayag	7.0	-47
Udham Sing Nagar	0.0	-100
Uttarkashi	5.7	-67

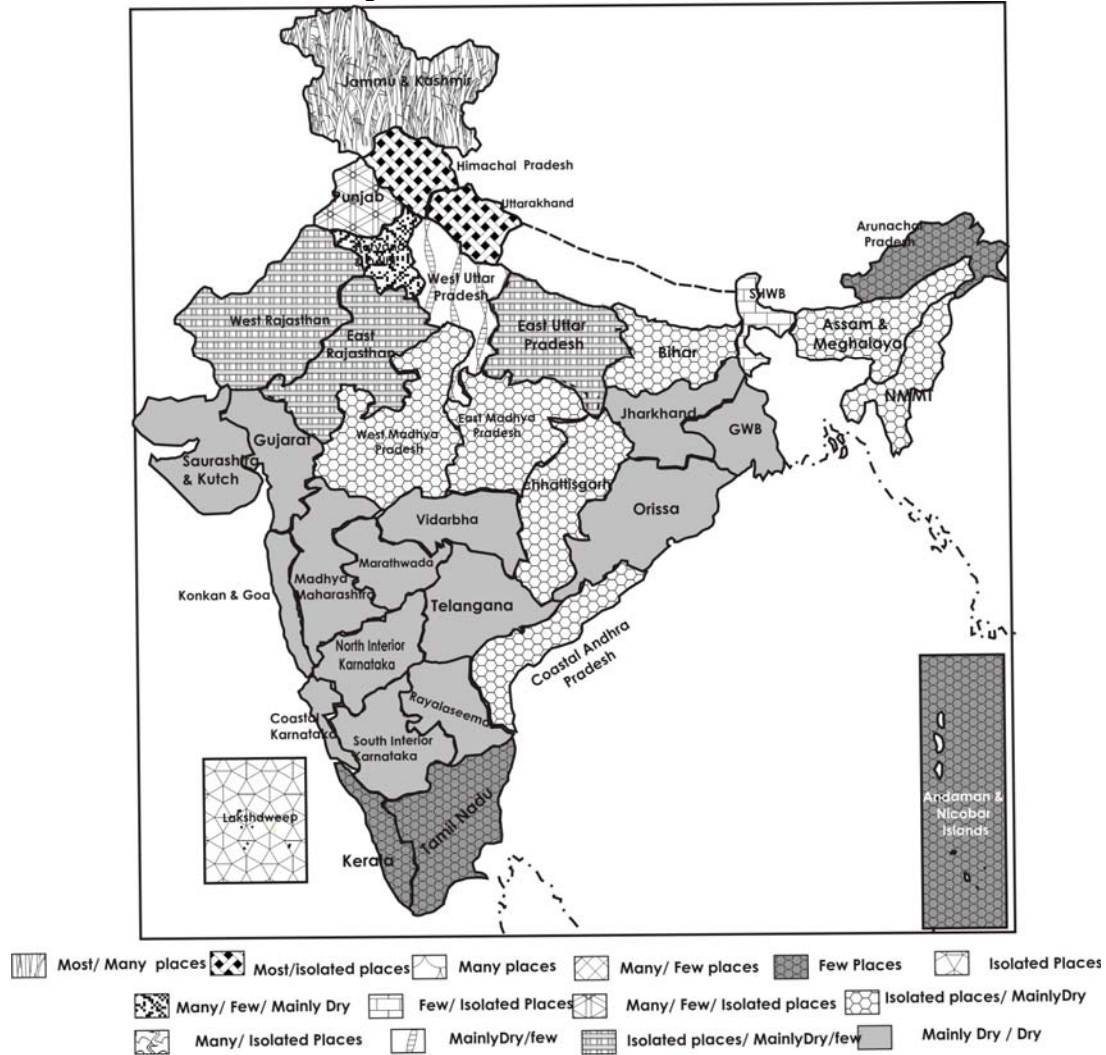
LEGEND

- EXCESS 20% OR MORE
- NORMAL +19% TO - 19%
- DEFICIENT - 20% TO - 59%
- SCANTY - 60% TO - 99%
- NO RAIN - 100%
- DATA NOT AVAILABLE

Contour maps (Maximum, Minimum temp. and anomalies) for the week ending 02.03.2011



Weather Forecast (Valid upto 1430 hours of 6th March, 2011)



Major Feature of Weather Forecast (upto 1430 hours IST of 6th March, 2011)

- Widespread rain/snowfall would occur over Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 48 hours and decrease thereafter.
- Fairly widespread rain/thundershowers would occur over Punjab and scattered over Haryana, Delhi, Uttar Pradesh and north Rajasthan and isolated over rest parts of northwest India during next 24 hours and decrease thereafter.
- Scattered rain/thundershowers would occur over Kerala, Tamilnadu, Andaman & Nicobar Islands, Arunachal Pradesh and Sikkim.
- Minimum temperatures would fall by 2 - 3°C over northwest India and the maximum temperatures would rise by the same amount over plains of northwest and adjoining central India on 5th onwards for next 2 days.

Weather Warning

- Isolated heavy rain/snow would occur over Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 48 hours.
- Isolated hailstorms/thundersqualls may occur over Punjab, Haryana, north Rajasthan and Uttar Pradesh during next 48 hours.

Weather Outlook (upto 1430 hours IST of 8th March, 2011)

- Scattered precipitation would occur over Arunachal Pradesh and isolated over Jammu & Kashmir.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Weather remained mainly dry over the States of the region during the period..
- **Rainfall Forecast:** Rain is likely to occur at a few places over Sub Himalayan West Bengal and Sikkim during next 48 hours and decrease thereafter. Dry or mainly dry weather is likely to prevail or isolated rain will occur during the period over the remaining States of the region.
- **Advisories:**
 - As there was no significant rainfall during last week over the States of the region and no significant rainfall is likely during next three days, farmers are advised to apply irrigation to wheat at milk / dough stage and also to the summer vegetables and other summer crops like green gram, sesame, ground nut, sunflower etc.
 - Taking the advantage of dry weather, harvest already matured crops of *toria*, mustard, potato, pulses etc. in Bihar. Apply irrigation during tasseling and silking stage in maize and at milk / dough stage of wheat. Also undertake intercultural operations and apply fertilizers in standing onion crop before applying irrigation.
 - Due to dry weather, fruit drop is appeared as a common problem in mango in North Eastern Coastal Plain Zone of Orissa. Spray water by pedal sprayer during forenoon hours to prevent fruit drop.
 - In Orissa, the weather is optimum for planting of papaya, marigold etc. and sowing of summer groundnut and sunflower.
 - Prepare the field and undertake sowing of green gram, planting of sugarcane and sowing of summer vegetable crops like bhindi, bitter gourd, sponge gourd, pumpkin, cucumber etc. in Bihar.
 - Farmers in West Bengal are advised to undertake field preparation and sowing of groundnut, green gram, sesame and sunflower and also planting of *Gladiolus*. Adopt seed rate of 3.5 kg per bigha for green gram and 1 kg per bigha for sesame.
 - Prepare the field and undertake sowing of summer vegetable crops like long gourd, round gourd, ridge gourd, bitter gourd, sponge gourd, cucumber, water melon and musk melon, *okra*, brinjal and shimla mirch in Jharkhand.
 - After potato crops, summer green gram may be sown in case of limited irrigation facility in Western Plateau Zone of Jharkhand. Summer vegetables like bhindi, tomato, brinjal etc. may be grown in the same field if sufficient irrigation facilities are available.
 - Prepare the field and undertake sowing of *kharif* maize in Sikkim.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - Cloudy weather may also favour occurrence of powdery mildew disease in field pea in South Eastern Plateau Zone of Jharkhand; spray Kerathen @ 1 ml or Sulfex WP @ 3 g per liter of water. Clear sky with cold and humid weather after cloudy days may favour attack of mango hopper in mango and litchi; spray Metasistox @ 1 ml or Kung-fu or Karate or Matador (Lambda cyhalothrin) @ 2 g per liter of water to minimize the affect of insects.
 - Under prevailing weather, there is chance of leaf blight and collar rot in pointed gourd in New Alluvial Zone of West Bengal. To prevent the disease, apply 1 ml Ridomil or Indofil-M-85 per litre of water at an interval of three weeks. There is also possibility of infestation of sap sucking insects in mango. Apply Carbaril @ 2 g per litre of water or Monocrotophos @ 1.5 g per litre of water as control measure.
 - Current weather is favourable for infestation of leaf eating caterpillar and thrips in groundnut in Western Undulating Zone of Orissa. To control, spray Imidacloprid @ 0.5 ml / litre of water.
 - Stages of major crops are mentioned in Annexure I.
 - **Animal Husbandry**
 - Under present environmental condition, vaccination may be undertaken for prevention of FMD disease in cattle, pig and buffalo in South Eastern Plateau Zone of Jharkhand. During lean fodder phase preserve crop residues. Also protect fowls from ranikhet disease by administering vaccine. For swine fever prevention in pig, vaccination should be done by consulting veterinarian.

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

- **Realised Rainfall:** No significant rain occurred during last week over the states of the region.
- **Rainfall Forecast:** Rain is likely to occur at a few places in Arunachal Pradesh and mainly dry weather is likely to prevail or isolated rain will occur in remaining States of the region during the period.
- **Advisory:**
 - As there was no significant rain in most of the districts of the States of this region except Arunachal Pradesh and mainly dry weather is also likely to prevail over these States, farmers are advised to apply irrigation to the standing crops.
 - On account of fair weather forecast, harvesting of potato, rapeseed and mustard, *toria* etc. should be completed in Assam.
 - In view of prevailing dry weather, apply irrigation to wheat at milk / dough stage in Assam.
 - Irrigate the *boro* rice to maintain 3-5 cm standing water in the fields as there is no prediction of rainfall in Assam, Tripura and Manipur.
 - Due to reduced moisture, condition is favourable for cracking in banana and tomato in Mizoram. The cracking may be minimized by proper mulching and nutrient management, especially with application of boron.
 - Undertake nursery sowing of early *ahu* rice, green gram, black gram, jute and early summer vegetables in Assam.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - Wilt disease in lentil crop is observed in some areas of Central Brahmaputra Valley Zone in Assam. Farmers are advised to protect their crops by soil drenching with Bavistin @ 1 g / litre water.
 - Under the prevailing weather condition in Manipur, there is likely occurrence of early blight in tomato; spray Dithane M-45 (Mancozeb) @ 2 g / litre of water twice at 7 days interval.
 - Due to continuous increase in temperature, there is possibility of infestation of purple blotch in onion in Mizoram. To control purple blotch, spray the crop with 1.3 kg of Indofil M 45 mixed with 400 ml of linseed oil as sticker in 600 liters of water / ha.
 - As temperature is increasing, there are chances of thrips attack in *boro* rice in Meghalaya. If thrips appear, spray Chloropyrifos @ 1-2 ml / litre of water.
 - Undertake intercultural operation and apply fertilizers and plant protection measures in Arunachal Pradesh on a non-rainy day.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry:**
 - In Nagaland, as the prevailing weather is favourable for contagious viral diseases, farmers are advised to monitor cattle, buffalo, sheep, goat and pigs. Crossbreds and young cattle may be severely affected. To prevent the outbreak of these diseases, make sure to vaccinate the animals against this disease.

NORTHWEST INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]

- **Realised Rainfall:** Rain occurred in some districts of Himachal Pradesh, Jammu & Kashmir, light rainfall occurred in many districts of remaining States except West Rajasthan and East Rajasthan where mainly dry weather prevailed during last week.
- **Rainfall Forecast:** Widespread rain/snowfall would occur over Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 48 hours and decrease thereafter. Fairly widespread rain/thundershowers would occur over Punjab and scattered over Haryana, Delhi, Uttar Pradesh and north Rajasthan and isolated over rest parts of northwest India during next 24 hours and decrease thereafter. Isolated heavy rain/snow would occur over Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 48 hours. Isolated hailstorms/thundersqualls may occur over Punjab, Haryana, north Rajasthan and Uttar Pradesh during next 48 hours.
- **Advisory:**
 - Rainfall is likely at many places in Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 48 hours and decrease thereafter. Rainfall is also likely at many places over Punjab during next 24 hours and decrease thereafter. Farmers are advised to postpone irrigation in the above States. As isolated heavy rain/snow would occur over Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 48 hours, farmers are advised to provide adequate drainage facilities to avoid waterlogging in the above States.

- Farmers in Srinagar valley temperate zone of Jammu & Kashmir are advised to undertake sowing of tomato, cauliflower, cabbage, knoll-khol, kale and leafy vegetables like orach, spinach and methi in poly house. Pruning of apple may be done if not done earlier and apply white lead paint.
- Farmers in Srinagar advised to undertake sowing of bhindi and water melon and plantation of new orchards during these days.
- Farmers in Punjab and Haryana are advised to start sowing of sugarcane from this week due to favorable weather conditions.
- In Mid Hills Sub-Humid of Himachal Pradesh, farmers are advised to prepare nursery beds for sowing of tomato, capsicum, chilli, brinjal. Earthing up may be done after current spells of rain in peas onion and garlic fields to keep free from weeds. In mid hill region nursery sowing of cucurbits viz. cucumber, bitter gourd, bottle guard and summer squash in polytubes inside polyhouse can be done. Nursery sowing of Mirchi and brinjal may be done in the polyhouses. Sowing of potato should be taken up utilizing realized rainfall in mid hills and lower regions.
- Farmers in Bhabar and Terai Zone (Nainital and Udamsingh Nagar districts) are advised to continue harvesting of matured french beans. Farmers are advised to prepare field for sowing of moong and sunflower utilizing the realized rainfall during last week.
- Farmers in Delhi are advised to undertake field preparation and undertake sowing of green gram and black gram.
- Farmers in Rajasthan are advised to prepare field for sowing of maize, groundnut, fodder crops etc. in Southern humid plain zone (Banswara district), cucurbits, zaid pearl millet fodder, zaid sorghum fodder, zaid green gram and okra in semi-arid western plain zone (Jaipur Division).
- Farmers in Uttar Pradesh are advised to undertake sowing of sunflower and summer vegetables like lady finger, gourd and moong. Farmers in Western (Modipuram) and Eastern plain zone (Faizabad) are advised undertake harvesting of palak, fenugreek, coriander and harvesting of potato and prepare the land for sowing of urd or moong, tomato and carrot.
- Weather is favourable for attack of aphids in ghobi sarson, late blight in potato in Himachal Pradesh, for control apply rogar @ 1ml per litres of water.
- Due to humid weather, there is possibility of incidence of white rust in late sown mustard crop in eastern Zone of Haryana and hence farmers are advised to monitor the crop.
- In Punjab, present weather conditions are favourable for the incidence of yellow rust and attack of aphid and jassid in wheat. Farmers are advised to monitor the crop and spray Imidachloprid 200SL @ 40 ml/10 litres of water.
- In Eastern Plain Zone (Faizabad) of Uttar Pradesh, wheat is damaged by rats, farmers are advised to use poisonous bait of a mixture containing 1 part Zinc Phosphide, 1 part mustard oil and 48 part grains or Barium Carbonate 100 gm, wheat flour 860 gm, sugar 15 gm and 25 gm of mustard oil.
- Weather conditions are favourable for the incidence of Bhunga Gujiya and Dahiya disease in mango in Eastern Plain Zone (Faizabad) of Uttar Pradesh, farmers are advised to spray 2 gm soluble sulphur and 1 ml Monochrotophos in 1 lit. water. Remove infested leaves / small flowers from mango tree.
- In Bhabar and Terai Zone of Uttarakhand, under present weather conditions sporadic incidence of aphid are reported in mustard, farmers are advised to spray systemic insecticide.
- Weather conditions are favourable for incidence of aphid in mustard and vegetables in Delhi. Farmers are advised to monitor the crops and undertake spraying of Imidacloprid @ 0.25 to 0.5 ml per litre of water in vegetable crops after harvesting of mature fruits and Metasystox @ 1 ml per litre of water in mustard crop.
- Mango hopper may attack mango plants in Jaipur division of Rajasthan under prevailing weather conditions, to control the pest spray Malation 50 EC @ 1.0 ml or Endosulfan 35 EC @ 1.5 ml per litre water.
- Attack of Jhulsa (Alternaria blight) and Chhachaya are reported on Jeera in Jodhpur division of Rajasthan, farmers are advised to spray 2 gm Mancozeb and 2 gm soluble Sulphur per litre of water.

- **Realised Rainfall:** Mainly dry weather prevailed during last week in all the States except in Kannur, Kasargod, Kozhikode and Mallapuram in Kerala and Coimbatore and Thirunelveli in Tamilnadu where excess rainfall was received.
- **Rainfall Forecast:** Dry weather is likely to prevail over the region except in Kerala and Tamilnadu where rain is likely to occur at a few places.
- **Advisories:**
 - As there was no significant rainfall in the region except Kannur, Kasargod, Kozhikode and Mallapuram in Kerala and Coimbatore and Thirunelveli in Tamilnadu, farmers are advised to apply irrigation to the standing crops. Postpone irrigation in the above districts as there was excess rainfall during last week.
 - Farmers in Scarce Rainfall Zone of Andhra Pradesh are advised to complete harvesting of groundnut. After harvesting ploughing may be undertaken to conserve moisture and destroy insect pupa and pathogens. Also transplanting of rice seedlings may be undertaken when the seedlings attain proper age.
 - Due to high wind speed conditions, farmers in Coastal and Hill Zones of Kerala are advised to provide mechanical support to standing crops like banana.
 - As there are chances for light rainfall in Eastern Dry Zone in Karnataka, farmers are advised for arranging for proper storage facilities after the harvest of crops.
 - Farmers in High Altitude Zone of Tamil Nadu are advised to undertake planting of potato and undertake harvesting of carrot.
 - Farmers in Cauvery Delta Zone of Tamil Nadu are advised to undertake spraying of 2% DAP as the crop is at flowering stage to enhance pod setting.
 - Due to increase in humidity in Central Zone of Kerala, there are chances for the incidences of bacterial leaf blight in rice, stem bleeding and bud rot in coconut and leaf spot in banana. Also fruit fly attack is reported in vegetable crops. Farmers are advised to undertake plant protection measures to control the pests and diseases.
 - Due to dry weather conditions prevailing over Scarce Rainfall Zone of Andhra Pradesh, there are chances of attack of scales and mites in maize and leaf eating caterpillar in coriander. Farmers are advised to monitor the crops for the attack and undertake plant protection measures.
 - Undertake plant protection measures on a non rainy day in Tamil Nadu and Kerala.
- **Animal Husbandry:**
 - Due to variation in temperature in Eastern Dry zone, farmers are advised to protect the animals by providing proper shading arrangements.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall:** Untimely rain with hailstorm occurred over some pockets of Madhya Maharashtra and Marathwada during last 4-5 days. Mainly dry weather prevailed over remaining part of Maharashtra and also in Gujarat State during last week.
- **Rainfall forecast:** Dry or mainly dry weather is likely to prevail over the States of the region during the period.
- **Advisory:**
 - As mainly dry weather prevailed over the States during last few weeks and dry or mainly dry weather is likely to prevail during the period, farmers are advised to apply irrigation to the standing crops.
 - Recent untimely rain with hail storm (at some places over Ahmednagar and Beed districts) may cause some damage matured jowar, gram, maize, red gram, tomato, wheat, onion and also bunches of grapes and mango blossom. Farmers are also advised to complete the harvesting of the already matured jowar, gram and onion as early as possible and to start harvesting of matured sunflower and safflower.
 - Taking advantage of prevailing weather farmers in Central Vidarbha Zone are advised to undertake planting of watermelon and summer ladies finger.
 - As dry condition prevailed during last few weeks and is likely to prevail, farmers in Gujarat state are advised to irrigate wheat and vegetable crops like brinjal, tomato etc.
 - The farmers in middle Gujarat and North Gujarat region are advised to undertake sowing of green gram and cowpea and continue sowing of summer groundnut.
 - Taking advantage of favourable weather, farmers in south Gujarat heavy rainfall region are advised to undertake planting of summer sunflower.
 - Suitable varieties of the crops are mentioned in Annexure II.

- As weather is dry and there is no possibility of rainfall in Maharashtra, spray 1 % Urea and 1 % Potassium Nitrate at pea stage, marble stage and arecanut size stage to increase the production and quality improvement of mango fruits.
- Due to favourable weather, infestation of aphids, thrips and blight is likely to be increased in onion in Pune division of Maharashtra, spray Neon @ 2 ml or Aciphate @ 0.5 g plus Diathane M-45 @ 2.5 g or Chlorothalonil @ 2 g and sticker @ 0.5 g / litre of water.
- Due to cloudy and rainy weather prevailed during last week, there is chance of attack of powdery mildew on mango blossom in Central Vidarbha zone of Maharashtra; spray Sulphur WS @ 30 g or Dinocap @ 10 ml or Tridemorph @ 5 ml in 10 liters water.
- Due to change in weather, there may be incidence of thrips in mango in South Konkan; spray Spinosid 45 SL @ 25 ml or Dimethoate 30 EC @ 10 ml / 10 litres of water.
- Due to cloudy weather and rise in night temperature, there may be incidence of aphids and powdery mildew in pea in Western Maharashtra Scarcity Zone; spray Confidor @ 4 ml in 10 liters of water against aphids and Sulphur @ 25 g or Dinocap @ 10 ml in 10 liters water to control powdery mildew.
- Weather conditions are favourable for infestation of sucking pests in vegetables in North Gujarat region; spray Dimethoate 30EC 0.1% to control sucking pests in the crop.
- Weather conditions are congenial for infestation of powdery mildew in cumin and coriander crops in South Saurashtra region of Gujarat state; spray hexaconazol 10 ml in 10 liters of water to control the disease.
- Stages of major crops are mentioned in Annexure I.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Weather remained dry during last week in the region. Isolated rainfall occurred over Chhattisgarh.
- **Rainfall Forecast:** Dry weather is likely to prevail over the region.
- **Advisory:**
 - Taking the advantage of dry weather, farmers are advised to apply irrigation to the standing crops as there is chance of increase in temperature.
 - Due to above normal temperatures, the evaporation rates has increased during past 4-5 days (5 mm/day) and thereby the water requirement of rabi crops has also increased. Therefore, farmers are advised to apply irrigation (particularly in wheat crop) to maintain proper soil moisture and microclimate within the crop canopy, so that the adverse effect of higher temperature or thermal stress can be minimised. The farmers who have drip irrigation system for vegetables and plantation crops should regulate the water discharge rate accordingly to maintain proper soil moisture around root zone.
 - Farmers in Jhabua Hill Zone are advised to sow summer moong, urd, cucurbitaceae vegetables, watermelon, muskmelon, okra and prepare nursery of summer onion. Also farmers in Kymore Plateau and Satpura Hill Zone are advised to sow rabi vegetables.
 - Farmers in Vindhya Plateau Zone are advised to sow short duration varieties of carrot and radish and transplant vegetables. Farmers in Nimar Valley Zone are advised for sowing of cucurbitaceous crops, transplanting of brinjal and chilli and planting of sugarcane and fodder crops.
 - Farmers in Northern Hill Zone in Chattisgarh are advised to prepare land for planting of sugarcane and sowing of rabi vegetables and cucurbitaceous crops.
 - Farmers in Chattisgarh Plain Zone are advised for sowing of cucurbitaceous crops, sowing of leafy vegetables short duration varieties of carrot and radish and complete sowing of sunflower as early as possible. As the average temperature is now suitable for proper germination of summer vegetables like pumpkin, bitter gourd, bottle gourd, okra etc., sowing of these vegetables should be completed at the earliest. Also prepare well pulverized field for sowing of sugarcane.
 - Weather is congenial for leaf curl disease in tomato and chilli in Gird and Bundelkhand Zone of Madhya Pradesh, farmers are advised to spray Methyl demeton 25 E.C. @ 2.0 ml. or Emidachloprid @ 0.5 ml. per litre of water.
 - In Powerkheda region of Madhya Pradesh, spray Phorate 10G 3.0 KG per acre as wheat crop is infected by Mahu and also infected by Dimak, spray Chlropayrifas 20 EC in 1 lit after irrigation.
 - Weather is congenial for leaf eating caterpillar in coriander and white fly in chilli in Northern Hill Zone of Chattisgarh, spray Methyl Demeton 2 ml or Emidachloroprid 0.5 ml per litre of water.

Animal Husbandry & Poultry

- There is possibility of increase in day temperature in Bundelkhand Zone of Madhya Pradesh; farmers are advised to protect the sheep shearing. Also balanced diet should be given to the buffaloes and cows so that milk production is not affected by the fluctuating weather.

Annexure I Major Crops

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

- Gram (pod maturity / harvesting), mustard and sarson (pod maturity / harvesting), wheat (flowering / milk / dough), maize (tasseling / silking / cob formation), potato (tuber maturity / harvesting), vegetables like cauliflower, cabbage (head formation / maturity), chillies, tomato (fruiting / harvesting), palak, carrot, radish etc. (harvesting), barseem, lucerne, oat (vegetative), sugarcane (planting), *boro* rice (tillering), green gram, maize (sowing / early vegetative), summer vegetables like bhindi, bitter gourd, sponge gourd, pumpkin, cucumber etc. (sowing) in Bihar.
- Arhar and green pea (pod maturity / harvesting), wheat (milk / dough), potato (tuber maturity / harvesting), *toria*, mustard (pod maturity / harvesting), pea, lentil and gram (pod maturity / harvesting), onion (bulb enlargement stage), tomato (fruiting / harvesting), cabbage and cauliflower (head formation / harvesting), chilli and brinjal (transplanting / early vegetative), summer rice (tillering), summer vegetables (sowing / transplanting / early vegetative), summer green gram (land preparation / sowing), sugarcane (planting), mango and litchi (flowering) in Jharkhand.
- *Rabi* vegetables (fruiting / harvesting), *rabi* oilseeds like groundnut (pod maturity / harvesting), mustard and sunflower (pod maturity / harvesting), arhar (pod maturity / harvesting), wheat (milk / dough), potato (tuber maturity / harvesting), *rabi* pulses like gram, lentil and field pea (pod maturity / harvesting), sugarcane (harvesting), *boro* rice (tillering), maize (sowing / vegetative), green gram, groundnut, garlic, sesame, sunflower (sowing / early vegetative), mango (planting), papaya, summer marigold (planting) and summer cow pea (sowing / early vegetative) and summer vegetables (sowing / early vegetative) in Orissa.
- *Boro* rice (tillering), wheat (milk / dough), arhar (pod maturity / harvesting), mustard (pod maturity / harvesting), potato (tuber maturity / harvesting), lentil, pea, Bengal gram (pod maturity / harvesting), mango (flowering), *rabi* vegetables like cabbage and cauliflower (head formation / harvesting), groundnut, sesame, sunflower (sowing / early vegetative) and summer vegetables like ladies finger, *Kakrol*, amaranthus, spinach, various leafy vegetables, brinjal, chili (sowing / early vegetative) in West Bengal.
- Large cardamom (vegetative lag phase), orange (end harvesting), wheat (flowering / milk / dough), *rabi* potato (tuberization / early maturity), ginger (harvesting), *rabi* vegetables (flowering / fruiting / harvesting), mustard (seed maturity / harvesting), seed potato, maize (sowing / germination / early vegetative) in Sikkim.

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

- Cole crops like cauliflower and cabbage (head formation / maturity / harvesting), sugarcane (cane development), potato (late planted) (tuber maturity), rapeseed and mustard (pod maturity / harvesting), *boro* rice (early tillering / tillering), wheat (milk / dough), early *ahu* rice (nursery sowing / seedling) and maize (sowing) in Assam.
- Tomato (fruiting / maturity / harvesting), pea (pod maturity), maize (vegetative) and potato (tuber maturity / harvesting), mustard (pod maturity / harvesting) and orange (maturity) in Arunachal Pradesh.
- Summer vegetables (sowing / early vegetative) and *boro* rice (tillering), potato (tuber maturity / harvesting) in Tripura.
- *Boro* rice (tillering), *rabi* vegetables (fruiting / harvesting), rapeseed and mustard (pod maturity / harvesting), *rabi* maize (vegetative), *rabi* maize at medium and low altitudes (harvesting), wheat (milk / dough), winter potato (tuber formation / maturity), winter potato at high altitude (harvesting) and summer vegetables (sowing / early vegetative) in Meghalaya.
- Rice (sowing), *rabi* maize (vegetative / pre-flowering), mustard and rapeseed (pod maturity / harvesting), field pea (pod formation / maturity), onion (vegetative / bulb formation), cauliflower and cabbage (head formation / harvesting), tomato (transplanting / early vegetative) and potato (tuber maturity / harvesting) in Manipur.

- *Khasi* Mandarin (vegetative), banana (vegetative / fruiting / maturity), onion (vegetative), pea (pod formation / maturity / harvesting), beans (pod formation / harvesting), carrot and radish (harvesting), tomato, chilli and capsicum (flowering / fruiting / harvesting), cole crops (head formation / harvesting), ginger, turmeric (harvesting) and maize (cob formation / maturity) in Mizoram.
- Cabbage (heading / harvesting), potato (vegetative), pea (fruiting / harvesting), mustard (pod maturity / harvesting), *toria* (pod maturity / harvesting) and papaya and tomato (fruiting) in Nagaland.

NORTHWEST INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]

- Wheat (flag leaf / flowering), mustard, pea and gram (pod formation), broccoli, cauliflower, cabbage and onion (early vegetative / vegetative), tomato, chilli, brinjal & cucurbits crops (nursery) and lentil (pod formation) in Delhi.
- Wheat (flowering), potato (vegetative / tuber initiation / tuber formation), vegetables (flowering / fruiting / harvesting), garlic (planting) in Himachal Pradesh.
- Gram (flowering/grain formation), berseem (vegetative), oats (flowering), wheat, barley (jointing / flag leaf stage/ear head formation), very late sown wheat (CRI stage), lentil (vegetative/flowering), field pea (flowering/pod formation), *toria* (maturity / harvesting), mustard (pod formation), late sown mustard (pod formation / flowering), vegetable crops like tomato, chilli, brinjal, cucurbits (vegetative / flowering), onion (vegetative), cauliflower, cabbage, carrot (fruiting) in Jammu & Kashmir.
- Sugarcane (maturity / harvesting), wheat (flag leaf /ear head emergence stage), potato (tuber initiation / maturity / harvesting), *toria* (maturity / harvesting), mustard, chickpea (flowering / pod formation), barley (tillering), garlic, seasonal vegetables (vegetative / flowering), onion (vegetative), pea (harvesting), chilli, tomato (sowing / transplanting), lahi (flowering / fruiting) in Uttarakhand.
- Sugarcane (maturity/harvesting), spring sugarcane (germination), berseem (vegetative), wheat (booting / heading), barley (heading), lentil, gram (flowering/head formation), African sarson (flowering/pod formation), radish (vegetative), ghobi sarson (vegetative), oilseeds (raya, taramira) (pod formation/ maturity), papaya, onion (transplanting), vegetables (sowing) in Punjab.
- Sugarcane (spring season) (sowing), wheat (flag leaf), berseem (vegetative), gram (pod formation / seed formation), rapeseed, mustard (maturity) in Haryana.
- Wheat (flag leaf /flowering/ grain formation), barley, oats (tillering/flowering), *toria* (pod formation / maturity), mustard, sarson, arhar (flowering / pod formation), potato (vegetative / tuber formation), field pea, chick pea, lentil, linseed (late vegetative / flowering), winter sugarcane (vegetative), winter vegetables like carrot, garlic, onion (vegetative), tomato, brinjal (flowering / fruiting), cabbage, cauliflower (flowering / fruiting / maturity / harvesting), vegetable pea (flowering / pod formation) etc. in Uttar Pradesh.
- Sugarcane (maturity / harvesting), winter sugarcane (initial growth), wheat (ear head emergence / grain formation(Jaipur), oats, barley (tillering / ear head emergence), taramira (flowering / pod formation / maturity (Jodhpur), mustard (flowering / pod formation / maturity (in Jodhpur, Bharatpur), gram (flowering / pod formation), lentil (vegetative / flowering), ajwain, fenugreek and isabgol (vegetative), potato (tuberization), cabbage, cauliflower (late vegetative / head formation), tomato (flowering/ fruiting) in Rajasthan.

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

- Rice (grain development/maturity), pulses (pod initiation / development), rice fallow black gram (flowering), maize (harvesting), sorghum (harvesting), groundnut (late vegetative), cotton (boll development), sugarcane (vegetative) in Tamil Nadu.
- Sugarcane (ratooning), pigeon pea (harvesting), Bengal gram (pod formation/ maturity/harvesting) bitter gourd (fruiting), cotton (boll formation/ picking), sunflower (head filling), safflower (flowering), wheat (Earhead emergence / maturity), jowar (maturity), mango (flowering/fruiting) in Karnataka.
- Vegetables (flowering / fruiting), rice (seedling), pepper, ginger, coconut (harvesting) in Kerala.
- Bengal gram (pod development to maturity), rice (panicle initiation), red gram (pod development), sunflower (seed development), groundnut (pod development) in Andhra Pradesh.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Jowar (maturity / harvesting), safflower (seed maturity), gram (pod maturity / harvesting), sunflower (head maturity), maize (cob maturity), irrigated wheat (dough formation / dough maturity), sugarcane-*adsali* (active tillering), sugarcane-pre seasonal (early growth), sugar cane-*suru* (planting / sprouting), summer rice (early tillering in Konkan and East Vidarbha), summer groundnut (early vegetative / vegetative in Konkan and sowing / germination in other divisions), summer sunflower (sowing / germination), summer maize (sowing / germination), bajra (early vegetative).
- Mustard (pod maturity / harvesting), pigeon pea (seed maturity / harvesting), gram (pod maturity / harvesting), potato (tuber maturity / harvesting), brinjal and tomato (fruiting / harvesting), cumin (seed formation / maturity), early sown wheat and timely sown wheat (dough), late sown wheat (milk / dough), sugarcane (sprouting / early vegetative) and summer groundnut (sowing / early vegetative) in Gujarat.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Wheat (grain formation), mustard (maturity), chickpea (pod formation), pigeon pea (pod formation), sugarcane (planting / early vegetative), cotton (boll formation), maize (milky/ dough), onion (nursery preparation / transplanting), gram/linseed (fruiting/ harvest), okhra (sowing) in Madhya Pradesh.
- Pigeon pea (pod development), gram (pod formation / development), wheat (grain formation / milky), mustard (maturity /early harvest), sunflower (sowing), sugarcane (vegetative) in Chattisgarh.

Annexure II

List of Varieties

Bihar

Bhindi: Parvani Kranti, Arka Abhay, Arka Anamika, KS 312 and hybrid varieties such as Bhawani, Krishna, Lam Hybrid, Hybrid 6, Hybrid 8, Indranil.

Green gram: Pusa Baishakhi, T-9.

Orissa

Summer maize: Dhabal and Navjot and Hybrid varieties like Ganga, Deccan 105, Kargil 900-M, PRO 345, Kargil 633.

Summer groundnut: Smruti (OG 52-1), Phule Pragati, ICGS-44, TAG-24, TG-3, TMV-2 and TG 38.

Summer Sunflower: High yielding variety like Modern and hybrid varieties like PAC 36, KBSH, MSFH-8 and MSFH 17.

Green gram: PDM 11, PDM-54, Pusa Baisakhi.

Sesame: Uma, Kalika, Nirmala, Prachi and Usha.

Papaya: Honey Dew, Kurg Honey Dew, Coombatore-1, Coombatore-2, Pusa Delicious, Pusa Majestic, Pusa Dwarf and Pusa Giant.

Summer cow pea: Bush type – Pusa Phalguni, Pusa Komal; 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.

West Bengal

Sunflower: Morden, Surya (90-95 days duration), Pack 36 (hybrid variety, 104 days duration), KBSH (90-95 days duration).

Green gram: Sonali (B-1), Panna (B-105), Pusa Baishakhi etc..

Sesame: Tilottama, Rama.

Groundnut: JL-24, J-11, AKG-12-24.

Jharkhand

Green gram: Pusa Vishal, SML-668 and PDM-11.

Sugarcane: High yielding variety – BO147 (red rot resistant and high sugar content-10.7%).

Bhindi: High yielding varieties – Pusa A-4, Parvani Kranti, Arka Anamika etc. and hybrid varieties – Sonal and Sharita.

Assam

Early *Ahu* Rice: Banglami, Puthichapali, Nilajee, Hasakumra, Lachit, Chilarai, Gopinath, Luit, Kapilee, Dichang, Dikhow and Kalong.

Green gram: T44, AAU 34, AAU 39, Pratap, SG1.

Black gram: T 9, Pant U 19, JU 78 etc.

Cucumber: Chinese Green, Pusa Sanyog, Poinsette.

Bitter Gourd: Long Green, Extra Long, Pussa Do Mausmi.

Ridge Gourd: Pusa Nasdar, AAUJ-2, AAUC-3.

Okra: Pusa Sawani, Arka Anamika, Parbhdani Kranti.

Jute: JRC 212, JRC 321, JRC7447, UPC 94, JRO 524, JRO 7835, JRO 632 etc.

Jammu & Kashmir

Tomato : Pusa ruby & Pb. Chuhara

Chillies : NP-46A & Pusa Ruby

Brinjal : PPL, PPG, PPR & PK

Bhindi : pusa sawani

Uttar Pradesh

Sunflower : Modern KBSH-1

Lady Finger : VRO-6, 5, IIVR-10, P-Kanti

Gourd : Swarna Purna, Swarna Sweta, Swarna Ageti and hybrid varieties like Aman and Priya.

Moong : K-851, JM-721

Sugarcane : CoJ-85, CoJ-83, CoJ-64 (early maturing), CoJ-88, CoS-8436 for mid season and CoJ-89 and Co-1148 (late maturing variety)

Harayna

Sugarcane : COH-92, CO-7717, COH-99, COS-8436, COH-119, CO-1148, COS-767 and COS-110.

Delhi

Spinach: Jyoti

Coriander: Pant Haritma

Fenugreek: PEB, AM-1

Ladies finger: A-5 and Parvani Kranti

Gram : Green gram – Pusa Visal, Pusa Vaisakhi, PDM-11, SML-32 and Black gram – Pant Urd 19, Pant Urd 30, Pant Urd 35, PDU1.

Uttarakhand:

Brinjal: Pant Samrat, Pant Rituraj, Pant Brinjal-4, ARU-1

Potato : Kufri Jyoti, Kufri Ashok & Kufri Anand

Moong : Pant Moong-2, Pant Moong-4, Pant Moong-5, Pant Moong-6, Narendra Moong-1

Rajasthan

Green gram : K-851 (60-70 days), PDM-11 (60-65 days), Pusa Baisakhi (60-80 days), RMG-268 (65-70 days)

Summer Okra : Pusa sawani, Pusa Makhmali, Parbhani, Kranti, Ark Abhay & Arka Anamika

Gujarat

Greengram: GM-3, GM-4.

Cowpea: Guj. Cowpea-1, 2, 4 or Pusa Falguni.

Summer groundnut: GG-2, 5 and 7 for Bhal and Coastal region and GG-2 or GG 20 for North Gujarat region.

Maharashtra

Water Melon: Sugar Baby, Arka Manik, Arka Jyoti.

Ladies finger: Arka Anamika, Parbhani Kranti, Akola Bahar and Phule Utkarsha.

Annexure III

Contour maps (Relative humidity, Cloud amount and Wind Speed)for the week ending 02.03.2011

