

## Significant weather and realized rainfall during last week:

- Significant rainfall occurred in most of the districts of Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Delhi, Bahraich, Balrampur, Barabanki, Fatehpur, Gonda, Kanpur City, Kanpur Dehat, Kheri, Lucknow, Unnao, Baghpat, Bijnor, Hamirpur, Jalaun, Jhansi, Lalitpur, Mahoba, Meerut, Saharanpur, Muzaffarnagar districts of Uttar Pradesh, Sri Ganganagar district of West Rajasthan, Gurdaspur, Ropar districts of Punjab, Ambala, Chandigarh, Gurgaon, Jhajar, Karnal, Mahendragarh, Panchkula, Panipat, Yamunanagar, Sonapat districts of Haryana. Chhatarpur, Tikamgarh districts of East Madhya Pradesh, Mainly dry weather prevailed over rest parts of the country.
- During the last week, Cold wave conditions have abated from entire country on 1<sup>st</sup> February. Maximum and minimum temperature were near or above normal over most parts of the country on 4<sup>th</sup> February onwards.

## Central India

- Farmers in Jhabua Hill Zone of Madhya Pradesh are advised that due to favourable weather, undertake sowing of summer crops viz. maize, green gram, groundnut, sesamum. Prepare nursery of tomato, brinjal and chilli and sowing of okra may be done.
- In Chhattisgarh Plain Zone, farmers are advised to apply irrigation to *rabi* crops in view of mainly dry weather conditions prevailed and no significant rainfall is likely to occur. Prepare nursery for sowing of summer vegetables.
- Due to low temperature, white rust is observed in the cucurbitaceous vegetables in Bastar Plateau Zone in Chhattisgarh, farmers are advised to undertake dusting of Sulfex as per recommended dose.
- Due to the cloudy weather condition prevailed during last week in Chhattisgarh Plain Zone, incidence of *Heliothis* in gram is reported over many places and is likely to increase, farmers are advised to monitor the crop and adopt integrated pest management practices for the control. If necessary spray insecticides like Indoxacarp @ 300 ml/ha or Carbaril @ 1 kg/ha.

## Northwest India

- In Jammu & Kashmir, farmers are advised to drain out excess water from the fields to avoid crop damage in mustard and wheat and to prevent rotting in vegetable crops under water logging conditions.
- Farmers are advised to drain out excess water from wheat, barley, *rabi* maize, toria and fodder berseem fields in Central Plain Zone of Uttar Pradesh and from wheat, oilseed and vegetable crop fields in Low Hills Sub-montane Zone of Himachal Pradesh.
- Farmers in East Uttar Pradesh are advised to monitor the crops and apply light and frequent irrigation in view of expected low temperature.
- In Central Plain Zone of Uttar Pradesh, due to favourable weather conditions, there is chance of attack of aphid and saw fly on rapeseed and mustard. Farmers are advised to apply Dimethoate 30EC or Chloropyriphos @ 2ml/litre with a spray volume of 500-700 litre/ha for hand sprayer & 200-250 litre/ha for power sprayer.
- Under increased day temperature conditions and foggy weather, there are chances of *Alternaria* blight, white rust, yellow rust, powdery mildew etc. diseases in standing wheat crop at ear head emergence stage in Bhabar and Terai Zone of Uttarakhand. If symptoms of any of these diseases are seen in the field, the farmers are advised to spray 200 ml of 25-EC Prepiconazol fungicide dissolved in 400 liters of water per acre. Repeat after an interval of 10 days.
- In Sub-Humid Southern Plain and Aravalli Hill Zone of Rajasthan, there is chance of aphids attack on late sown mustard crop due to favourable weather conditions. Farmers are advised to spray Malathion 50 EC @ 1.25 l/ha or Dimethoate 30 EC @ 1 l/ha.

## West India

- As dry weather prevailed over Maharashtra during last few weeks and mainly dry weather would prevail over the State during next 5 days, farmers are advised to apply irrigation to wheat and gram and give regular irrigation to sugarcane, vegetables and orchard crops.
- As the prevailing minimum temperature of 14 to 18<sup>o</sup>C in Pune and Nasik region is suitable for sowing of summer bajra and groundnut, farmers are advised to complete sowing of these crops.
- Due to rise in day temperature, farmers in North Madhya Maharashtra are advised to undertake mulching of crop residue and other waste products in vegetables and fruit crops to conserve moisture in the field. Also apply drip irrigation.
- Farmers in Central Vidarbha Zone are advised to continue sowing of summer groundnut as prevailing minimum temperature is favourable for germination of seeds.
- As dry weather prevailed during last few weeks and is likely to prevail during the period in North Gujarat Zone, Bhal and Coastal Zone and North West Zone of Gujarat, apply irrigation to cumin and vegetable crops. Apply irrigation in potato also in North Gujarat zone. Under likely dry weather in coming days, apply irrigation in castor in South Gujarat Heavy Rainfall Zone.
- Due to cloudy weather in Western Ghat region there is possibility of attack of sap sucking pests like aphids and jassids on vegetables; spray Confidor @ 5 ml in 10 litres of water.
- Weather conditions are favourable for incidence of blight and powdery mildew in cumin in North Saurashtra Zone of Gujarat; spray 10 ml Hexaconazole 5 EC in 10 litres of water to prevent it. Garlic blight and onion purple blotch have been noticed in North Saurashtra Zone of Gujarat in garlic and onion; spray 25 gm Mencozeb 75% WP in 10 liters of water for control of garlic blight and onion purple blotch.

(Continued on Page 2)



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

## **Executive Summary**

**(Continued from page no. 1)**

### **Northeast India**

- As dry weather prevailed over the States of the region during last week and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
- In the present weather conditions, in Sub-Tropical Hill Zone of Arunachal Pradesh, farmers are advised for moisture conservation using locally available mulch in rapeseed and mustard.
- As prevailing dry weather is favourable for development of blossom end rot in tomato in Mild Tropical Hill Zone of Nagaland, farmers are advised for mulching in tomato to conserve soil moisture.
- Attack of saw fly, cut worm and aphids at vegetative and flowering stages of toria is observed at some places of Nagaon and Marigaon districts in Central Brahmaputra Valley Zone of Assam; farmers are advised to apply Dimethoate 30 EC or Chloropyriphos 20 EC @ 1 ml per litre of water in toria.
- Due to favourable weather conditions, there is attack of saw fly in toria in Upper Brahmaputra Valley Zone of Assam; farmers are advised to apply Endosulfan @ 2 ml per litre of water during evening hours to control saw fly in toria.
- Farmers in Central Brahmaputra Valley Zone of Assam are advised to protect poultry birds from cold by using electric bulb (300Watt for 100 sq.foot) to prevent Coryza disease.

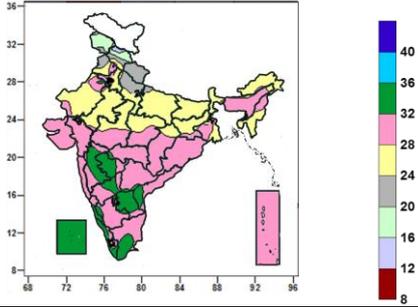
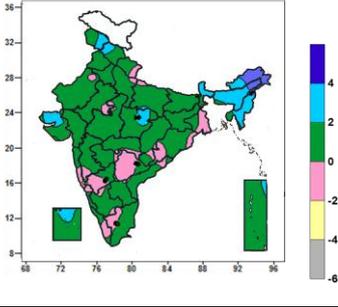
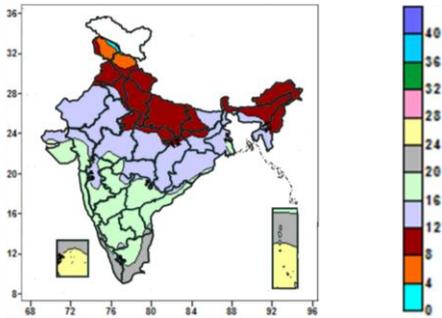
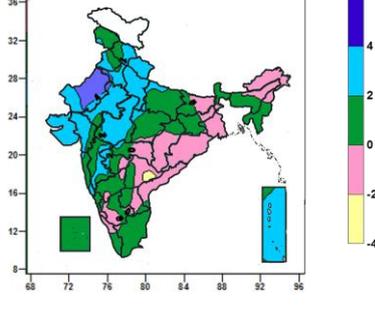
### **East India**

- Due to mainly dry weather in South Alluvial Zone of Bihar, farmers are advised to provide second irrigation to timely sown wheat at active tillering.
- As mainly dry weather is prevailing, farmers of Western Undulating Zone and Eastern Ghat High Land Zone of Odisha are advised to apply irrigation in vegetable crops, groundnut, mustard and sunflower.
- Farmers of North Central Plateau Zone of Odisha are advised to apply irrigation to mustard and sunflower.
- In view of mainly dry weather condition, farmers in New Alluvial Zone and Laterite and Red Soil Zone of West Bengal are advised to apply irrigation to timely sown crop of wheat.
- Due to present weather condition in New Alluvial Zone of West Bengal attack of powdery-mildew may be high in cucumber and pointed gourd. Apply 3 to 4 gm blitox per lt of water.
- As rain is expected only at one or two places, farmers in Jharkhand are advised to irrigate gram and lentil at branching and flowering stage.
- In East and South Eastern Coastal Plain Zone of Odisha, tikka disease and white ant attack have occurred in rabi groundnut. Farmers are advised to spray 500 g Blitox - 50 in 200 litre water per acre for tika and spray 2 ml Chloropyriphos in 1 litre water for controlling white ant attack. Bacterial wilt has been found in summer groundnut, spray 1 g Streptocycline/10 litre water thoroughly to the root zone.
- Pod borer has occurred in gram and pea in Eastern Ghat High Land Zone of Odisha, farmers are advised to spray 50 ml Imidacloprid or 400 ml Dimethoate or Metasystox in 200 litre water per acre. Spray 250 LE NPV/ac in 200 litre in the afternoon or spray 1kg BT product in 200 litre water.
- In the prevailing weather condition in Laterite and Red Soil Zone of West Bengal, there is possibility of attack of aphid and leaf-blight mustard and chilli. To prevent attack of aphid spray acephate 1gm/lt of water and from attack of leaf-blight apply 2.5 to 3 gm Blitox per lt of water at an interval of 20 days.

### **South India**

- In the Central Zone of Kerala, farmers are advised to irrigate and mulch the coconut and banana plantations.
- In the Problem Area Zone of Kerala, mulching with dried leaves is recommended for reducing evapotranspiration loss in plantations and frequency of irrigation may be increased in coconut, nutmeg and banana fields.
- In the Problem Area Zone of Kerala, in the prevailing weather condition attack of stem borer and leaf folder is noticed in rice. Present weather condition also favours for the outbreak of blast disease and the attack of brown plant hopper (BPH) in the upper Kuttanad and Kariland. Farmers are advised to monitor the crop and apply plant protection measures to control the pest and diseases.
- Due to high wind speed in the Western Zone of Tamil Nadu, evapotranspiration will be more in standing crops in garden land. Farmers are advised to apply irrigation and propping is recommended for eight to nine month sugarcane crop to avoid lodging.
- In Eastern Dry Zone of Karnataka, low temperature in morning hours is congenial for powdery mildew in mango and grapes and also leaf hopper in mango. Farmers are advised to undertake plant protection measures.
- As dry weather is likely to continue in Eastern Dry Zone of Karnataka, apply irrigation to ragi at earhead emergence stage.
- In the Southern Telangana Zone of Andhra Pradesh, incidence of Spodoptera is noticed in groundnut. Follow IPM measures. Prevailing weather conditions are congenial for the incidence of stem borer in 20-25 days old transplanted rice and peanut stem necrosis disease (PSND) and leaf miner in groundnut. Farmers are advised to undertake plant protection measures.
- Weather is congenial for attack of thrips on groundnut (due to rise in day temperatures) and blast on *rabi* rice (due to fall in night temperature and high relative humidity) in the Southern Zone and North Coastal Zone of Andhra Pradesh. Farmers are advised to spray Tricyclazole @ 0.6 g per litre of water as soon as blast disease symptoms are noticed in rice and Monocrotophos @ 1.6 ml or Chloropyriphos @ 2 ml per liter of water for thrips on groundnut.

## Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 06.02.2013

<p><b>Actual Mean Maximum Temperature (°C) in India for the week ending 06.02.2013</b></p> 	<p><b>Mean Maximum Temperature (°C) Anomaly in India for the week ending 06.02.2013</b></p> 
<p>Actual Mean Maximum temperature ranged between 32 to 36°C over many parts of Madhya Maharashtra, Marathwada, Rayalaseema, Coastal Karnataka, Kerala, Lakshadweep Islands, some parts of Vidarbha, Coastal Andhra Pradesh, Telengana, North &amp; South Interior Karnataka, Tamil Nadu, 12 to 16°C over some parts of Jammu &amp; Kashmir, Himachal Pradesh, 16 to 20°C over many parts of Jammu &amp; Kashmir, some parts of Himachal Pradesh, 20 to 24 over many parts of Uttarakhand, West Uttar Pradesh, some parts of Himachal Pradesh, Punjab, Haryana, Delhi, East Uttar Pradesh, 24 to 32°C over remaining parts of the country.</p>	<p>Mean Maximum temperature anomaly ranged between 4 to 6°C over many parts of Arunachal Pradesh, Kutch, some parts of Assam &amp; Meghalaya, 2 to 4°C over many parts of Sub-Himalayan West Bengal &amp; Sikkim, Assam &amp; Meghalaya, Nagaland, Manipur, Mizoram, some parts of Jammu &amp; Kashmir, Himachal Pradesh, East Uttar Pradesh, East Madhya Pradesh, Lakshadweep Islands, -2 to 2°C over rest of the country.</p>
<p><b>Actual Mean Minimum Temperature (°C) in India for the week ending 06.02.2013</b></p> 	<p><b>Mean Minimum Temperature (°C) Anomaly in India for the week ending 06.02.2013</b></p> 
<p>Actual Mean Minimum Temperature ranged between 24 to 28°C over many parts of Lakshadweep, Andaman &amp; Nicobar Islands, 20 to 24°C over many parts of Kerala, some parts of Tamil Nadu, Kerala, Coastal Andhra Pradesh, Rayalaseema, Lakshadweep, Andaman &amp; Nicobar Islands, 4 to 8°C over many parts of Jammu &amp; Kashmir, Himachal Pradesh, 8 to 12°C many parts of Punjab, Haryana, Delhi, Uttar Pradesh, Sub-Himalayan West Bengal &amp; Sikkim, North East India(except Mizoram &amp; Tripura), some parts of Jammu &amp; Kashmir, Himachal Pradesh, Bihar, Jharkhand, Chhattisgarh, North Rajasthan, North Madhya Pradesh, Mizoram, 0 to 4°C over some parts of Jammu &amp; Kashmir, 12 to 20°C over remaining parts of the country.</p>	<p>Minimum Temperature anomaly ranged between 4 to 6°C over many parts of West Rajasthan, some parts of Haryana, East Rajasthan, 2 to 4°C over many parts of Himachal Pradesh, Uttarakhand, Haryana, Delhi, West Uttar Pradesh, East Rajasthan, Gujarat, Saurashtra &amp; Kutch, West Madhya Pradesh, Andaman &amp; Nicobar Islands, some parts of Jammu &amp; Kashmir, Punjab, East Uttar Pradesh, Maharashtra, East Madhya Pradesh, -4 to -2°C over some parts of Telangana, -2 to 2°C over rest of the country.</p>

## Distribution of rainfall of the country during week ending on 06.02.2013

State/Districts	Actual	06.02.13
<b>Himachal Pradesh</b>		
Bilaspur	68.7	335
Chamba	105.2	220
Hamirpur	59.9	164
Kangra	53.4	190
Kinnaur	113.5	307
Kullu	124.4	519
Lahaul and Spiti	95.3	213
Mandi	70.9	352
Shimla	104.6	588
Sirmaur	136.4	809
Solan	116.0	517
Una	27.4	85
<b>Punjab</b>		
Amritsar	11.1	74
Barnala	1.2	-80
Bhatinda	13.0	251
Faridkot	13.0	319
Fatehgarh Sahib	16.0	125
Ferozpur	4.6	38
Gurdaspur	42.1	196
Hoshiarpur	14.5	48
Jalandhar	16.7	156
Kapurthala	16.9	206
Ludhiana	8.7	28
Mansa	0.0	-100
Moga	15.6	239
Muktesar	0.0	-100
Nawashahar	8.2	-27
Patiala	9.3	32
Ropar	20.1	188
Sangrur	14.3	147
Mohali	16.0	208
TarnTaran	14.1	356
<b>Haryana</b>		
Ambala	41.0	269
Bhiwani	17.2	365
Chandigarh	31.4	145
Faridabad	4.0	25
Fatehabad	9.1	332
Gurgaon	27.0	1025
Hissar	12.9	343
Jhajar	31.0	1309
Jind	18.3	337
Katihah	19.3	348
Karnal	46.4	661
Kurukshetra	18.8	190
Mahendragarh	30.0	1329
Mewat	0.0	-100
Palwal	4.6	119
Panchkkula	40.4	254
Panipat	50.8	958
Rewari	11.4	356
Rohtak	0.0	-100
Sirsa	3.0	-38
Sonepat	77.6	1337
Yamunanagar	93.5	816
Delhi	51.9	1473
<b>Jammu &amp; Kashmir</b>		
Anantnag	32.5	31
Badgam	22.2	69
Bandipore	**	**
Baramula	55.7	82
Doda	88.6	143
Ganderwal	38.2	137
Jammu	44.4	264
Kargil	14.2	56
Kathua	32.9	85
**Kistwar	**	**
Kulgam	48.4	95

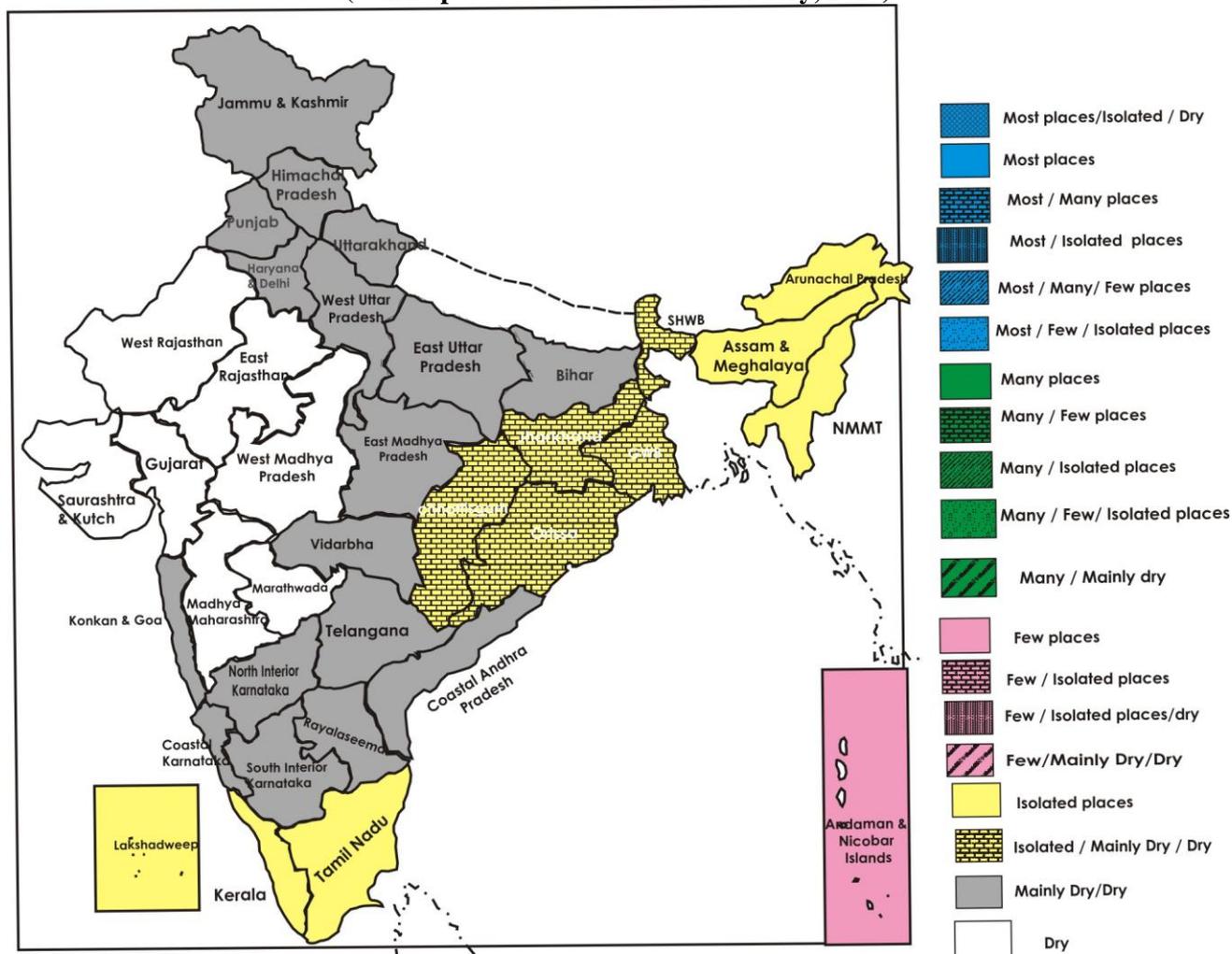
Kupwara	65.1	170
Ladakh(Leh)	7.2	348
Poonch	117.0	173
Pulwama	20.2	79
Rajouri	59.5	167
Ramban	116.2	218
Reasi	71.9	161
Samba	31.5	158
Shopian	42.0	272
Srinagar	32.2	100
Udhampur	48.0	74
<b>East Madhya Pradesh</b>		
Anuppur	0.0	-100
Balaghat	0.0	-100
Chhatarpur	25.0	900
Chindwara	0.0	-100
Damoh	0.0	-100
Dindori	0.0	-100
Jabalpur	0.0	-100
Katni	0.0	-100
Mandla	0.0	-100
Narsingpur	0.0	-100
Panna	0.0	-100
Rewa	0.0	-100
Sagar	0.0	-100
Satna	0.0	-100
Seoni	0.0	-100
Shahdol	0.0	-100
Sidhi	0.0	-100
Singrauli	0.0	-100
Tikamgarh	25.0	1686
Umaria	0.0	-100
<b>East Uttar Pradesh</b>		
Allahabad	0.0	-100
Ambedkar Nagar	0.0	-100
Azamgarh	0.0	-100
Bahraich	39.0	1014
Ballia	0.0	-100
Balrampur	30.5	663
Banda	9.0	246
Barabanki	59.7	2196
Basti	2.9	-15
Chandauli	0.0	-100
Deoria	0.0	-100
Faizabad	7.1	103
Farrukhabad	9.8	227
Fatehpur	27.8	742
Gazipur	0.0	-100
Gonda	37.5	1036
Gorakhpur	0.3	-92
Hardoi	15.3	351
Jaunpur	0.0	-100
Kannauj	12.0	380
Kanpur City	57.7	1596
Kanpur Dehat	64.0	2270
Kaushambi	1.2	-69
Kheri	26.5	546
Kushi nagar	0.0	-100
Lucknow	37.8	1160
Maharajganj	1.0	-70
Mau	0.0	-100
Mirzapur	0.0	-100
Pratapgarh	0.0	-100
Raibareilly	10.9	263
Sahuji		
Maharajnagar	0.0	-100
Sant Kabirnagar	3.0	-19
Sant Ravidas Nagar	0.0	-100
Shrawasti	15.0	329
Sidharthnagar	11.0	267

Sitapur	17.7	509
Sonbhadra	0.0	-100
Sultanpur	2.1	-33
Unnao	67.9	2091
Varanasi	0.8	-69
<b>West Uttar Pradesh</b>		
Agra	2.7	47
Aligarh	8.5	216
Auraiya	8.0	300
Badaun	8.9	107
Baghpat	62.9	1087
Bareilly	13.4	131
Bijnor	49.6	785
Bulandshahar	8.0	371
Etah	3.3	67
Etawah	5.0	85
Firozabad	2.6	-16
GBNagar	7.5	142
Ghaziabad	14.0	130
Hamirpur	40.5	1589
Jalaun	47.0	4597
Jhansi	44.8	2532
Jotirba Phule Nagar	19.5	413
Kanshiramnagar	10.0	669
Lalitpur	47.0	2511
Mahamaya Nagar	5.5	189
Mahoba	26.0	797
Mainpuri	6.2	208
Mathura	0.0	-100
Meerut	50.1	846
Moradabad	13.8	228
Muzzaffarnagar	82.2	1205
Pilibhit	7.9	29
Rampur	15.1	388
Saharanpur	57.3	706
Shahjahanpur	11.7	116
<b>Uttarakhand</b>		
Almora	61.0	288
Bageshwar	86.4	450
Chamoli	109.0	581
Champawat	37.7	273
Dehradun	95.0	525
Garhwal Pauri	82.7	578
Garhwal Tehri	103.9	549
Haridwar	70.9	679
Nainital	69.4	411
Pithoragarh	57.6	300
Rudraprayag	107.4	382
Udham Sing Nagar	22.8	268
Uttarkashi	132.0	768
<b>West Rajasthan</b>		
Barmer	1.3	108
Bikaner	13.7	1271
Churu	4.4	195
Hanumangarh	10.4	548
Jaisalmer	9.0	1393
Jalore	6.2	1131
Jodhpur	3.4	383
Nagaur	7.1	786
Pali	0.6	-9
Sri Ganganagar	33.5	1870

### Legends

	(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

## Weather Forecast (Valid upto 0830 hours of 11<sup>th</sup> February, 2013)



### Major Feature of Weather Forecast up to 0830 hours IST of 11<sup>th</sup> February, 2013

- No dense fog would occur over Indo-Gangetic plains during next 24 hours.
- Rain/thundershowers would occur at one or two places over Chhattisgarh, Jharkhand, Odisha, West Bengal & Sikkim during next 24 hours and over northeastern states during next 48 hours.
- Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands and at one or two places over Tamilnadu, Kerala and Lakshadweep.
- Further fall in minimum temperatures by about 2°C over Punjab, Haryana, Delhi, west Uttar Pradesh, Rajasthan and west Madhya Pradesh during next 48 hours.
- Fall in minimum temperatures by 3-6°C over east Uttar Pradesh and east Madhya Pradesh from tomorrow onwards and Bihar, Jharkhand and Chhattisgarh from 9<sup>th</sup> February onwards.
- Mainly dry weather would prevail over rest parts of the country.

### Weather Warning during next 3 days

- No weather warning.

### Weather Outlook for subsequent 4 days from 11<sup>th</sup> to 15<sup>th</sup> February, 2013

- Rain/thundershowers would occur at a few places over extreme south peninsular India.
- Weather would be mainly dry over rest parts of the country.

## Zonewise Agromet Advisories

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

- **Realised Rainfall:** Dry weather prevailed over the states of the region during last week.
- **Weather Forecast:** Rain/thundershowers would occur at one or two places over north eastern states during next 48 hours.
- **Advisories:**
  - As dry weather prevailed over the States of the region during last week and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
  - In the present weather conditions, in Sub-Tropical Hill Zone of Arunachal Pradesh, farmers are advised for moisture conservation using locally available mulch in rapeseed and mustard.
  - As prevailing weather is favourable for development of blossom end rot in tomato in Mild Tropical Hill Zone of Nagaland, farmers are advised for mulching in tomato to conserve soil moisture.
  - As mainly dry weather is prevailing, farmers in Sub Tropical Plain Zone of Manipur are advised to apply irrigation in rapeseed, field pea and maize.
  - As dry weather favours the spread of powdery mildew in pea at pod formation stage in Mild Tropical Hill Zone of Nagaland, farmers are advised to monitor pea against powdery mildew and apply appropriate plant protection measures if incidence of disease occurs.
  - Attack of saw fly, cut worm and aphids at vegetative and flowering stages of toria is observed at some places of Nagaon and Marigaon districts in Central Brahmaputra Valley Zone of Assam; farmers are advised to apply Dimethoate 30 EC or Chloropyrifos 20 EC @ 1 ml per litre of water in toria. Incidence of wilt disease and aphids has also been observed in lentil and lathyrus; farmers are advised to drench the soil with Bavistin @ 1 ml / litre of water to protect the crop from wilt and apply Malathion 50 EC @ 2 ml / litre of water for aphids. Due to present weather condition there is also chance of occurrence and spreading of late blight disease in potato; spray Mancozeb 75% a.i. @ 2.5 g per litre of water.
  - In Barak Valley Zone of Assam, there is infestation of aphids, jassids and beetles in French bean; farmers are advised to spray Malathion 50 EC @ 1.5 ml / litre of water to control the attack.
  - Due to favourable weather conditions, there is chance of attack of aphids and saw fly on rapeseed and mustard in North Bank Plain Zone and Hill Zone of Assam; farmers are advised to apply Dimethoate 30 EC, Malathion 50 EC @ 2 ml / litre or Chloropyrifos @ 2 ml / litre of water to control aphids and saw fly. Late blight may also appear in potato in North Bank plain Zone of Assam under prevailing weather. To control spray Mancozeb @ 2.5 g / litre of water.
  - Due to humid and cloudy weather conditions, there is chance of attack of late blight in tomato in Hill Zone of Assam; farmers are advised to apply Ridomil MZ-72 @ 2 g per litre of water and Indofil M-45 @ 2.5 g / litre of water at 15 days interval.
  - Due to favourable weather conditions, there is attack of saw fly in toria in Upper Brahmaputra Valley Zone of Assam; farmers are advised to apply Endosulfan @ 2 ml per litre of water during evening hours to control saw fly in toria.
  - In Temperate Sub Alpine Zone of Meghalaya, due to congenial weather, there is chance of attack of aphids in toria, pea and lentil; farmers are advised to apply Dimethoate @ 2 ml per litre of water or Malathion 50 EC @ 1.5 ml per litre of water if incidence is noticed.
  - Due to prevailing weather conditions in Mild Tropical Plain Zone of Tripura, there is chance of attack of aphids in toria, powdery mildew in pea and beans and late blight in potato; farmers are advised to spray Monocrotophos @ 2 ml per litre of water for the attack of aphids in toria, Mancozeb (Indofil M-45) @ 2.5 g per liter of water in potato field at least twice at an interval of 15 days for late blight and wettable sulphur @ 2 g per litre of water or to dust Sulphur at 25 kg / ha on pea and beans for powdery mildew as precautionary measures.
  - Other advisories are mentioned in Annexure - I
  - Stages of major crops are mentioned in Annexure II.
  - Suitable varieties of crops are mentioned in Annexure III.
- **Animal Husbandry**
  - Farmers in Central Brahmaputra Valley Zone of Assam are advised to protect poultry birds from cold by using electric bulb (300Watt for 100 sq.feet) to prevent Coryza disease.
  - In Mild Tropical Hill Zone of Mizoram and Sub-Tropical Hill Zone of Arunachal Pradesh, farmers are advised to provide good shelter by additional bulbs in poultry, heating system to cattle shed or tie gunny bag on back to protect from cool temperature.

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

- **Realised Rainfall:** Dry weather prevailed over the region.
- **Weather Forecast:** Rain/thundershowers would occur at one or two places over Jharkhand, Odisha, West Bengal & Sikkim during next 24 hours. Fall in minimum temperatures by 3-6°C over Bihar, Jharkhand from 9<sup>th</sup> onwards. Mainly dry weather would prevail over rest parts of the region.
- **Advisories:**
  - As there was no significant rain over the States during last week and mainly dry weather is likely during the period, farmers are advised to apply irrigation to the standing crops.
  - Due to dry weather prevailed during last week and mainly dry weather is likely in South Alluvial Zone of Bihar, farmers are advised to provide second irrigation to timely sown wheat at active tillering stage.
  - As mainly dry weather will prevail, farmers in North West Alluvial Plain Zone of Bihar, are advised to harvest matured tobacco crop. Farmers are also advised to provide irrigation to maize crop. As temperature condition is getting normal for planting, farmers are advised to plant spring planted sugarcane.
  - As dry weather is prevailing, farmers of Western Undulating Zone and Eastern Ghat High Land Zone of Odisha are advised to apply irrigation in vegetable crops, groundnut, mustard and sunflower.
  - Farmers of North Eastern Plateau Zone of Odisha are advised to irrigate wheat crop due to dry weather prevailed during last week and no significant rainfall is likely during next five days.
  - Farmers of North Central Plateau Zone of Odisha are advised to apply irrigation to mustard and sunflower.
  - As dry weather prevailed during last week and no significant rainfall is likely during next five days, the farmers of North Eastern Coastal Plain Zone of Odisha are advised to irrigate the wheat, rapeseed and mustard crops.
  - As rain is expected only at one or two places, farmers in Jharkhand are advised to irrigate gram and lentil at branching and flowering stage.
  - In view of dry weather prevailed during last week and no significant rainfall is likely during next five days, farmers in New Alluvial Zone and Laterite and Red Soil Zone of West Bengal are advised to apply irrigation to timely sown crop of wheat.
  - Due to present weather condition in New Alluvial Zone of West Bengal, attack of powdery-mildew may be high in cucumber and pointed gourd. Apply 3 to 4 gm blitox per lit of water.
  - Due to prevailing weather conditions in Laterite and Red soil Zone of West Bengal, there is chance of late blight attack in potato. As a control, spray Blitox or Mancozeb @ 2.5g /liter of water at an interval of 5-7 days, thrice.
  - Due to present weather condition in Old Alluvial Zone and Terai Zone of West Bengal, late blight and aphid may be infested in potato and mustard. To prevent the attack of late blight, spray Mancozeb (2 gm /lt of water) and Blitox (4 gm/lt of water) alternately at 10-12 days interval by completely wetting the leaves. To prevent attack of aphid, spray acephate 1gm/lt of water.
  - In the prevailing weather condition in Laterite and Red Soil Zone of West Bengal, there is possibility of attack of aphid and leaf blight in mustard and chilli. To prevent attack of aphid, spray acephate 1gm/lt of water and to prevent attack of leaf blight apply 2.5 to 3 gm Blitox per lt of water at an interval of 20 days.
  - Pod borer has occurred in gram and pea in Eastern Ghat High Land Zone of Odisha due to prevailing weather conditions, farmers are advised to spray 50 ml Imidacloprid or 400 ml Dimethoate or Metasystox in 200 litre water per acre. Spray 250 LE NPV/ac in 200 litre in the afternoon or spray 1kg BT product in 200 litre water.
  - In Western Undulating Zone and Eastern Ghat High Land Zone of Odisha, white fly and leaf miner infestation has been observed in tomato, farmers are advised to spray Imidacloprid 1ml/4 lit of water to control white fly and triazophos 2ml/lit of water for controlling leaf miner. Yellow mosaic vein disease has been reported in black gram and green gram crop in some areas. Up root the infected plant and destroy it by burning. To control the vector spray Imidacloprid @1ml/4lit of water or spray Metasystox/Dimethoate @ 2ml/lit of water.
  - *Alternaria* blight infestation has been found in early planted onion in East and South Eastern Coastal Plain Zone of Odisha, farmers are advised to spray 3 g Dithane-M-45 in 1 litre water. Leaf eating caterpillar and leaf miner have been found in *rabi* sunflower, spray 400 ml Endosulphan/acre. Spray 400 ml Chloropyriphos/acre in 400 litre water to control cut worm infestation.
  - In East and South Eastern Coastal Plain Zone of Odisha, tikka disease and white ant attack have occurred in *rabi* groundnut. Farmers are advised to spray 500 g Blitox - 50 in 200 litre water per acre for tikka and spray 2 ml Chloropyriphos in 1 litre water for controlling white ant attack. Bacterial wilt has been found in summer groundnut, spray 1 g Streptocycline/10 litre water thoroughly in the root zone.
  - In North Central Plateau Zone of Odisha, diamond backed moth infestation has occurred in cauliflower, farmers are advised to spray 2 ml. Cartaf Hydrochloride per litre of water.
- **Animal Husbandry**
  - To prevent from pneumonia in goats kids, farmers of Central and Northeastern Jharkhand are advised to give tetracycline medicine in water and vaccinate at regular interval with prescription of Veterinary Doctor.
- **Pisciculture**

- Farmers of North Eastern Coastal Plain Zone of Odisha are advised to use 3ml Vitapet oil per kg of artificial feed as feed attractant in winter. To prevent the EUS disease in fish, apply Cifax @ 400 ml or Aquaneem per a pond of 1 acre and 1 meter depth of water.
- Rise in temperature is favourable condition for growth of fishes. Farmers in North Central Plateau Zone, North Eastern Plateau Zone of Odisha are advised to add cow dung and lime in the pond as a natural foods for them and alternative feeds may also be used like rice bran and mustard cake (each of 5 kg per day per acre area of pond).
- Other crop advisories are mentioned in Annexure I.
- Stages of major crops are mentioned in Annexure II.
- List of Varieties are mentioned in Annexure III.

#### 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 would prevail over the States of the region.
- **Advisories:**
  - As dry weather prevailed over maharashtra during last few weeks and mainly dry weather would prevail over the State during next 5 days, farmers are advised to apply irrigation to wheat and gram and give regular irrigation to sugarcane, vegetables and orchard crops.
  - As the prevailing minimum temperature of 14 to 18<sup>0</sup>C in Pune and Nasik region is suitable for sowing of summer bajra and groundnut, farmers are advised to complete sowing of these crops.
  - Due to rise in day temperature, farmers in North Madhya Maharashtra are advised to undertake mulching of crop residue and other waste products in vegetables and fruit crops to conserve moisture in the field. Also apply drip irrigation.
  - As prevailing temperature is favourable (day temperature 28<sup>0</sup>C to 34<sup>0</sup>C), farmers are advised to continue planting of *suru* sugarcane in Madhya Maharashtra and Marathwada region.
  - Farmers in Central Vidarbha Zone are advised to continue sowing of summer groundnut as prevailing minimum temperature is favourable for germination of seeds.
  - In view of dry weather and rise in maximum temperature, farmers in Madhya Maharashtra and Marathwada are advised to start harvesting of already matured *rabi* jowar, maize and safflower in the morning hours.
  - As dry weather prevailed during last few weeks and is likely to prevail during the period in North Gujarat Zone, Bhal and Coastal Zone and North West Zone of Gujarat, apply irrigation to cumin and vegetable crops. Apply irrigation in potato also in North Gujarat zone. Under expected dry weather in coming days, apply irrigation in castor in South Gujarat Heavy Rainfall Zone. As dry and clear weather is prevailing, carry out weeding and intercultural operations in the crops.
  - As dry weather is prevailing and gram is at flowering / pod formation stage and wheat is at flowering / milk stage in North West Zone of Gujarat and in North Gujarat Zone, apply irrigation to gram and wheat crops.
  - In view of favourable weather conditions, farmers in North Saurashtra Zone of Gujarat are advised to undertake sowing of summer groundnut, black gram, green gram and summer vegetables *viz*, lady's finger, cluster bean, bottle guard, sponge guard, ridge guard, bitter guard, water melon and transplanting of tomato and brinjal.
  - Weather is favourable for sowing of summer groundnut in North Gujarat Zone.
  - Due to cloudy weather in Western Ghat region there is possibility of attack of sap sucking pests like aphids and jassids on vegetables; spray Confidor @ 5 ml in 10 litres of water.
  - Due to sudden rise in minimum temperature in North Konkan during this week, there may be incidence of hoppers and powdery mildew in mango; spray 7.8 % Imidachloprid @ 3 ml along with Hexaconazol @ 5 ml or WS Sulphur @ 20 g or Carbendazim @ 10 g in 10 litres of water.
  - Due to cloudy weather, there may be more attack of aphids on pea, tomato, brinjal, cabbage and cauliflower in Western Maharashtra Scarcity Zone; spray Dimethoate @ 15 ml or Imidachloprid @ 5 ml in 10 litres of water.
  - Prevailing weather is congenial for incidence of rust in wheat in Central Vidarbha zone; spray Mancozeb @ 25g in 10 litres of water.
  - Due to forecast of increase in temperature in South Gujarat Heavy Rainfall Zone during the period, there are chances of increased infestation of sucking pests in vegetables and infestation of thrips in banana. Spray Dimethoate 30 EC 0.1% to control sucking pests in vegetables and spray the banana crop with Melathion 50 EC @ 20 ml or Quinolphos 25 EC @ 20 ml in 10 liters of water sprinkled on the loom for thrips.
  - Weather conditions are favourable for incidence of blight and powdery mildew in cumin in North Saurashtra Zone of Gujarat; spray 10 ml Hexaconazole 5 EC in 10 litres of water to prevent it. Garlic blight and onion purple blotch have been noticed in North Saurashtra Zone of Gujarat in garlic and onion; spray 25 gm Mencozeb 75% WP in 10 liters of water for control of garlic blight and onion purple blotch.
  - Other advisories are mentioned in Annexure I.

- Stages of the crops are mentioned in Annexure II.
- Varieties of the crops are mentioned in Annexure III.
- **Animal Husbandry**
- Udder of milking animals must be properly cleaned with insecticide like Zinc Oxide or Boric powder. Cut the beaks of birds in the poultry under age of 15 weeks, in South Gujarat Heavy Rainfall Zone and North Saurashtra Zone of Gujarat.
- In North Saurashtra Zone of Gujarat and Middle Gujarat zone, keep animals in sheds for protection against cold and take special care of young calves during morning hours. Cover poultry house by gunny bags or cloth / plastic sheets and give dry fodder to animals for protection against cold.

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Delhi, Bahraich, Balrampur, Barabanki, Fatehpur, Gonda, Kanpur City, Kanpur Dehat, Kheri, Lucknow, Unnao, Baghpat, Bijnor, Hamirpur, Jalaun, Jhansi, Lalitpur, Mahoba, Meerut, Saharanpur, Muzaffarnagar districts of Uttar Pradesh, Sri Ganganagar district of West Rajasthan, Gurdaspur and Ropar districts of Punjab and Ambala, Chandigarh, Gurgaon, Jhajar, Karnal, Mahendragarh, Panchkula, Panipat, Yamunanagar, Sonapat districts of Haryana. Mainly dry weather prevailed over the rest region.
- **Weather Forecast:** Mainly dry weather would prevail over the states of the region. Further fall in minimum temperatures by about 2°C over Punjab, Haryana, Delhi, west Uttar Pradesh, Rajasthan during next 48 hours and fall in minimum temperatures by 3-6°C over east Uttar Pradesh from tomorrow onwards.
- **Advisory:**
  - As significant rainfall occurred in most of the districts of Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Delhi, Bahraich, Balrampur, Barabanki, Fatehpur, Gonda, Kanpur City, Kanpur Dehat, Kheri, Lucknow, Unnao, Baghpat, Bijnor, Hamirpur, Jalaun, Jhansi, Lalitpur, Mahoba, Meerut, Saharanpur and Muzaffarnagar districts of Uttar Pradesh, Sri Ganganagar district of West Rajasthan, Gurdaspur and Ropar districts of Punjab and Ambala, Chandigarh, Gurgaon, Jhajar, Karnal, Mahendragarh, Panchkula, Panipat, Yamunanagar and Sonapat districts of Haryana, farmers are advised to postpone irrigation in standing crops.
  - In Jammu & Kashmir, farmers are advised to drain out excess water from the fields to avoid crop damage in mustard and wheat and to prevent rotting in vegetable crops under water logging conditions.
  - Farmers are advised to drain out excess water from wheat, barley, *rabi* maize, toria and fodder berseem fields in Central Plain Zone of Uttar Pradesh and from wheat, oilseed and vegetable crop fields in Low Hills Sub-montane Zone of Himachal Pradesh.
  - In Cold Arid Zone of Jammu & Kashmir, during these days keep newly planted apricot & apple plants covered with gunny bags to prevent from excessive cold. Cover the polythene of greenhouses with black polythene in the night for proper growth of crops or maintain two layers of polythene over greenhouse.
  - In the Mid Hills Sub Humid Zone of Himachal Pradesh sap flow in plants has stopped due to cold weather, hence start pruning and training operations in apple/stone fruits (plum, apricot, peach). Apply bordaux or Chaubatia paste on the pruning cuts.
  - Weather conditions are congenial for the incidence of yellow rust in wheat in Punjab, Delhi and Eastern Zone of Haryana. Farmers are advised to monitor the crop and take proper plant protection measures when the infestation crosses ETL.
  - In Sub Tropical Zone of Jammu & Kashmir, present weather conditions are favourable for white rust and *Alternaria* blight in mustard. Farmers are advised to take proper plant protection measures when the infestation crosses ETL.
  - Under increased day temperature conditions and foggy weather, there are chances of *Alternaria* blight, white rust, yellow rust, powdery mildew etc. diseases in standing wheat crop at ear head emergence stage in Bhabar and Terai Zone of Uttarakhand. If symptoms of any of these diseases are seen in the field, the farmers are advised to spray 200 ml of 25-EC Prepiconazol fungicide dissolved in 400 liters of water per acre. Repeat after an interval of 10 days.
  - In Sub-Humid Southern Plain and Aravalli Hill Zone of Rajasthan, there is chance of aphids attack on late sown mustard crop due to favourable weather conditions. Farmers are advised to spray Malathion 50 EC @ 1.25 l/ha or Dimethoate 30 EC @ 1 l/ha.
  - Farmers in East Uttar Pradesh are advised to monitor the crops and apply light and frequent irrigation in view of expected low temperature.
  - In Central Plain Zone of Uttar Pradesh, due to favourable weather conditions, there is chance of attack of aphid and saw fly on rapeseed and mustard. Farmers are advised to apply Dimethoate 30EC or Chloropyrifos @ 2ml/litre with a spray volume of 500-700 litre/ha for hand sprayer & 200-250 litre/ha for power sprayer.

- Stages of major crops are mentioned in Annexure II.
- Suitable varieties of crops are mentioned in Annexure III.
- **Horticulture:**
  - In Sub Tropical Zone of Jammu & Kashmir, young evergreen plants should be provided with thatches prepared from Sarkanda or any other material, however, it should be kept open on eastern side to allow sufficient sun shine and air for the plant.
- **Animal Husbandry**
  - In Subtropical Zone and Intermediate Zone of Jammu & Kashmir, it is advised to protect the pregnant and milch animals from cold and feed them mineral mixture regularly. Cover the poultry shed with gunny bags in order to protect the birds from cold weather.
  - In Uttarakhand, it is advised to keep all animals inside the shed in the night due to low temperature in the night during this week also. Feed them with balance feed including a mixture of green & dry fodder. Keep neat and clean the place of sitting & provide fresh water.

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

- **Realised Rainfall:** No significant rainfall occurred over the States of the region during last week.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Tamil Nadu, Kerala and Lakshadweep. Mainly dry weather would prevail over rest of the region.
- **Advisories:**
  - As no significant rainfall occurred over the region during last couple of weeks and no significant rain is expected over the region, apply irrigation to the standing crops.
  - In the High Altitude Zone of Kerala farmers are advised for mulching in arecanut and pepper gardens. Keep the garden clean and start irrigation.
  - Farmers in the Northern Zone of Kerala are advised to drain out water from rice fields completely for early and uniform hardening of the grains. Mulch the coconut basins to prevent evaporation loss of water. Provide good shading to transplanted young seedlings. Irrigate the palms at least once in a week.
  - In the Central Zone of Kerala, farmers are advised to irrigate and mulch the coconut and banana plantations.
  - In the Southern Zone of Kerala, in rain fed coconut gardens and banana basins, farmers are advised to apply mulching to conserve moisture.
  - In the Problem Area Zone of Kerala, mulching with dried leaves is recommended for reducing evapotranspiration loss in plantations and frequency of irrigation may be increased in coconut, nutmeg and banana fields.
  - Due to high wind speed in the Western Zone of Tamil Nadu, evapotranspiration will be more in standing crops in garden land. Farmers are advised to apply irrigation and propping is recommended for eight to nine month sugarcane crop to avoid lodging.
  - Due to prevailing dry weather, farmers are advised to harvest the matured crops of rice in Cauvery Delta Zone and undertake weeding and intercultural operation in groundnut and gram.
  - In Eastern Dry Zone of Karnataka, low temperature in morning hours is congenial for powdery mildew in mango and grapes and also leaf hopper in mango. Farmers are advised to undertake plant protection measures.
  - As dry weather is likely to continue in Eastern Dry Zone of Karnataka, apply irrigation to ragi at earhead emergence stage.
  - Farmers are advised to harvest gram and sugarcane and apply irrigation to wheat at earhead filling stage in North Eastern Transition Zone and continue harvesting of *rabi* crops and planting of sugarcane in Northern dry Zone of Karnataka.
  - Due to low temperature, hoppers were noticed in mango crop in North East Transition Zone of Karnataka. Spraying of 4 g Carbaryl 50 WP or 2 ml Malathion 50 EC or 1.5 ml Monocrotophos 36 SL or 0.5 ml Phosphamidon 40 EC in one litre water is advised.
  - Due to continuous dry weather, thrips activity is increased on vegetables in North East Dry Zone of Karnataka; to control spray oxy-demeton methyl (1.5 ml) or dimethoate (1.7 ml) with one liter of water.
  - Incidence of pseudostem weevil in banana and red palm weevil in coconut is noticed in High Altitude Zone of Kerala. Farmers are advised to remove the dry outer sheathes of the pseudostem of all infested and uninfested plants and spray Carbaryl 50 WP 4gm/litre of water on pseudostem to control incidence of pseudostem weevil which is noticed widely in 3-4 months old banana. Spray solution may be applied to leaf axils also. To control red palm weevil attack in coconut which is more severe in young palms, it is advised to clean the coconut crown and application of sand + carbaryl dust may be done which will also control rhinoceros beetle.

- In the Problem Area Zone of Kerala, in the prevailing weather condition attack of stem borer and leaf folder is noticed in rice. Also there is chance of sheath blight where the plant population is high. Farmers are advised to remove the severely affected plants to reduce the spread of the disease to the nearby plants. Attack of white backed plant hopper is noticed in some fields of Kuttanad. The farmers are advised to drain off the field completely. Present weather condition favours for the outbreak of blast disease and the attack of brown plant hopper (BPH) in the upper Kuttanad and Kariland. Farmers are advised to monitor the crop and apply plant protection measures to control the pest and diseases.
- In the Northern Zone of Kerala, prevailing dry spell is favourable for downy mildew in bitter melon. If found apply potassium phosphonate @3 ml+ propiconazole @1 ml per litre of water. Protect the black pepper vines from drought by thoroughly mulching the basins and giving lifesaving basin irrigations at fortnightly intervals.
- In the Southern Zone of Kerala, incidence of aphid attack in bhindi, cowpea, brinjal etc., bacterial wilt in cowpea is noticed and aphid may be controlled by spraying *Beauveria bassiana* and bacterial wilt in cowpea may be controlled by drenching with Kocide @ 2g/litre. Also due to prevailing weather condition there may be chances of bacterial leaf blight and leaf spot in rice and leaf spot in tomato. Apply *Pseudomonas fluorescence* 1 kg per acre along with 20 kg FYM or sand in rice to control blight and leaf spot and spray Mancozeb @ 2 g/l to control leaf spot in tomato.
- Incidence of blast is observed in rice in the North Coastal Zone of Andhra Pradesh. Farmers are advised to spray tricyclozole @ 0.6 g/l to control blast incidence.
- Due to continuous day temperatures above 20°C more than normal for a week, leaf miner and aphid in groundnut, hoppers and gram caterpillar in chillies and tomato was noticed in the Scarce Rainfall Zone of Andhra Pradesh. Prevailing weather conditions are also congenial for incidence of *Spodoptera litura*, early leaf spot, and peanut stem necrosis disease in groundnut (T max 30-32 °C, T min 21-23 °C) and stem borer in rice. Farmers are advised to undertake plant protection measures.
- In the Southern Telangana Zone of Andhra Pradesh, incidence of *Spodoptera* is noticed in groundnut. Follow IPM measures. Prevailing weather conditions are congenial for the incidence of stem borer in 20-25 days old transplanted rice and peanut stem necrosis disease (PSND) and leaf miner in groundnut. Farmers are advised to undertake plant protection measures.
- Weather is congenial for attack of thrips on groundnut (due to rise in day temperatures) and blast on *rabi* rice (due to fall in night temperature and high relative humidity) in the Southern Zone and North Coastal Zone of Andhra Pradesh. Farmers are advised to spray Tricyclazole @ 0.6 g per litre of water as soon as blast disease symptoms are noticed in rice and Monocrotophos @ 1.6 ml or Chloropiriphos @ 2 ml per liter of water for thrips on groundnut.
- Other advisories are mentioned in Annexure – I.
- Stages of major crops are mentioned in Annexure II.
- List of Varieties are mentioned in Annexure III.

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

- **Realised Rainfall:** Significant rainfall occurred in Chattarpur and Tikamgarh districts of Madhya Pradesh.
- **Weather forecast:** Rain/thundershowers would occur at one or two places over Chhattisgarh during next 24 hours. Mainly dry weather would prevail over rest parts of the region. Further fall in minimum temperatures by about 2°C over west Madhya Pradesh during next 48 hours. Fall in minimum temperatures by 3-6°C over east Madhya Pradesh from tomorrow onwards and Chhattisgarh from 9<sup>th</sup> onwards.
- **Advisories:**
  - As there was no significant rainfall in all the districts in Madhya Pradesh except in Chattarpur and Tikamgarh districts and Chhattisgarh, farmers are advised to apply irrigation to the standing crops. Postpone irrigation to the standing crops in in Chattarpur and Tikamgarh districts as there was significant rainfall.
  - Farmers in Jhabua Hill Zone of Madhya Pradesh are advised that due to favourable weather, undertake sowing of summer crops viz. maize, green gram, groundnut, sesamum. Prepare nursery of tomato, brinjal and chilli and sowing of okra may be done.
  - In Chhattisgarh Plain Zone, farmers are advised to apply irrigation to *rabi* crops in view of mainly dry weather conditions prevailed and no significant rainfall is likely to occur. Prepare nursery for sowing of summer vegetables.
  - Due to the cloudy weather condition prevailed during last week in Chhattisgarh Plain Zone, incidence of *Heliothis* in gram is reported over many places and is likely to increase, farmers are advised to monitor the crop and adopt integrated pest management practices for the control. If necessary spray insecticides like Indoxacarp @ 300 ml/ha or Carbaril @ 1 kg/ha.

- Present weather conditions are favourable for sowing of cucurbitaceous crop and leafy vegetables in Chhattisgarh Plain Zone. Farmers are advised to prepare field and sow these crops.
- Due to low temperature, white rust is observed in the cucurbitaceous vegetables in Bastar Plateau Zone in Chhattisgarh, farmers are advised to undertake dusting of Sulfex as per recommended dose.
- **Animal Husbandary**
  - In Jhabhua Hill Zone of Madhya Pradesh, farmers are advised to protect animals and birds against cold condition by using thick curtain in window and dry bed, use two bulb of 200W at night for brooding in chicks shed.
  - Other advisories are mentioned in Annexure – I.
  - Stages of major crops are mentioned in Annexure II.

**Annexure I**  
**Other Advisories**

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

- Farmers in Barak Valley Zone of Assam are advised to undertake land preparation for sowing of summer black gram and green gram.
- Farmers in North Bank Plain Zone of Assam are advised to undertake land preparation for summer vegetables like ridge gourd, cucumber, bitter gourd, okra etc.
- In Temperate Sub Alpine Zone of Meghalaya, farmers are advised to continue nursery preparation of *boro* rice in West Garo Hills, West Khasi Hills and sowing of chilli and brinjal.
- In Mild Tropical Plain Zone of Tripura, farmers are advised to continue sowing of summer moong / black gram and transplanting of summer brinjal and tomato.
- Farmers in Sub Tropical Plain Zone of Manipur are advised for transplanting of tomato, chilli, raising nursery of cucurbits and sowing of okra, French bean etc.
- Farmers in Mild Tropical Hill Zone of Nagaland are advised to undertake nursery raising of cucurbits *viz*, sponge gourd, bitter gourd and pumpkin.

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

- Temperature condition is now congenial for planting of autumn planted sugarcane, onion and sowing of sweet potato and summer vegetables, farmers in North West Alluvial Plain Zone of Bihar are advised to start preparing the fields.
- Farmers of Western Undulating Zone of Odisha are advised to complete transplanting of summer rice. Prepare land for planting of sugarcane.
- Farmers of East and South Eastern Coastal Plain Zone of Odisha are advised for sowing of summer groundnut, sesame, maize and sunflower.
- Farmers of Mid Central Table Land Zone of Odisha are advised for sowing of summer groundnut.
- Farmers of North Eastern Coastal Plain Zone of Odisha are advised to undertake sowing of sunflower.
- Farmers of North Eastern Plateau and North Central Plateau Zone of Odisha are advised to undertake sowing of vegetables.
- Farmers of Eastern Ghat High Land Zone of Odisha are advised to undertake sowing of summer maize.
- Farmers in Central and Western Plateau Zone of Jharkhand are advised to prepare the nursery bed for raising seedlings of summer rice.
- Farmers in Western Plateau Zone and Central and North Eastern Plateau Zone of Jharkhand are advised to prepare nursery bed for raising seedlings of summer rice and prepare field for sowing of long gourd, round gourd, bitter gourd, sponge gourd, cucumber, water melon and musk melon. In Western Plateau Zone, as timely sown toria crops are at maturity stage, farmers are advised to harvest the crop and irrigate gram and lentil crops.
- Farmers in New Alluvial and Old Alluvial Zone of West Bengal are advised to start transplanting of *boro* rice and complete the transplanting of rice in Laterite and Red Soil Zone of West Bengal. Always maintain 5 cm standing water in the field during and after transplanting.
- Farmers in *Tarai* Zone of West Bengal are advised to prepare the main field for transplanting of *boro* rice.

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

- Farmers in Central Vidarbha Zone are advised to prepare the land for sowing of summer sesamum and green gram. Farmers in East Vidarbha are advised to continue sowing of summer groundnut and undertake the planting of water melon and musk melon.
- Farmers in Pune region are advised to undertake the nursery sowing of tomato and brinjal.
- Carry out harvesting of vegetables in Bhal and Coastal Zone and North West Zone of Gujarat, harvesting of matured castor capsules in Bhal and Coastal Zone, Middle Gujarat Zone and South Saurashtra Zone of Gujarat. Carry out picking of cotton bolls in morning time and cut the maize crop at tasseling stage for fodder purpose in North Gujarat Zone.

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

- In Central plain Zone of Uttar Pradesh farmers are advised to irrigate wheat at the flowering stage and start field preparation for sowing of sugarcane, sunflower, tomato and brinjal.
- In Western Plain Zone of Uttar Pradesh, farmers are advised to harvest sugarcane and start land preparation for sowing of sunflower.

- In Bhabar and Tarai Zone of Uttarakhand, farmers are advised to undertake sowing of brinjal, capsicum in the nursery and harvesting of main sugarcane crop, transplanting of onion seedlings and prepare field for sowing of sunflower, new sugarcane crop.
- Farmers in Western Zone in Haryana are advised to monitor wheat crop for deficiency of zinc and nitrogen. Spray the mixture of one Kg Zinc Sulphate and five kg Urea with 200 liters of water per acre in clear weather. Also complete sowing of sunflower seeds up to 15th February and transplant the nursery of tomato and chilli in the field.
- In the High Hills Temperate Wet Zone of Himachal Pradesh farmers are advised to do the pruning in apple crop, up to half branch and paste with Chaubatia paints to prevent the infection and spray chlorpyrifos 20 EC @ 5ml per litre of water around the stem with in a circle of 3 feet against the attack of root borer.

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

- Farmers in Hill Zone of Karnataka are advised to sow sunflower.
- Farmers in the Northern Transition Zone of Karnataka are advised to harvest sugarcane, gram and cotton and planting of sugarcane may be done.
- In the High Altitude zone of Kerala, farmers are advised to drain the water from the paddy field two weeks prior to harvest. Plough the field after the harvest for taking next crop and allow the stubbles to decay and select short duration varieties for the summer crop.
- In the Southern Zone of Kerala, farmers are advised to raise cow pea and other vegetables after harvesting the second paddy crop if, sufficient water is available.
- Farmers are advised to sow summer irrigated maize, cotton and sorghum in Southern Zone, cotton in North Western Zone and potato and carrot in High altitude and hilly zone of Tamil Nadu.
- In the Problem Area Zone of Kerala, weather is favourable for sowing of cabbage and cauliflower and irrigate the already sown bhindi crop at 2-3 days interval.

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

- Farmers in Bundelkhand Zone of Madhya Pradesh are advised to complete transplanting of tomato, chilly, brinjal, onion and cucurbit crops in the field by the end of this week.
- Present weather conditions are favorable for planting of onion and prepare nursery for sowing of summer vegetable crops in Chhattisgarh Plain Zone.
- In Bastar Plateau Zone of Chhattisgarh, farmers are advised to undertake sowing of summer moong, urad and maize and raise nursery of cucurbits.

## Annexure II

### Major Crops

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

- *Boro* rice (tillering), cole crops (head formation / maturity / harvesting), wheat (tillering / ear head emergence / flowering), rapeseed, mustard (capsule formation), potato (tuber development / maturity), tomato (flowering / fruiting / maturity), *rabi* pulses *viz.* lentil, rajmah, pea (pod formation), okra, Fench bean (sowing / seedling), sunflower (sowing), cucurbits (sowing) in Assam.
- Cauliflower, cabbage (maturity / harvesting), potato (maturity / harvesting), pea (flowering / pod formation), rapeseed, mustard (capsule formation) in Arunachal Pradesh.
- Potato (tuber formation), pea (flowering / pod formation), cauliflower, cabbage (head formation / harvesting), rapeseed (pod formation), onion, garlic (vegetative / bulb formation) *rabi* maize (vegetative), tomato, chilli, (transplanting), beans (sowing / early vegetative), cucurbits (nursery raising) in Manipur.
- *Rabi* maize (vegetative), *boro* rice (vegetative), cole crops (head formation), pea, lentil, mustard (pod formation), toria (pod formation), *Dolichos* / French bean (flowering / pod formation), tomato (flowering / fruiting), chilli, brinjal (sowing) in Meghalaya.
- Cole crops (head formation), beans (flowering / pod formation), pea, lentil (pod formation / pod maturity / harvesting), tomato (fruiting) in Mizoram.
- Cabbage (head formation), mustard (capsule formation), tomato (flowering / fruiting), pea (pod maturity / harvesting), banana (vegetative / fruiting), potato (tuber formation), cucurbits (nursery raising) in Nagaland.
- *Boro* rice (tillering), toria (pod formation), summer brinjal, tomato (nursery raising / transplanting), potato (tuber formation), pea, bean (flowering / pod formation), summer moong, black gram (sowing) in Tripura.

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

- Gram, peas, lentil (flowering / pod formation), sunflower, maize (flowering / grain / pod formation), sugarcane (planting), potato (tuber formation), mustard (pod formation), urad, arhar, bajra etc. (grain formation), winter vegetables (vegetative / flowering / fruiting / harvesting), wheat (tillering / flowering) and toria (pod formation), pigeon pea (flowering / pod formation) in Bihar.
- Wheat (jointing stage), potato (vegetative / tuber formation), pigeon pea (pod formation), onion (transplanting), vegetables (vegetative / flowering / fruiting / harvesting), mustard, gram, linseed, lentil, pea (vegetative / flowering / pod formation), Rice (seedling) in Jharkhand.
- Sugarcane (germination), banana (vegetative), mustard, sunflower, sesame, cowpea (vegetative / flowering / pod formation/maturity), *rabi* groundnut (pod formation), fruit crops (planting / seedling), summer rice (land preparation / transplanting), wheat (active tillering) , tomato (flowering to fruiting stage), black gram & green gram (flowering initiation stage), summer groundnut (sowing) in Odisha.
- *Boro* rice (seedling / transplanting), wheat (panicle initiation/heading), vegetable (flowering / fruiting), potato (tuberization stage), mango (flowering), tomato (flowering / fruiting), mustard (flowering /capsule formation, pointed gourd, cucumber (flowering), onion (transplanting) in West Bengal.
- Ginger (sprouting / early vegetative), large cardamom (vegetative / primary flowering / secondary flowering), vegetables (vegetative), rice (grain formation / maturity) in Sikkim.

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

- *Rabi* jowar (grain maturity in Madhya Maharashtra, Marathwada), safflower (seed maturity in Madhya Maharashtra and Marathwada), maize (cob initiation / cob maturity in Marathwada and Madhya Maharashtra), gram (pod development / pod maturity / harvesting), wheat (ear head emergence / flowering), summer rice (early tillering in South Konkan, Western Ghat region and East Vidarbha), summer groundnut (germination / early vegetative in South Konkan and sowing / germination in Madhya Maharashtra, Marathwada and Vidarbha), summer bajra (sowing / germination in Pune and Nashik region) in Maharashtra.
- Summer groundnut (sowing / germination), Summer rice (nursery sowing / seedling), wheat (flowering / milk), gram (pod formation), cumin (branching / flowering / grain filling), cotton (boll maturity / picking), sugarcane (planting / early vegetative / vegetative), castor (spike maturity / harvesting), winter vegetables (flowering / fruiting), chilli, brinjal (fruiting / harvesting), cauliflower (vegetative / head formation), potato (tuber formation), mustard (flowering / pod formation), jowar (flowering), *rabi* fennel (vegetative / flowering), fenugreek (flowering / pod formation), maize (vegetative / tasseling ) in Gujarat.

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

- Wheat (tillering), pea (flowering / pod formation), radish (vegetative), pome and stone fruits (planting), vegetables (vegetative / flowering / fruiting), potato (sowing) in Himachal Pradesh.
- Cauliflower, cabbage, broccoli, tomato (vegetative / flowering / fruiting), carrot, pea (vegetative / flowering / fruiting), sarson saag, bathua, radish and turnip (flowering/ fruiting), mustard (pod filling), onion (vegetative), spinach, coriander, fenugreek (vegetative/ flowering/fruiting), wheat (post tillering/late jointing) in Delhi.
- *Rabi* cereal (wheat), pulses (pea and lentil), brown sarson, fodder oat (in dormant stage in Valley Temperate zone (Srinagar)), sunflower (early vegetative / vegetative), garlic, cucurbits, okra (seedling / early vegetative), potato (planting), radish, spinach (sowing), carrot, turnip (sowing), onion, cole crops (nursery sowing / transplanting), mustard (late sown- flowering, normal / early sown- seed formation), wheat (late sown- emergence / tillering / jointing, normal / early sown- tillering / jointing / flag leaf initiation), barley (tillering / jointing stage / flag leaf initiation), pulses (pea, lentil, gram) (vegetative/flowering), oat, berseem – vegetative in Jammu & Kashmir.
- Wheat (tillering / ear head emergence), arhar (flowering/pod formation), ginger (vegetative), autumn sugarcane (vegetative), mustard (flowering/capsule formation), yellow sarson, rai, brinjal, chilli, lady's finger, barley, oat, chick pea, lentil (vegetative / flowering) in Uttarakhand.
- Wheat (tillering), late sown wheat (CRI), barley (tillering), sugarcane (maturity/harvesting), linseed, jai (vegetative / flowering), fodder berseem (vegetative / second cutting), vegetable crops (radish, carrot) (vegetative / flowering / fruiting), onion, garlic (vegetative), rapeseed, mustard, pea, lentil, gram, maize (flowering/pod formation/grain development) in Uttar Pradesh.
- Wheat (tillering / jointing), sugarcane (harvesting), mustard (flowering / capsule formation) in Punjab.
- Wheat (tillering / jointing), sugarcane (harvesting), mustard (flowering / capsule formation), barseem (sowing / vegetative) in Haryana.
- Cauliflower, cabbage, onion (transplanting / early vegetative), sugarcane (maturity), maize (maturity), *capsicum*, guar, vegetables (tinda, water melon, pumpkin, cucumber, coriander, bhindi, ridge gourd) (sowing / germination / seedling), potato (tuber formation), mustard (flowering / capsule formation), gram (flowering / grain development), wheat (CRI / tillering), barley (tillering), opium poppy (pre-flowering/ flowering) in Rajasthan.

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

- *Rabi* groundnut (pod development/harvest), *rabi* maize (seed filling), sunflower (seed maturation), *rabi* rice (tillering/vegetative), cotton (boll bursting/picking), Bengal gram (flowering/pod development), red gram (pod development), cow pea and sesame (flowering / pod formation), rice fallow pulses (vegetative) and rice fallow maize (sowing) in Andhra Pradesh.
- Cowpea, black gram and green gram (harvesting), pigeon pea (harvesting), chilli (fruiting), sunflower (vegetative), chick pea (pod maturity), grapes (flowering / fruiting), October sown wheat (earhead filling), jowar (grain maturity), ragi (ear head emergence), maize (cob formation/cob maturity), horse gram (flowering / pod formation), mango (flowering/fruit setting), sugarcane (maturity / ripening) in Karnataka.
- Coconut (Harvesting), *Puncha* rice (tillering), rubber (tapping discontinued), vegetables (sowing/ early vegetative/harvesting), *mundakan* rice (maturity / harvesting), cardamom (new planting) in Kerala.
- Late *Samba* rice (maturity stage), *samba* rice (maturity/harvesting), sorghum (maturity/harvesting), rice fallow pulses (sowing), rainfed groundnut (flowering/pod formation), cotton (boll maturity), sugarcane (vegetative /ratooning), maize (cob maturity/harvesting), red gram (flowering), summer sorghum, maize and cotton (sowing), vegetables (fruiting) in Tamil Nadu.

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

- Ladies finger, cucurbits (flowering / fruiting), pigeon pea (pod formation), gram (pod formation) potato (vegetative / tuber formation), sugarcane (planting), *rabi* vegetables (vegetative / flowering / fruiting), wheat (flowering), maize (vegetative), fodder crops (sowing), chickpea, lentil, mustard, linseed (pod / capsule formation) in Madhya Pradesh.
- Sugarcane (planting/vegetative), pigeon pea, groundnut (pod filling), sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative), onion (planting/early vegetative), vegetables (transplanting / vegetative), millet (vegetative), wheat (vegetative / flowering), niger, kulthi (vegetative) in Chhattisgarh.

## **Annexure III**

### **List of Varieties**

#### **Assam**

**Boro rice:** Mahsuri, IR-50, Bishnuprasad, Jyotiprasad, Kanaklata and Dinanath, *Boro* 1, 2, 3, Kalinga-3, Joymati, Swarnav.

**Okra:** Parvani Kranti, Arka Anamika.

**Sunflower:** Jwalamukhi.

**Black gram :** T 9, Pant U 19, UG 157, JU 78.

**Green gram :** T 44, AAU 34, AAU 39 , SG 1.

#### **Manipur :**

##### **French Bean:**

**Dwarf type:** Anupam, Pant Anupam.

**Pole type:** local variety (Tangkhul Hawaii).

#### **Tripura:**

**Moong:** PDM 139.

**Black gram:** T-9, Panth Urd- 35.

**Tomato:** Anup.

#### **Odisha**

**Groundnut:** Smruti and JL-24, TMV-2, Devi, Phule Pragati, ICGS-44, TAG-24, TG-3 and TG 38.

**Sugarcane:** CO 740, CO 6304, CO7219, COT 8201, Neelamadhaba and Sabita.

**Sesame:** Vinayak, Kanak, Kalika, Uma, Usha.

**Maize:** Dhabal, Navjot, Decca, Ganga, Deccan 105, Kargil 900-M, PRO 345, Kargil 633.

**Sunflower:** Morden, PAC-36, KBSH, MSFH-8,SFH-7, KBSH-1, MSHF-1, MSFH-17.

#### **West Bengal**

**Boro Rice:** Supriya, Jamini, Bhupen, IET-2233, Satabdi (IET-4786), Kitish (I.E.T.-4094), Ratna, Bikash etc.

#### **Jharkhand**

**Onion:** Pusa Red, Pusa Ratnar, N-53, Arka Nikatan, Arka Kalyan, Agrifound Dark Red.

**Rice:** IR-36, IR-64, Naveen, Lalat, MTU-1010.

#### **Bihar**

**Sweet Potato:** Cross 4 and Rajendra Shakarkand 35

**Bhindi:** Parvani Kranti, Arka Abhay, Arka Anamika, Barsha Uphar, KS 312, Okra 4, Punjab 7, Pant Bhindi 1

#### **Maharashtra**

**Suru Sugarcane:** CO-419, COM-7125, CO-860032, CO-94012 and COM-0265 for Madhya Maharashtra and CO-86032, CO-M 7125, CO-8014, CO-740, CO-7219 for Marathwada region.

**Summer sesamum:** AKT-101 and NT11-99.

**Bajra:** Shraddha, Saburi and Shanti.

**Groundnut:** SB11, JL286, TPG41, TAG24, TG26 and JL501.

#### **Gujarat**

**Groundnut:** TAG-24, GG-2, TG-37-A, GG-4, GG-26.

#### **Jammu & Kashmir**

**Onion :** Pusa Red, N-53), **Knolkhol :** Purple Vienna and White Vienna

**Radish :** Japanese White and Minowase, **Beans-**Bush types : Contender and Arka Komal and **Potato** Kufri Jyoti,

#### **Rajasthan**

**Bottle gourd:** Pusa summer prolific long, Pusa summer prolific round, Pusa manjri, Pusa Navin, Pusa Meghdoot, Arka Bahar

**Pumpkin:** Pusa viswas, Pusa Alankar, Arka Chandan, Pusa Hybrid-1.

**Khira :** Balam khira, Pusa Sayong, Painsate, Japanese Long Green, Pusa Alankar

**Bitter gourd:** Coimbatore long, Pusa domosami, Priya, Ark harit, Pusa Vishesh, Mahico Karela, Green Long, Jaipur Local.

**Tinda:** Bikaner green, Dil pasand, Tinda Ludhiana, Tinda Ludhiana (S-48), Arka Tinda, Hissar, Selection-1, Jaipur Local Roandar.

**Cucumber:** Lakhnow Ageti, Arka sheetal

**Watermelon :** Durgapura Madhu, Punjab, Sunahari, Punjab Hybrid, Hara Madhu, Pusa Madhuras,

**Tarbuji :** Sugar Baby, Durgapura Meetha, Durgapura Kesar, Arka Jyoti Sankar, Madhu Sankar,

**Chikni Turai**– Galgal Turai (Pusa Chikni), Selection-99, Kalyanpur Chikni, Pusa Supriya

**Dharidar Turai** – Pusa Nasdar, Kalyanpur Dharidar, Arka Sumit, Arka Sujat.

**Delhi**

**Spinach:** Pusa Harit, hybrid varieties.

**Uttar Pradesh**

**Sugarcane :** Kosha-8436, Kosha-95255, Kosha-98269 and Kosha-95438.

**Karnataka:**

**Green gram: Selection-4 and Pusa Baisaki.**

**Cow pea: C-152.**

### Annexure IV

### Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 06.02.2013

