

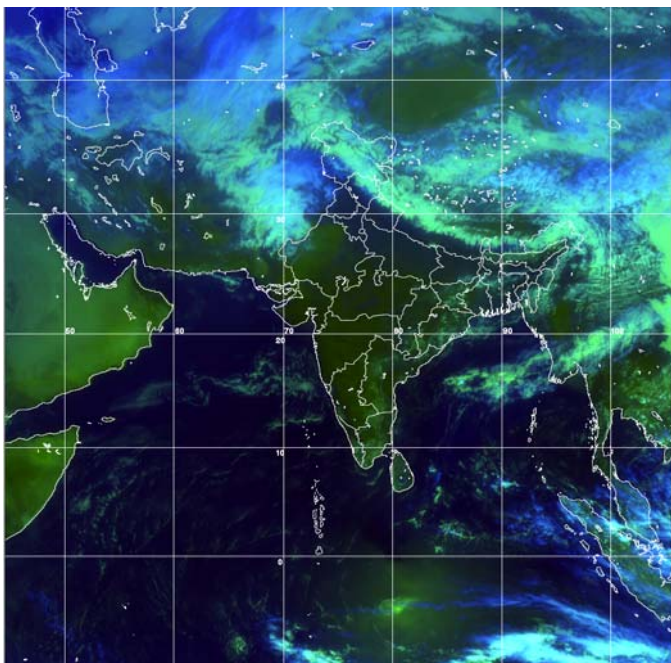


# National Agromet Advisory Bulletin

Thursday, 17<sup>th</sup> February, 2011

(For the period 17<sup>th</sup> to 21<sup>st</sup> February, 2011)

Satellite image 0600 UTC Dated  
18<sup>th</sup> February, 2011



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## Executive Summary

Mainly dry weather prevailed over the country during last week except occurrence of rain over Arunachal Pradesh, Punjab, Haryana, Jammu & Kashmir, East Uttar Pradesh, West Uttar Pradesh, Uttarakhand, East Rajasthan and West Rajasthan. There was an increasing tendency in the minimum temperature in the northwestern region of the country during first fortnight of February. However, the minimum temperature was counterbalanced due to western disturbance passing over north western India during last week. In addition, spells of rain during the period was also beneficial for standing wheat crop.

Due to existing dry spell in Tripura, moisture stress may occur in soil, particularly in upland situation. Though there may be light rain in one or two places but this rain may not be sufficient to recharge the moisture. Farmers are advised to apply irrigation to the standing crops.

Fairly widespread rain occurred in Assam and Arunachal Pradesh and likely at few / many places along with isolated heavy to very heavy rainfall; farmers are advised to postpone irrigation, intercultural operations and application of fertilizers to the standing crops. Provide adequate drainage facilities in the standing crops to avoid water logging due to heavy rainfall. As dry weather is likely to prevail over remaining parts of the country, farmers are advised to complete intercultural operations utilizing the favourable weather conditions. Harvesting of crops may be undertaken during the next three days taking the advantage of dry weather. Surface mulching with crop residues may be made in order to reduce evaporation loss of water.

Weather condition is favourable for nursery preparation for *ahu* rice in Meghalaya and Assam, sowing of summer groundnut in Bhal and Coastal and North Gujarat region, summer vegetables like bottle gourd, cucumber in Western Maharashtra Plain Zone, watermelon and ladies finger in Central Vidarbha Zone of Maharashtra, summer cowpea, marigold in Orissa, nursery preparation of summer onion and sowing of okra in Jhabua Hill Zone of Madhya Pradesh. Farmers are advised to undertake land preparation and sowing of these crops.

Due to congenial weather conditions there is report of incidence of blast in rice in North East Zone in Tamil Nadu and Southern Telangana, aphids, thrips, tikka leaf spot and rust in groundnut, stem borer in maize, early shoot borer in sugarcane in Southern Telangana, *Heliothis* in coriander in Rayalaseema of Andhra Pradesh, aphids in bhindi, cowpea, brinjal and fruit fall in nutmeg in Kerala, thrips in chillies and fruit fly in bitter gourd in North East Transition Zone, wilt in black pepper in Coastal Zone, pod borer, wilt in gram, pod borer in beans in Northern Transition Zone of Karnataka. Farmers are advised to adopt appropriate plant protection measures to avoid severe crop damage.

**Distribution of rainfall for the districts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Punjab, Haryana, Delhi, Rajasthan and Arunachal Pradesh during last Weeks**

State/Districts	Actual	16.02.11
<b>Arunachal Pradesh</b>		
Changlang	**	**
East Kameng	**	**
East Siang	31.1	70
Lohit	8.0	-53
Lower Subansiri	0.0	-100
Papumpara	0.0	-100
Tawang	**	**
Tirap	0.0	-100
Upper Siang	46.0	11
Upper Subansiri	5.4	-56
West Kameng	0.0	-100
West Siang	24.2	44
<b>Himachal Pradesh</b>		
Bilaspur	49.3	257
Chamba	76.2	159
Hamirpur	86.7	533
Kangra	51.8	203
Kinnaur	41.4	54
Kullu	78.7	525
Lahaul and Spiti	39.9	1
Mandi	45.8	159
Shimla	29.4	104
Sirmaur	14.5	23
Solan	23.8	46
Una	71.6	662
<b>Punjab</b>		
Amritsar	6.9	25
Bhatinda	6.1	33
Faridkot	0.0	-100
Fatehgarh Sahib	2.0	-62
Ferozpur	1.9	-46
Gurdaspur	12.8	116
Hoshiarpur	33.0	386
Jalandhar	13.4	120
Kapurthala	9.5	157
Ludhiana	27.5	449
Moga	1.3	-42
Muktesar	0.7	-72
Nawashahar	62.3	660
Patiala	1.7	-69
Ropar	32.4	548
Sangrur	23.7	384
<b>Haryana</b>		
Ambala	4.0	-48
Bhiwani	25.1	2693
Chandigarh	6.0	-41
Faridabad	10.0	1011
Fatehabad	4.0	60
Gurgaon	6.0	140
Hissar	15.8	652
Jhajar	10.0	733
Jind	12.0	193
Katihah	7.3	567

State/Districts	Actual	16.02.11
Karnal	11.8	115
Kurukshetra	4.8	116
Mahendragarh	26.5	1052
Panchkkula	11.0	51
Panipat	9.4	290
Rewari	13.8	1433
Rohtak	15.7	724
Sirsa	4.6	406
Sonepat	18.4	1315
Yamunanagar	13.1	105
New Delhi	15.1	298
<b>Jammu &amp; Kashmir</b>		
Anantnag	27.3	535
Badgam	14.0	567
Doda	14.0	84
Jammu	11.3	1156
Kathua	8.4	4100
Kupwara	7.5	25
Ladakh(Leh)	0.0	-100
Pulwama	11.4	356
Srinagar	14.6	535
Udhampur	33.2	774
<b>East Uttar Pradesh</b>		
Allahabad	0.0	-100
Ambedkar Nagar	5.2	160
Azamgarh	0.1	-96
Bahraich	11.9	222
Ballia	0.0	-100
Balrampur	2.0	-13
Banda	7.7	267
Barabanki	5.7	136
Basti	7.2	243
Deoria	2.5	-4
Faizabad	1.7	13
Farrukhabad	8.9	241
Fatehpur	0.0	-100
Gazipur	0.0	-100
Gonda	4.0	264
Gorakhpur	3.0	2
Hardoi	4.9	63
Jaunpur	0.0	-100
Kanpur City	3.9	176
Kanpur Dehat	0.0	-100
Kheri	9.3	145
Kushi nagar	1.0	-58
Lucknow	5.2	376
Maharajanaj	4.0	11
Mau	0.0	-100
Mirzapur	0.0	-100
Pratapgarh	3.0	11
RaiBareilly	0.3	-82
Sant Ravidas Nagar	0.0	-100

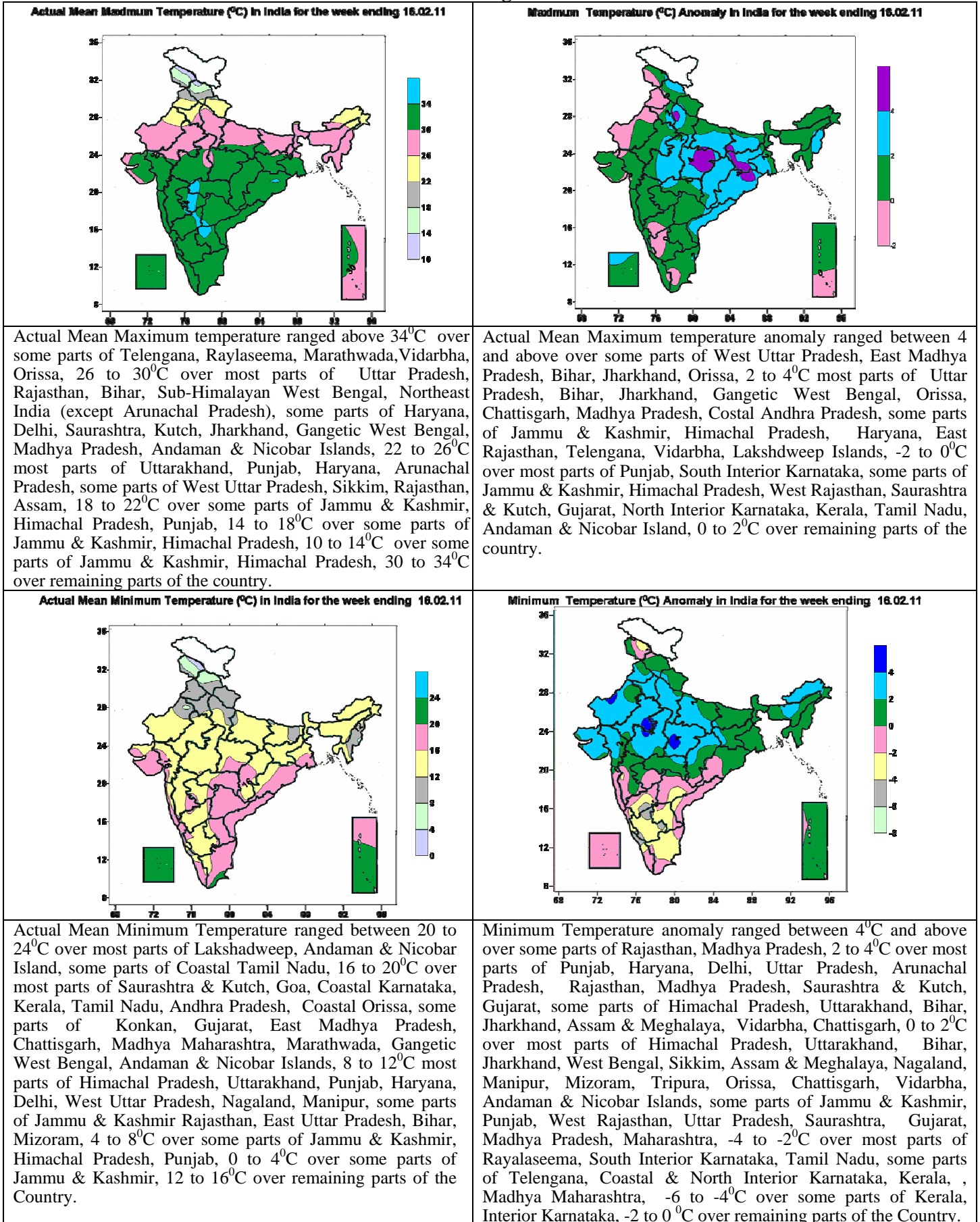
State/Districts	Actual	16.02.11
Shrawasti	0.0	-100
Sidharthnagar	2.0	-31
Sitapur	0.0	-100
Sonbhadra	0.0	-100
Sultanpur	5.0	194
Unnao	4.7	103
Varanasi	0.0	-100
<b>West Uttar Pradesh</b>		
Agra	12.4	396
Aligarh	31.7	1118
Auraiya	1.0	-85
Badaun	26.0	797
Baghpat	5.9	127
Bareilly	20.6	586
Bijnor	11.2	81
Bulandsahar	10.9	319
Etah	12.7	503
Etawah	3.2	-9
Firozabad	9.8	343
Ghaziabad	1.0	-68
Hamirpur	2.7	67
Jalaun	8.5	227
Jhansi	5.4	38
Jotirba Phule Nagar	1.7	-46
Lalitpur	2.0	-35
Mahamaya Nagar	36.7	1645
Mainpuri	2.0	-20
Mathura	15.0	1054
Meerut	9.4	153
Moradabad	19.8	466
Muzzaffarnagar	8.8	103
Pilibhit	0.7	-73
Rampur	0.0	-100
Saharanpur	22.0	300
Shahjahanpur	1.9	-41
<b>UttaraKhand</b>		
Almora	25.2	125
Chamoli	62.5	231
Champawat	35.0	338
Dehradun	23.1	131
Garhwal Pauri	43.3	546
Garhwal Tehri	49.9	222
Haridwar	22.9	316
Nainital	32.5	204
Pithorgarh	44.7	247
Rudraprayag	54.5	234
Udham Sing Nagar	5.0	9
Uttarkashi	51.3	142

<b>East Rajasthan</b>		
Ajmer	<b>32.5</b>	<b>3509</b>
Alwar	<b>16.2</b>	<b>524</b>
Banswara	<b>0.0</b>	<b>-100</b>
Baran	<b>0.0</b>	<b>-100</b>
Bharatpur	<b>24.8</b>	<b>933</b>
Bhilwara	<b>1.9</b>	<b>37</b>
Bundi	<b>1.3</b>	<b>-26</b>
Chittorgarh	<b>0.0</b>	<b>-100</b>
Dausa	<b>11.2</b>	<b>598</b>
Dholpur	<b>10.6</b>	<b>381</b>

Dungarpur	<b>0.0</b>	<b>-100</b>
Jaipur	<b>28.5</b>	<b>1402</b>
Jhalawar	<b>0.0</b>	<b>-100</b>
Jhunjhunu	<b>29.9</b>	<b>1261</b>
Karauli	<b>15.7</b>	<b>824</b>
Kota	<b>4.5</b>	<b>271</b>
Pratapgarh	<b>0.0</b>	<b>-100</b>
Rajsamand	<b>6.0</b>	<b>650</b>
Sawai Madhopur	<b>1.7</b>	<b>19</b>
Sikar	<b>28.9</b>	<b>1155</b>
Sirohi	<b>0.0</b>	<b>-100</b>
Tonk	<b>5.8</b>	<b>343</b>
Udaipur	<b>0.0</b>	<b>-100</b>

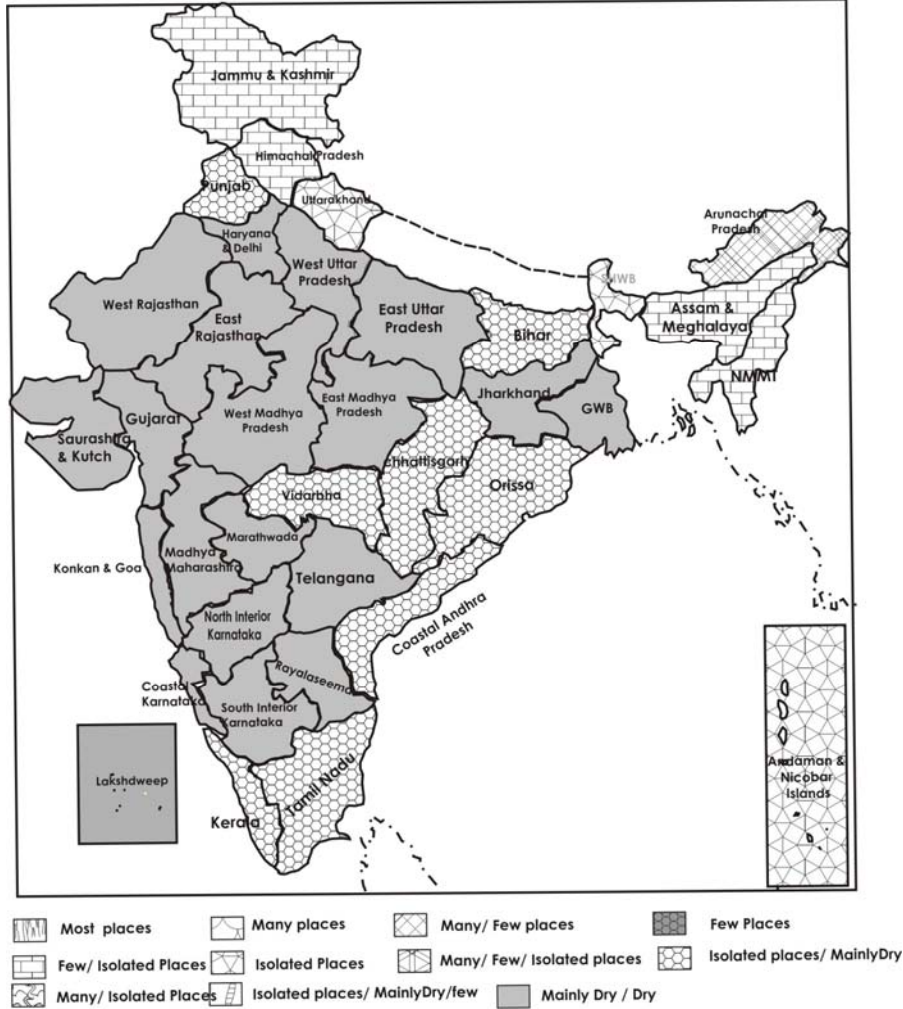
<b>West Rajasthan</b>		
Barmer	<b>9.4</b>	<b>2240</b>
Bikaner	<b>5.5</b>	<b>71</b>
Churu	<b>6.6</b>	<b>213</b>
Hanumangarh	<b>3.9</b>	<b>75</b>
Jaisalmer	<b>13.3</b>	<b>1378</b>
Jalore	<b>5.8</b>	<b>867</b>
Jodhpur	<b>21.0</b>	<b>2229</b>
Nagaur	<b>10.5</b>	<b>559</b>
Pali	<b>11.3</b>	<b>1156</b>
Sri Ganganagar	<b>2.7</b>	<b>7</b>

## Contour maps (Maximum, Minimum temperature and anomalies) for the week ending 16.02.2011





## Weather Forecast (Valid upto 1430 hours of 20<sup>th</sup> February, 2011)



### Major Feature of Weather Forecast (upto 1430 hours IST of 20<sup>th</sup> February, 2011)

- Isolated rain/snowfall would occur over Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 48 hours and increase thereafter.
- Fairly widespread rain/thundershowers would occur over Arunachal Pradesh and scattered over rest northeastern states during next 48 hours and decrease thereafter.
- Isolated rain/thundershowers would occur over Sub-Himalayan West Bengal & Sikkim and Bihar during next 24 hours.
- Minimum temperatures would fall by 24°C over northwest and adjoining central India during next 2-3 days.
- Fog may occur over parts of plains of northwest, central and adjoining east India mainly in the morning hours during next 2-3 days.

### Weather Warnings

- Isolated heavy to very heavy rainfall would occur over Arunachal Pradesh and Assam during next 24 hours.
- Isolated thundersqualls/hailstorms may occur over Assam and Arunachal Pradesh during next 24 hours.

### Weather Outlook (upto 1430 hours IST of 22<sup>nd</sup> February, 2011)

- Scattered rain/thundershowers would occur over Orissa, Chhattisgarh, Vidarbha, Andhra Pradesh and Tamilnadu.

## Zonewise Agromet Advisories

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

- **Realised Rainfall:** Weather remained mainly dry during last week in the States of the region.
- **Rainfall Forecast:** Rain is likely to occur at isolated places over Sub Himalayan West Bengal and Sikkim during the period. Dry or mainly dry weather is likely to prevail during the period over the remaining States of the region.
- **Major Crops:**
  - Tobacco (harvesting), gram (pod formation / grain formation), mustard and sarson (pod formation / seed formation), wheat (ear head emergence/ flowering), maize (vegetative / tasseling / silking), potato (tuber formation / early maturity), vegetables like cauliflower, cabbage (head formation / maturity), chillies, tomato (vegetative / flowering / fruiting / harvesting), palak, carrot, radish etc. (vegetative / harvesting), barseem, lucerne, oat (vegetative), coriander, fenugreek (vegetative), sugarcane (planting), *boro* rice (transplanting / tillering), green gram, maize (land preparation / sowing), summer vegetables like bhindi, bitter gourd, sponge gourd, pumpkin, cucumber etc. (sowing) in Bihar.
  - Arhar and green pea (pod formation / seed formation), wheat (ear head emergence/ flowering), potato (tuber formation / maturity), *toria*, mustard (pod formation / maturity), pea, lentil and gram (pod formation / grain filling), onion (vegetative), tomato (flowering / fruiting / harvesting), cabbage and cauliflower (head formation / harvesting), chilli and brinjal (transplanting / early vegetative), summer rice (transplanting / tillering), summer vegetables (sowing / transplanting), mango and litchi (flowering) in Jharkhand.
  - Cotton (maturity / picking), *boro* rice (transplanting / tillering), maize (sowing / vegetative), green gram, groundnut, garlic, sesame, sunflower (sowing), ragi (transplanting), *rabi* vegetables (flowering / fruiting / harvesting), *rabi* oilseeds like groundnut, mustard and sunflower (pod formation / seed formation / early maturity), arhar (pod formation / grain formation), wheat (ear emergence / flowering), potato (tuber formation / maturity), *rabi* pulses like gram, lentil and field pea (pod formation / seed formation / maturity), sugarcane (harvesting), mango (planting), papaya, summer marigold (planting) and summer cow pea (sowing) in Orissa.
  - *Boro* rice (transplanting / tillering), wheat (ear head emergence / flowering), arhar (pod formation / seed formation / early maturity), mustard (pod development / seed development), potato (tuber formation / early maturity), lentil, pea, Bengal gram (pod formation / seed formation), *rabi* vegetables like cabbage and cauliflower (head formation / harvesting), groundnut, sesame, sunflower (sowing) and summer vegetables like ladies finger, *Kakrol*, amaranthus (sowing) in West Bengal.
  - Large cardamom (vegetative lag phase), orange (end harvesting), wheat (tillering / active tillering / flowering / milk / dough), *rabi* potato (tuberization), ginger (harvesting), *rabi* vegetables (vegetative / flowering / fruiting / harvesting), mustard (siliqua formation / seed formation / seed maturity) in Sikkim.
- **Advisories:**
  - As there was no significant rainfall during last week in the region and no significant rainfall is likely during next three days, farmers are advised to apply irrigation to pulses like lentil, gram, *arhar* etc., mustard, *rabi* vegetables and also to wheat at flowering stage and light and frequent irrigation to potato.
  - As mainly dry weather is prevailing during last few weeks and there is no possibility of rainfall and day time temperature is high, apply irrigation to banana in New Alluvial zone of West Bengal.
  - As there was no significant rainfall in North West Alluvial Plain Zone of Bihar and mainly dry weather is likely to prevail, apply irrigation to normal sown wheat crop as soil moisture is very limiting in the field. Taking the advantage of dry weather, harvest already matured crops of *toria*. Apply irrigation during tasseling and silking stage in maize crop.
  - In Orissa, complete transplanting of rice seedlings. Also undertake transplanting of ragi. The weather is also optimum for planting of papaya, marigold, land preparation and sowing of summer groundnut and sunflower.
  - Prepare the field and undertake sowing of summer vegetable crops like bhindi, bitter gourd, sponge gourd, pumpkin, cucumber etc. and also undertake transplanting the seedlings of *boro* rice in main field in North West Alluvial Plain Zone and South Bihar Alluvial Zone in Bihar.
  - Farmers in West Bengal are advised to undertake field preparation and sowing of groundnut, sesame and sunflower and also planting of Gladiolus.
  - Farmers are advised to complete transplanting of *boro* rice in Jharkhand and West Bengal.

- 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 grown 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.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure I.
- There is possibility that *Phalaris minor* weed may be very much dominant in wheat field in New Alluvial zone of West Bengal. Uproot the weeds for burning.
- Sudden increase in temperature may increase the infestation of mango hopper in mango in New Alluvial zone of West Bengal; apply 2 g Carbaril or 1.5 g Monocrotophos per litre of water for mango hopper.
- Temperature may be moderately high and may cause attack of rust and blight diseases in wheat crop in Laterite and Red Soil Zone of West Bengal; spray Mancozeb @ 2.5 to 3 g per litre of water and collect the infected seeds and burn them.
- Due to warm temperature and moderate humidity in Laterite and Red Soil Zone of West Bengal, potato may be affected by blight disease in late sown crops; spray 2.5 g Mancozeb + 10 g urea per litre of water with Copper oxichloride @ 4 g / liter or Cymoxnil 8% + Mancozeb 64% @ 2.5 g per liter of water at 7-10 days intervals.
- Warm temperature and moderate humidity in Laterite and Red Soil Zone of West Bengal which may cause the heavy intensity of aphid attack; spray 1.5 ml Metasystox or Rogor per litre of water. Due to favourable weather, powdery mildew disease may also appear in field pea; spray Methyl Demitone or Rogor (Dimethoate) @ 1 ml per liter mixed with teepol @ 5 ml per liter in mustard.
- Increased temperature may favour the egg laying of stem borer in rice in the main field in Jagatsinghpur district of Orissa. To attract the butterflies, place 4 Pheromone traps / acre; collect the adults and destroy them by burying under soil or by burning. Increased difference between daily maximum and minimum temperature favours the infestation of blast in main field as well as nursery of rice. Spray 1 g Beam in one litre water.
- Cloudy weather may favour the infestation of leaf webber in mustard in Jagatsinghpur district of Orissa; spray 200 ml Ithofenprox or Deltamethrin per acre.
- Increased day temperature may favour the infestation of *Cercospora* leaf spot in groundnut in Kendrapara district of Orissa; spray 3 g Indophil M-45 / litre of water. Present moderate temperature may also favour thrips infestation; spray 400 ml Dimethoate or 50 ml Imidachloprid in 200 litres of water per acre.

#### **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.
- As the temperature is rising continuously, weather conditions are favourable for growth of fishes. Add cow dung and lime in the pond for natural foods and alternative feeds may also be used like rice bran and mustard cake (each of 5 kg per day per acre area of pond) in Western Plateau Zone of Bihar.

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

- **Realised Rainfall:** No significant rainfall occurred during last week in most of the districts of the States of the region except in East Siang, Upper Siang and West Siang districts of Arunachal Pradesh.
- **Rainfall Forecast:** Rain is likely to occur at many places over Arunachal Pradesh and at a few places over remaining States of the region during next 48 hours and decrease thereafter.
- **Major Crops:**
  - Cole crops like cauliflower and cabbage (head formation / maturity / harvesting), sugarcane (cane development), potato (late planted) (tuber development), rapeseed & mustard (pod filling / maturity / harvesting), *boro* rice (seedling / transplanting / tillering), wheat (heading / flowering) and early *ahu* rice (nursery sowing / seedling) in Assam.
  - Tomato (maturity / harvesting), pea (pod formation / maturity), maize (vegetative) and potato (tuber maturity / harvesting), mustard (siliqua formation) and orange (maturity) in Arunachal Pradesh.



- *Toria*, lentil (pod formation / early maturity), *rabi* vegetables (fruiting / harvesting) and *boro* rice (transplanting / tillering) in Tripura.
  - *Boro* rice (transplanting / tillering), *rabi* vegetables (fruiting / harvesting), rapeseed and mustard (pod filling stage), *rabi* maize (vegetative), *rabi* maize at medium and low altitudes (harvesting), wheat (heading / flowering), winter potato (tuber initiation / tuber formation), winter potato at high altitude (harvesting) and summer vegetables (sowing) in Meghalaya.
  - Rice (sowing), *rabi* maize (sowing / vegetative), mustard and rapeseed (pod formation / early maturity), field pea (vegetative / flowering), onion (vegetative / bulb formation), cauliflower and cabbage (harvesting), tomato (transplanting / early vegetative) and potato (tuber formation / early maturity) in Manipur.
  - Khasi Mandarin (vegetative), banana (vegetative / fruiting / maturity), onion (vegetative), pea (pod formation / maturity / harvesting), beans (flowering / pod formation / harvesting), carrot and radish (harvesting), tomato, chilli and capsicum (flowering / fruiting / harvesting), cole crops (vegetative / head formation), ginger, turmeric (harvesting) and maize (cob formation / maturity) in Mizoram.
  - Cabbage (heading / harvesting), potato (tuber formation / early maturity), pea (fruiting / harvesting), mustard (pod formation / early maturity), *toria* (pod formation / maturity) and papaya (fruiting) in Nagaland.
- **Advisory:**
    - As rain is likely to occur at many places over Arunachal Pradesh during next 48 hours, farmers are advised to postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the crops.
    - Farmers in Assam, Tripura and Manipur are advised to complete transplanting of the seedlings of *boro* rice.
    - As there was no significant rain during last few weeks in Manipur, light and frequent irrigation may be applied to keep the soil moist in onion.
    - 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.
    - As the present minimum temperature condition is favourable for occurrence of late blight disease in late crop of potato in Jorhat region of Assam, apply appropriate plant protection measures to manage the disease if the symptoms appear.
    - 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.
    - Incidence of late blight is noticed in winter potato in Meghalaya. To control late blight in potato, spraying of Indofil-M-45 @ 2 - 3 g / litre of water or Ridomil-Z-78 @ 2 - 3 g / litre of water may be done at the interval of 15-20 days.
    - Due to continuous increase in temperature, the fungus can infest onion crop 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.
    - Apply plant protection measures in the States of this region on a non-rainy day.

#### **Animal Husbandry:**

- In Mizoram, pigs need housing to keep them warm to avoid cold temperature.
- 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 this disease, 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 or light rain occurred in most of the districts in all States of the region during last week.
- **Rainfall Forecast:** Rainfall is likely at a few places after 48 hours in Jammu & Kashmir and Himachal Pradesh. Rainfall is likely at isolated places during next three days in Uttarakhand. Either mainly dry/dry weather will prevail over the remaining States.
- **Major Crops:**

- 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 (tillering / flowering), potato (vegetative / tuber initiation / tuber formation), vegetables (flowering / fruiting / harvesting), garlic (planting) in Himachal Pradesh.
  - Gram (flowering), berseem (vegetative), oats (flowering), wheat, barley (tillering / jointing / flag leaf stage), very late sown wheat (CRI stage), lentil (vegetative), field pea (flowering), 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 (tillering / 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), African sarson (flowering/pod formation), radish (vegetative), ghobi sarson (vegetative), oilseeds (raya, taramira) (pod formation/ maturity), papaya, onion (transplanting), vegetables (sowing) in Punjab.
  - Sugarcane (harvesting), wheat (flag leaf), berseem (vegetative), gram, rapeseed, mustard (pod formation / seed formation) in Haryana.
  - Wheat (tillering / flag leaf), barley, oats (vegetative / tillering), toria (flowering / pod formation), 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), vegetable pea (flowering / pod formation) etc. in Uttar Pradesh.
  - Sugarcane (maturity / harvesting), winter sugarcane (initial growth), wheat (jointing / ear head emergence), oats, barley (tillering), taramira (flowering / pod formation), 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.
- **Advisory:**
    - In Gurdaspur and Hoshiarpur divisions of Punjab, due to low temperature standing *rabi* crops; farmers are advised to apply light irrigation by sprinklers in vegetables particularly in brinjal, tomato, chillies and early sown cucurbits and give light irrigation in big plants to protect against cold injury for fruit crops i.e. papaya with sarkanda / dry grasses / polythene / paddy straw etc.. Farmers in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh are advised to protect the nurseries of vegetables and forest plants by covering nursery with polythene sheet from cold injury in lower regions.
    - In western zone (Kaul) of Haryana farmers are advised to undertake harvesting of the matured sugarcane and field preparation for spring sugarcane.
    - Farmers in Punjab are advised to continue field preparation and undertake planting of spring sugarcane and also can go for sowing of arbi and turmeric (Faridkot) and also advised to go for plantation of fruits crops viz. peach, plum and pear.
    - Farmers in Jammu & Kashmir are advised to undertake sowing of cucurbits like bitter gourd, cucumber, pumpkin, sponge gourd etc in polythene bags under protected conditions (in Rajouri and Udhampur districts). In low laying areas, it is advised to provide drainage channels to ensure for all vegetable crops to avoid water stagnation due to excess rainfall during last week.
    - In Sub-montane & Low Hills sub-tropical zone of Himachal Pradesh sowing of potato may be taken up as good rains are expected in mid hills and lower regions. The nursery sowing of Mirchi and brinjal can also be done in the polyhouses As good rainfall received in last week utilize for field preparation, sowing of crops and vegetables and basins in the orchard in Mid-hills sub-humid zone.
    - Farmers in Bhabar and Terai Zone (Nainital and Udamsingh Nagar districts) of Uttarakhand are advised to undertake nursery sowing of tomato, brinjal and capsicum and harvesting of pods of vegetable pea. Due to prevailing low night temperature, farmers are advised to cover the small plants of mango, guava and litchi with straw material to save from cold injury. Farmers in Hill zone (Ranichouri) are also advised to prepare land for sowing of potato and tomato.

- Farmers in Bhabar and Terai Zone of Uttarakhand are advised to undertake harvesting of main sugarcane during this week and spread a layer of trash in the field due to prevailing low minimum temperature.
- Farmers in Delhi are advised to undertake sowing of french bean, cluster bean, summer radish and transplanting of tomato, chilli and cole crops. They are also advised to undertake intercultural operations in cole crops, carrot, radish, turnip and sweet potato.
- Farmers in Rajasthan are advised to prepare field for sowing of maize, groundnut, fodder crops etc. in Southern humid plain zone (Banswara district). In Barmer district of Jodhpur division, farmers are advised to undertake harvesting of matured crop of mustard.
- Farmers in Uttar Pradesh are advised to undertake sowing of recommended varieties of sunflower and summer vegetables like lady finger, gourd and moong. Farmers in Western (Modipuram) and Eastern plain zone (Faizabad) are advised to undertake harvesting of potato, Palak, fenugreek and coriander and prepare the land for sowing of urd or moong, tomato and carrot.
- In Palampur\_Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, downy mildew is expected in cruciferous vegetables, spray redomil M-Z @ 25 g per litre of water at 15 days interval.
- In Bikaner (Arid Western Plain Zone) of Rajasthan, in gram where there are attack of borer, dusting of Endosulphan 4 percent, or Malathion 5 percent, or Quinolphos 1.5 percent or Methyl Parathion 2 percent at the rate of 25 kg per hectare.
- Weather conditions are favourable for the incidence of yellow rust and aphid in wheat in undulating plain zone (Gurdaspur & Hoshiarpur districts) of Punjab. Farmers are advised to spray Propiconazole 25 EC @ 200ml in 200 liter water/acre.
- 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 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 stem and fruit borer in brinjal, ahu in mustard, fruit fly and fruit borer in tur, and pod borer in early gram. Spray DDVP 76 EC @ 750 ml or Melkathian 50 EC @ 2 lit. in 600-800 lit. water solution per hectare for control of fruit borer in brinjal and spray Endosulphan 1.25 per hectare in 800-1000 lit. water for control of pod borer in gram.

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

- **Realised Rainfall:** Mainly dry weather prevailed during last week in the States of the region.
- **Rainfall Forecast:** Dry or mainly dry weather is likely to prevail during the next three days over the region except Coastal Andhra Pradesh, Tamil Nadu and Kerala where rainfall is likely to occur at isolated places after 48 hours.
- **Major Crops:**
  - Vegetables (vegetative / flowering), rice (seedling), coconut (Harvesting) in Kerala.
  - Rice (maturity), pulses (pod initiation / development), maize (flowering to maturity) groundnut (late vegetative), cotton (boll development), sugarcane (vegetative) in Tamil Nadu.
  - Bengal gram (pod development to maturity), rice (panicle initiation), red gram (pod formation), sunflower (flowering / seed development), groundnut (pegging / pod development) in Andhra Pradesh.
  - Sugarcane (ratooning), mango (flowering), pigeon pea (harvesting), bengal gram (Pod formation stage/ maturity) bitter gourd (fruiting), cotton (square to boll formation), sunflower (flowering to head filling), safflower( flowering), wheat(Earhead emergence stage/ Grain formation stage / maturity), jowar (Grain milking stage) in Karnataka.
- **Advisories:**
  - As there was no significant rainfall in the region, farmers are advised to apply irrigation to the standing crops.
  - Farmers of North Dry Zone of Karnataka are advised to undertake intercultural operations in the field and horticultural crops and harvest the matured sorghum, chickpea and wheat.

- Due to dry weather that may prevail in next three days, farmers in Southern Dry Zone of Karnataka are advised to apply irrigation to the dry land horticultural crops and other field crops depending on soil and crop condition.
- Farmers in Eastern Dry Zone of Karnataka are advised to take up the threshing of late sown crops. Under protective irrigated condition sowing of rabi crops may be undertaken.
- Since there is no rainfall, farmers of Coastal Zone of Karnataka, can take up harvesting of pulse crops like green gram, black gram, cow pea etc.
- In Scarce Rainfall Zone of Rayalaseema of Andhra Pradesh, present weather conditions were favourable for the incidence of hoppers and powdery mildew in mango orchards. To control, spray Confidor@ 0.4 ml+Bavistin @ 1g per litre of water.
- In the Krishna Godavari Zone of Andhra Pradesh, if the crop is above 30-35 days there is a possibility of scales and mites under the dry weather condition in paddy and maize. If the intensity of these fungi is high can go for application of Monochrotophos @ 1.5 ml of Dimethoate @ 2.0 ml. per liter of water. Corinospora leaf spot appears in rabi pulses due to change in weather conditions and it can be managed by spray with 3 g Copper oxyclozide or 2.5 grams of Mancozeb per liter of water with uniform crop coverage. Due to coincidence of flowering with fog, possibility of smut disease on rice, it can be managed by the spraying with 1 ml. Propiconozol or 1 gm of Corbondonzim 2.5gm of Coperoxi chloride in 1 liter of water.
- In the High Altitude Zone of Kerala, Stem bleeding may become more severe in coconut palms. Irrigate the coconut palms and provide shade to the young palms. Farmers are advised to keep vigilance against Red palm weevil, rhinoceros beetle.
- Due to favourable weather conditions in Northeastern Zone of Tamil Nadu, blast disease is observed. Farmers are advised to undertake spraying of chemicals to control the disease.
- Due to congenial weather conditions there is report of incidence of blast in rice in, aphids, thrips, tikka leaf spot and rust in groundnut, stem borer in maize, early shoot borer in sugarcane in Southern Telangana, Heliothis in coriander in Rayalaseema of Andhra Pradesh. Farmers are advised to adopt appropriate plant protection measures to avoid severe crop damage.
- Due to congenial weather conditions there is report of incidence of aphid in bhindi, cowpea, brinjal, fruit fall in nutmeg in Kerala. Farmers are advised to adopt appropriate plant protection measures to avoid severe crop damage.
- Due to congenial weather conditions there is report of incidence of thrips in chillies, fruit fly in bitter gourd in North East transition zone, wilt in black pepper in coastal zone, pod borer, wilt in gram, pod borer in beans in Northern transition zone of Karnataka. Farmers are advised to adopt appropriate plant protection measures to avoid severe crop damage.

#### WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall:** Mainly dry weather prevailed over the States of the region during last week.
- **Rainfall forecast:** Dry or mainly dry weather is likely to prevail over the States of the region.
- **Major Crops:**
- Summer rice (early tillering in Konkan and East Vidarbha), Jowar (maturity / harvesting), *rabi* gram (pod development / pod maturity / harvesting), safflower (seed formation), maize (silking and tasseling / cob initiation), sunflower (head formation), irrigated wheat (flowering / milk / dough), sugarcane (*Adsali*) (active tillering), sugarcane-pre seasonal (early vegetative), sugarcane-*Suru* (planting), summer groundnut (early vegetative in Konkan and sowing / germination in other divisions), summer sunflower (sowing / germination), summer maize (sowing / germination), summer bajra (germination / early vegetative) in Maharashtra.
- Mustard (seed formation), pigeon pea (pod development / seed formation / early maturity), gram (pod development), potato (tuber development), brinjal and tomato (flowering / fruiting / harvesting), *rabi* fennel (flowering / seed formation), cumin (seed formation / maturity), early sown wheat and timely sown wheat (milk / dough), late sown wheat (ear emergence / flowering), Isabgol (grain formation / maturity), sugarcane (sprouting / early vegetative) summer groundnut (sowing) in Gujarat.
- **Advisory:**
  - As dry weather prevailed over the States during last few weeks and mainly dry weather would prevail during the period, farmers are advised to apply irrigation to the standing crops.

- As dry condition prevailed during last few weeks and is likely to prevail, farmers in Gujarat state are advised to irrigate wheat, gram, onion mustard etc.
- Taking the advantage of prevailing weather conditions farmers are advised to undertake sowing of summer bottle gourd and cucumber in Western Maharashtra Plain Zone, watermelon and summer ladies finger in Central Vidarbha Zone.
- Farmers in Gujarat state are advised to harvest dried isabgol and cumin crop early in the morning.
- Taking the advantage of prevailing weather, farmers in the Bhal and Coastal and North Gujarat region are advised to carry out land preparation and undertake sowing of summer groundnut. Farmers in the south Gujarat Heavy Rainfall Zone are advised to undertake sowing of vegetables like ladies finger, bottle guard and cluster bean and farmers in North Gujarat region are advised to undertake sowing of *okra*, cluster bean and cowpea for summer season vegetables.
- The suitable varieties of different crops are mentioned in Annexure I.
- Due to change in weather conditions there may be incidence of thrips in mango in South Konkan Coastal region of Maharashtra; spray Spinosid 45 SL @ 25 ml or Dimethoate 30 EC @ 10 ml / 10 litres of water.
- Prevailing weather is favourable for incidence of rust in wheat in Central Vidarbha Zone; spray Mancozeb @ 25 g in 10 liters of water.
- There is possibility of incidence of powdery mildew and rust in pea, early blast in tomato and shoot borer in sugarcane in Pune division of Maharashtra. Farmers are advised to take plant protection measures to control the above pest and diseases.
- Due to favourable weather condition there is chance of blight disease in tomato and cumin crop in North Gujarat region. Spray 0.25% Mancozeb @ 30 g in 10 litres of water with 10 g *desi* soap solution to control the disease. Also Weather conditions are favourable for outbreak of aphids in mustard and late blight in potato. Farmers are advised to take appropriate plant protection measures.

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

- **Realised Rainfall:** Weather remained dry during last week in the region.
- **Rainfall Forecast:** Dry weather is likely to prevail over the region.
- **Major Crops:**
  - Wheat (flowering / grain formation), mustard (seed development), chickpea (pod formation), pigeon pea (pod formation), sugarcane (planting), cotton (boll formation), Maize (milking/ dough), onion (nursery preparation), Gram/Linseed (fruiting/ Harvest), Okra (sowing) in Madhya Pradesh.
  - Pigeon pea (pod development), gram (pod formation / development), wheat (grain formation / milking), mustard (pod formation), sunflower (sowing), sugarcane (vegetative) in Chattisgarh.
- **Advisory:**
  - Taking the advantage of dry weather, farmers are advised to undertake intercultural operations in the early sown crops to keep the fields weed free and apply irrigation to the standing crops as there is chance of increase in temperature.
  - As there are chances of dry weather conditions and increase in maximum temperature by 2-3 °C during the next five days, farmers in Bundelkhand Zone are advised to transplant tomato, chilly and sow cucurbit crops in the field.
  - Farmers in Chattisgarh Plain Zone are advised for sowing of cucurbitaceous crops. And also sowing of leafy vegetables and land preparation for the summer vegetable and complete sowing of sunflower as early as possible. Also farmers in Northern Hill Zone are advised to raise nursery for onion and prepare land for planting of sugarcane.
  - Farmers in Jhabua Hill Zone are advised to sowing of okra and complete preparation of nursery for summer onion.
  - In Bundekhand region in Madhya Pradesh, there is a possibility of light rainfall during next two days and sky will be cloudy during the next 5 days hence farmers are advised to sowing of watermelon, muskmelon, cucumber, ladyfinger, Brinjal, bottle guard and pumpkin.
  - Farmers in Bastar Plateau Zone in Chattisgarh are advised to prepare nursery for late sown vegetables and farmers in Chattisgarh Plain Zone are advised to sow cucurbitaceous and leafy vegetables and preparation of land for the summer vegetables.
  - There is a possibility of light rainfall during next two days and sky will be cloudy during the next 5 days in Bastar Plateau Zone in Chattisgarh hence farmers are advised to monitor the chickpea crop against pod borer. When 2 to 3 pod borer found in chickpea crop, then spray the crop with Endosulfan 35 E.C. or



Quinolphos 25 E.C. @ 2.0 ml. per liter of water for their control. Farmers are advised to create T type wooden stand in the field at a distance of 20.0 feet and also monitor mustard and lentil crops against attack of aphids. If found, it is advised to spray of methyl demeton 25 E.C. or dimethoate 30 E.C. @ 2.0 ml. per liter of water for their control. Monitor tomato, coriander and cabbage crops for the attack of aphids. If found, it is advised to spray of methyl demeton 25 E.C. @ 2.0 ml. per liter of water for their control. Due to cloudy conditions, powdery and downey mildew attack can be there in the crops like lathyrus, lentil and peas. For its control any sulphur based fungicide can be used. Irrigate standing crops whenever required. I

- 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 Clorpyrifas 20 EC in 1 lit after irrigation.
- As there are chances of rise in temperature in coming days in Kymore Plateau Zone, farmers are advised to monitor chickpea for pod borer incidences. If caterpillars are more than 2 or 3 per meter row length spray 10% of the neem leaves extract, spray Chlorpyrifos 20 EC or Endosulfan 35 EC per liter @ 500 litre of water.

### **Animal Husbandry & Poultry**

- In Malwa Plateau Zone in Madhya Pradesh, farmers are advised to ensure vaccination to protect animals from infections/diseases like Black Quarter and FMD etc. And also provide the animals clean water, balanced and nutrients rich food.
- As there are chances of clear sky conditions during next 5 days in Bundelkhand Zone of Madhya Pradesh, hence sheep raiser are advised to do medicine bath in sunny condition to control parasites. There is possibility of decrease in disease resistance in chicken; therefore antibiotic may be added in their feed. In present weather conditions, it is advised to provide dry fodder mix with the *barseem* to milking animals.

## Annexure I 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.

**Summer 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:** TM-99-50, PDM-11, TARM-1, 2, Samrat.

**Sesame:** Tilotamma, Rama.

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

### Jharkhand

**Summer Rice:** IR 36, 64, Naveen, Lallat, Taichung Native.

### Assam

**Ahu Rice:** Banglami, Puthichapali, Nilajee, Hasakumra.

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

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

**Jute:** JRC 212, JRC 321, UPC 94, JRC 7447, JRO 524, JRO 7835, JRO 632.

### Jammu & Kashmir

**Tomato :** Pusa ruby & Pb. Chuhara

**Chillies :** NP-46A & Pusa Ruby

**Brinjal :** PPL, PPG, PPR & PK

**Bhindi :** pusa sawani

### Delhi:

**Spinach:** Jyoti

**Coriander:** Pant Haritma

**Fenugreek:** PEB, AM-1

**Ladies finger:** A-5 and Parvani Kranti

### 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

### Uttarakhand:

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

**Potato :** Kufri Jyoti, Kufri Ashok & Kufri Anand

### Gujarat

**Summer groundnut:** Select variety like GG-2, 5 and 7 for Bhal and Coastal region and G.G.-2 or G.G. 20 for North Gujarat region.

### Maharashtra

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

**Ladies finger:** Arka Anamika, Parbhani Kranti, Akola Bahar & Phule Utkarsha

**Cucumber:** Himangi, Phule Shubhangi, Poona Khira., **Bottle gourd :** Samrat.

## Annexure II Contour maps (Relative humidity, Cloud amount and Wind Speed) for the week ending 16.02.2011

