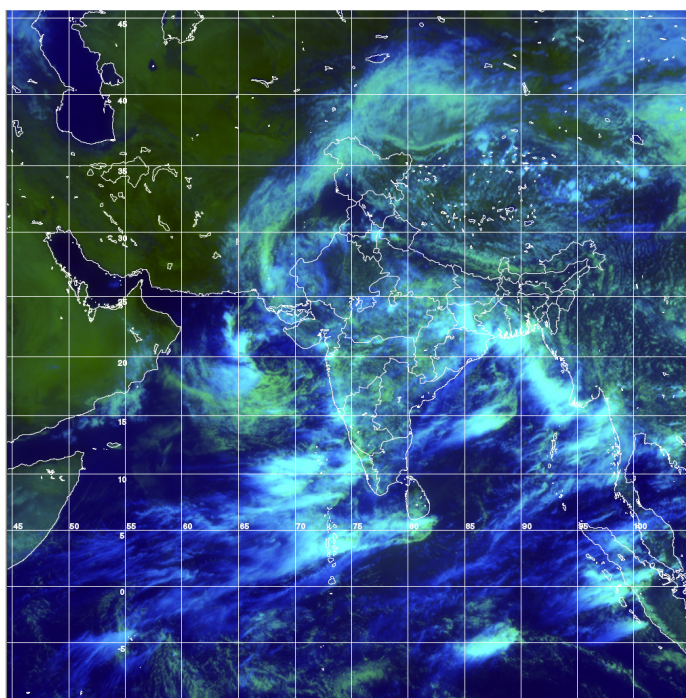
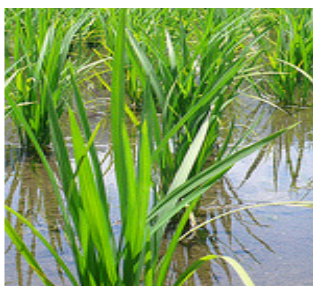




# National Agromet Advisory Bulletin

**Thursday, 1<sup>st</sup> September, 2011**

**(For the period 1<sup>st</sup> to 5<sup>th</sup> September, 2011)**



**Satellite image 0600 UTC Dated 2<sup>nd</sup> September, 2011**

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

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

## Executive Summary

Occurrence of excess/heavy rainfall in many districts has been reported in Coastal Karnataka, Kerala, West Madhya Pradesh, Chhattisgarh, Orissa, Maharashtra and Gujarat during last week. Farmers in those districts are advised to provide adequate drainage facilities in the standing crops. In West Bengal flood like situation is reported due to overflowing Damodar river and caused submergence in 14 districts in the State causing widespread damage. Heavy rainfall during first two weeks of August had also led to widespread damage of crops. Particularly area under vegetables, beetle-vine (specially in South 24 Parganas) and banana has been damaged. In many places Aman rice is also affected by flooding. Farmers are advised to undertake retransplanting of rice. If retransplanting cannot be undertaken then select short duration pulse crops like black gram and green gram and also early varieties of vegetable crops.

Due to receipt of sufficient rainfall during last two weeks in Madhya Maharashtra and Marathwada standing crops like cotton, soybean, sesamum, niger etc. is in good condition. Rainfall condition in most parts of Andhra Pradesh has been improved due to receipt of good rainfall except in Rayalaseema. Already sown groundnut and contingent crops like redgram and short duration pulse crops have sufficient moisture from earlier week's rainfall but rice which is at transplanting/tillering stage needs supplemental irrigation in Rayalaseema region. The paddy crop which was facing moisture stress condition during the later part of July in Bihar and Jharkhand rejuvenated from stress due to good rainfall received during second week of August and the growth of the crop is also sustained due to last week's good rainfall.

Good rainfall was received in Chhattisgarh, Gujarat, Coastal Andhra Pradesh, Telangana, Orissa, Rajasthan, Uttarakhand, West Bengal, Madhya Pradesh, Maharashtra, Karnataka and Kerala and significant rainfall is also likely to occur during next three days in West Coast, South Madhya Pradesh, Interior Maharashtra, Gujarat region, Western Himalayan region and adjoining plain of North West India, North Madhya Pradesh, Orissa, North Coastal Andhra Pradesh, Telangana and Interior Karnataka, farmers of these parts of the country are advised to complete sowing of *kharif* crops. Postpone irrigation in the already sown crops. There are also chances of isolated heavy rainfall over Vidarbha, Telangana, south Chhattisgarh during next 24 hours and over Konkan, Coastal Karnataka, Kerala, Madhya Pradesh, Madhya Maharashtra, Marathwada and Gujarat region during next 48 hours; farmers in these regions are advised to arrange adequate drainage facilities in the already sown crop fields to avoid water stagnation.

There was less rainfall in Punjab, Haryana, Uttar Pradesh, Bihar and Jharkhand during last week and farmers are advised to apply supplementary irrigation to the standing crops. Rainfall for the States of Punjab, Haryana, Bihar, Jharkhand and Andhra Pradesh is given in Annexure –I. Almost all rice growing areas in the country received good rainfall which would be beneficial for growth of crop. Besides there are chances of good rainfall in North West, West, Central and South Peninsular India except Rayalaseema which would sustain growth of standing crops. Overall crop condition is satisfactory. Weather Forecast map is provided in Annexure – II.

Scanty / deficient rainfall was received during last two weeks in some districts of Himachal Pradesh and Jammu & Kashmir. Farmers in these states are advised to arrange supplementary irrigation to the standing crops and conserve moisture in the field.

Due to prevailing weather, incidences of leaf miner and jassids in groundnut in Andhra Pradesh, thrips, leaf folder and caseworm in rice in Karnataka and blight in rice, tikka and rust in groundnut, rot in tomato in Maharashtra are reported. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases. No other major pest and disease incidences were observed during last week in the country.

### Realised rainfall for the States of Punjab, Haryana, Bihar, Jharkhand and Andhra Pradesh during last few weeks

State/Districts	Actual	03.08.11	Actual	10.08.11	Actual	17.08.11	Actual	24.08.11	Actual	31.08.11
<b>Punjab</b>										
Amritsar	47.3	-16	78.6	75	52.9	15	7.8	-75	42.2	49
Barnala	28.7	-28	23.5	-38	42.8	10	7.4	-79	0.0	-100
Bhatinda	6.2	-78	52.2	43	69.7	123	3.4	-82	36.0	161
Faridkot	7.2	-81	29.0	34	21.6	-29	4.0	-85	95.5	582
Fatehgarh Saheb	1.3	-98	16.5	-63	201.3	387	4.3	-89	1.0	-96
Ferozpur	2.4	-93	33.7	14	44.8	81	0.0	-100	10.8	-45

Gurdaspur	6.6	-91	139.9	77	103.4	51	54.7	2	46.1	1
Hoshiarpur	3.4	-96	39.0	-37	161.7	157	10.1	-77	9.3	-72
Jalandhar	21.5	-59	35.5	-22	156.5	236	0.9	-97	22.8	-16
Kapurthala	47.3	46	36.9	6	75.4	120	22.7	17	14.0	-27
Ludhiana	11.8	-75	24.0	-47	195.1	320	5.7	-84	4.9	-82
Mansa	8.9	-70	10.2	-76	10.2	-70	2.6	-90	9.3	-35
Moga	20.4	-39	108.5	216	33.6	-1	3.0	-91	12.8	-30
Muktesar	1.7	-93	16.4	-45	6.0	-77	0.5	-98	79.9	429
Nawashahar	12.8	-83	43.9	-24	263.8	386	39.0	-13	13.7	-70
Patiala	17.5	-66	12.5	-76	93.6	130	20.9	-48	9.4	-74
Ropar	37.6	-46	17.5	-70	233.1	318	22.4	-49	18.2	-51
Sangrur	20.5	-49	7.2	-81	31.6	-19	7.1	-80	3.1	-85
Mohali	5.3	-90	9.0	-83	37.2	-9	5.4	-87	8.3	-73
TarnTaran	0.0	-100	41.5	-7	39.1	-15	0.0	-100	4.9	-74
<b>Haryana</b>										
Ambala	33.2	-50	23.9	-63	58.2	3	44.9	-34	45.7	-20
Bhiwani	10.5	-65	25.9	-15	6.6	-82	54.1	69	0.1	-99
Chandigarh	33.2	-54	36.9	-57	91.5	29	28.3	-52	18.2	-57
Faridabad	27.5	-32	39.3	-8	90.3	126	66.8	82	15.3	4
Fatehabad	13.3	-52	26.9	10	7.0	-70	20.3	-5	3.6	-88
Gurgaon	26.6	-38	16.0	-68	38.2	-25	70.0	43	13.2	-33
Hissar	17.8	-28	18.2	-33	2.0	-94	37.7	45	4.8	-82
Jhajar	58.9	85	2.7	-92	12.0	-68	32.5	-9	2.1	-92
Jind	25.3	-17	12.0	-64	27.4	-9	28.4	-30	4.8	-80
Katihah	18.3	-47	3.5	-92	12.5	-71	7.3	-82	1.9	-95
Karnal	16.3	-63	22.9	-50	51.5	-15	34.3	-40	5.2	-84
Kurukshetra	0.2	-99	14.6	-65	25.9	-52	8.8	-84	5.9	-78
Mahendragarh	12.4	-52	12.0	-69	19.6	-62	106.7	207	1.3	-97
Palwal	13.8	-66	42.6	0	65.3	63	46.2	26	0.0	-100
Panchkkula	9.8	-89	28.8	-64	58.4	-27	52.5	-24	53.3	-14
Panipat	0.5	-99	5.7	-86	31.5	-38	19.8	-64	0.8	-97
Rewari	1.2	-97	22.1	-63	24.1	-56	41.0	-1	11.8	-58
Rohtak	13.3	-62	24.7	-32	9.4	-78	21.3	-55	4.0	-90
Sirsa	9.4	-64	88.3	500	20.2	-20	14.9	-24	29.4	69
Sonepat	9.9	-78	19.3	-51	45.5	-19	35.2	-19	1.3	-96
Yamunanagar	35.1	-59	17.5	-79	94.9	29	73.5	-4	14.7	-73
New Delhi	11.9	-80	13.4	-80	72.8	27	38.7	-29	22.0	-43
<b>Bihar</b>										
Araria	198.2	82	54.4	-22	167.0	119	32.6	-65	2.5	-97
Arwal	8.3	-83	139.4	113	91.8	34	145	119	8.0	-81
Aurangabad	26.9	-59	209.9	152	112.6	89	79.0	27	9.9	-82
Banka	12.9	-83	174.8	199	50.4	-10	46.7	-7	5.9	-87
Begusarai	103.7	51	97.6	40	77.2	-1	88.5	28	31.7	-54
Bhabua	50.2	-28	94.8	11	163.5	116	15.9	-80	1.7	-97
Bhagalpur	54.0	-31	210.2	275	49.7	-11	77.8	24	8.0	-83
Bhojpur	118.2	64	110.0	127	31.0	-50	17.9	-76	14.5	-75
Buxar	13.5	-79	114.8	137	23.2	-66	47.3	-1	0.0	-100
Darbhanga	88.2	6	60.5	6	63.3	5	73.5	0	11.7	-79
East Champaran	86.2	-1	55.7	13	69.6	22	86.8	15	14.7	-76
<b>State/Districts</b>	<b>Actual</b>	<b>03.08.11</b>	<b>Actual</b>	<b>10.08.11</b>	<b>Actual</b>	<b>17.08.11</b>	<b>Actual</b>	<b>24.08.11</b>	<b>Actual</b>	<b>31.08.11</b>
Gaya	29.7	-59	166.8	85	188.1	161	48.0	-23	13.8	-71
Gopalganj	87.0	19	71.7	52	67.2	4	96.9	32	17.1	-71
Jahanabad	17.4	-72	172.6	159	95.1	75	68.3	5	11.3	-72
Jamui	21.3	-68	115.2	70	98.5	56	72.2	32	7.6	-87
Katihar	29.4	-61	78.7	51	53.5	-22	16.4	-78	13.9	-75
Khagadia	14.2	-80	140.1	64	44.8	-34	54.7	-13	3.8	-94
Kishanganj	164.2	48	20.9	-75	242.1	110	79.6	-22	21.1	-81
Lakhisarai	69.8	-7	130.0	117	50.1	-14	16.1	-75	12.2	-78
Madhepura	45.1	-44	47.4	-14	85.5	37	24.3	-67	9.3	-86
Madhubani	43.4	-34	21.0	-62	46.2	-21	48.4	-41	16.6	-79

Monghyar	9.0	-88	119.0	99	77.0	32	30.0	-53	6.0	-89
Muzaffarpur	51.3	-36	60.3	7	75.7	34	90.6	23	13.7	-79
Nalanda	48.4	-28	158.7	149	105.6	82	233.3	268	4.6	-91
Nawada	33.2	-51	133.8	72	50.3	-21	29.2	-49	10.0	-78
Patna	46.7	-34	144.8	184	40.8	-32	113.1	56	9.7	-81
Purnea	185.9	131	73.4	21	167.6	159	113.8	74	48.4	-41
Rohtas	56.5	-16	157.6	89	165.3	126	36.8	-51	4.2	-93
Saharsha	119.9	83	44.9	-2	129.5	114	66.0	-17	4.5	-94
Samstipur	17.3	-79	95.4	64	109.2	95	121.3	119	16.5	-68
Saran	60.7	-22	99.1	64	41.5	-40	37.7	-51	32.4	-41
Sheikpura	9.3	-86	51.5	-6	32.8	-40	24.8	-51	26.7	-50
Sheohar	85.6	-7	24.4	-50	44.0	-38	71.0	-10	7.0	-90
Sitamarhi	108.2	18	69.6	41	45.2	-36	86.8	10	14.5	-79
Siwan	34.0	-55	98.1	75	27.3	-62	78.3	4	5.5	-90
Supaul	124.3	90	25.2	-45	100.9	67	55.6	-30	36.2	-44
Vaishali	40.4	-44	97.6	71	20.4	-68	53.2	-17	3.6	-94
West Champaran	154.1	39	86.1	35	80.7	7	130.5	41	104.0	16
<b>Jharkhand</b>										
Bokaro	65.6	-15	141.4	99	224.7	232	34.3	-39	38.9	-38
Chatra	8.1	-89	158.7	55	145.5	86	37.0	-38	10.1	-80
Deoghar	31.9	-57	142.7	105	161.2	146	25.3	-58	27.9	-45
Dhanbad	33.1	-61	187.6	144	181.3	188	44.5	-29	39.6	-39
Dumka	41.7	-50	157.2	97	102.1	33	20.0	-73	3.6	-93
East Singbhum	18.8	-78	154.9	74	206.4	191	58.7	-13	39.2	-33
Garhwa	0.3	-99	107.7	22	157.4	83	22.1	-69	15.4	-66
Giridih	40.8	-47	194.5	155	177.0	192	46.7	-24	54.0	-4
Godda	60.1	-6	135.4	161	91.9	70	30.5	-47	21.9	-55
Gumla	41.8	-51	209.8	111	142.0	62	63.1	-22	**	**
Hazaribagh	19.6	-75	84.4	3	63.6	-8	43.8	-27	8.6	-85
Jamtara	34.9	-57	222.0	159	132.0	52	39.7	-42	15.3	-77
Khunti	15.0	-82	63.8	-17	160.3	144	100.5	22	**	**
Koderna	57.0	-18	172.4	93	104.6	76	13.5	-77	11.0	-79
Latehar	48.0	-44	78.8	-19	178.0	162	5.4	-91	22.0	-60
Lohardagga	63.6	-19	111.6	38	206.3	222	0.0	-100	79.8	66
Pakur	45.0	-46	206.2	192	113.0	26	2.5	-97	42.0	-39
Palamau	27.3	-64	146.7	67	172.9	124	10.8	-83	30.3	-46
Ramgarh	32.4	-58	96.4	18	312.8	351	34.0	-43	44.6	-22
Ranchi	55.7	-35	167.0	118	235.7	259	50.3	-39	38.0	-41
Sahebganj	6.9	-91	100.2	74	204.8	174	18.6	-72	25.4	-59
Seraikela	22.8	-71	116.3	35	140.3	125	41.9	-42	**	**
Simdega	93.6	0	181.2	74	112.2	28	77.7	-15	19.8	-75
West Singbhum	18.2	-78	63.8	-24	174.5	127	61.0	-11	6.1	-91
<b>Andhra Pradesh</b>										
<b>Coastal Andhra Pradesh</b>										
East Godavari	46.5	12	42.4	-6	60.7	35	60.1	45	62.6	49
Guntur	65.2	85	8.5	-70	22.1	-44	116.0	208	40.2	13
Krishna	104.8	113	13.0	-68	34.7	-31	116.8	156	50.6	25
Nellore	38.1	116	6.0	-70	9.8	-58	107.0	338	14.0	-30
Prakasam	16.2	-28	8.2	-47	13.7	-38	54.3	128	8.1	-70
<b>State/Districts</b>	<b>Actual</b>	<b>03.08.11</b>	<b>Actual</b>	<b>10.08.11</b>	<b>Actual</b>	<b>17.08.11</b>	<b>Actual</b>	<b>24.08.11</b>	<b>Actual</b>	<b>31.08.11</b>
Sirkakulam	73.9	70	25.3	-43	37.9	-19	61.1	40	88.0	84
Visakhapatnam	58.9	48	32.4	-13	32.1	-29	63.4	61	46.8	13
Vizianagram	52.9	26	10.0	-72	34.8	-23	64.8	31	84.1	80
West Godavari	102.1	108	20.6	-63	42.2	-25	127.2	160	109.2	123
<b>Telangana</b>										
Adilabad	110.2	45	48.4	-28	29.6	-58	69.5	3	115.8	107
Hyderabad	17.8	-63	6.5	-84	15.8	-67	148.0	255	58.7	61
Karimnagar	61.2	2	20.4	-63	33.2	-39	89.5	75	74.0	72
Khammam	45.9	-38	27.5	-54	50.7	-21	76.0	49	77.8	46
Mehabubnagar	68.3	59	13.7	-56	16.7	-58	73.5	103	35.2	5

Medak	86.0	44	29.4	-36	46.5	-14	47.9	-1	103.8	176
Nalgonda	23.2	-35	3.5	-88	10.5	-71	119.0	257	53.3	53
Nizamabad	135.3	81	38.0	-42	36.9	-49	66.0	-12	148.8	182
Rangareddy	57.6	23	5.9	-82	24.8	-47	57.3	30	51.1	59
Warangal	114.6	91	9.1	-83	57.5	-2	68.3	52	63.6	41
<b>Rayalaseema</b>										
Anantapur	10.4	-33	12.1	-19	24.6	59	74.1	286	9.9	-48
Chittoor	24.4	27	14.5	-46	63.1	161	105.5	297	10.8	-55
Cuddapah	18.1	-22	3.6	-86	31.5	25	150.1	466	3.8	-84
Kurnool	39.4	33	14.7	-43	30.9	5	80.6	161	7.9	-71

	(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

### Distribution of rainfall for remaining states of the country during last week

State/Districts	Actual	31.08.11								
<b>Arunachal Pradesh</b>			Sibsagar	0.0	-100	<b>Pradesh</b>				
Changlang	6.2	-87	Tinsukia	32.4	-60	Anuppur	100.2	44		
East Kameng	28.0	-58	<b>Himachal Pradesh</b>			Balaghat	102.5	28		
East Siang	3.3	-98	Bilaspur	32.1	-42	Chhatarpur	28.2	-56		
Lohit	21.4	-75	Chamba	49.6	-39	Chindwara	87.2	49		
Lower Subansiri	41.0	-18	Hamirpur	24.6	-67	Damoh	35.9	-47		
Papumpara	36.3	-66	Kangra	87.2	-2	Dindori	69.1	14		
Tawang	28.0	-73	Kinnaur	6.5	-58	Jabalpur	87.3	3		
Tirap	47.9	-57	Kullu	20.2	-32	Katni	16.0	-77		
Upper Siang	2.0	-98	Lahaul and Spiti	0.0	-100	Mandla	57.9	-27		
Upper Subansiri	0.0	-100	Mandi	72.3	30	Narsingpur	122.0	62		
West Kameng	40.0	-62	Shimla	56.5	82	<b>State/Districts</b>	<b>Actual</b>	<b>31.08.11</b>		
West Siang	**	**	Sirmaur	73.1	-14	Panna	7.2	-89		
<b>Assam</b>			Solan	25.5	-54	Rewa	8.3	-85		
Barpeta	6.7	-95	Una	13.2	-76	Sagar	67.7	-14		
Bongaigaon	37.0	-67	<b>Jammu &amp; Kashmir</b>			Satna	26.6	-48		
Cachar	33.9	-66	Anantnag	12.7	-27	Seoni	55.3	-8		
Darrang	0.0	-100	Badgam	4.9	-44	Shahdol	80.0	22		
Dhubri	22.7	-78	Bandipore	**	**	Sidhi	39.8	-40		
Dibrugarh	26.2	-65	Baramula	57.8	325	Singrauli	19.6	-59		
East Garo Hills	**	**	Doda	15.2	-35	Tikamgarh	9.0	-83		
East Khasi Hills	**	**	Ganderwal	44.6	288	Umaria	49.9	-35		
Goalpara	16.4	-80	Jammu	40.8	-17	<b>West Madhya Pradesh</b>				
Golghat	2.9	-95	Kargil	0.0	-100	Alirajpur	51.1	-21		
Hailakandi	4.3	-95	Kathua	47.8	3	Asoknagar	88.5	61		
Jaintia Hills	**	**	Kistwar	**	**	Badwani	49.5	13		
Jorhat	21.0	-70	Kulgam	6.6	-59	Betul	115.0	130		
Kamrup	2.5	-95	Kupwara	35.5	171	Bhind	28.3	-44		
<b>State/Districts</b>	<b>Actual</b>	<b>31.08.11</b>	Ladakh(Leh)	0.0	-100	Bhopal	155.3	112		
Karbi Analog	7.4	-85	Poonch	25.0	-41	Burhanpur	183.0	234		
Karimganj	496.4	524	Pulwama	6.7	40	Datia	14.7	-69		
Kokrajhar	20.4	-88	Rajouri	17.3	-54	Dewas	103.3	43		
Lakhimpur	14.3	-84	Ramban	8.5	-64	Dhar	99.3	53		
Morigaon	11.0	-84	Reasi	48.7	-39	Guna	89.7	35		
N.C.Hills	0.0	-100	Samba	74.3	51	Gwalior	22.7	-55		
Nowgong	27.8	-60	Shopian	**	**	Harda	115.7	66		
Nalbari	0.3	-100	Srinagar	23.6	105	Hosangabad	83.5	-10		
Sonitpur	31.5	-55	Udhampur	12.8	-86	Indore	221.7	276		
			<b>East Madhya</b>			Jhabua	165.0	175		

Khandwa	183.0	220	Kheri	5.2	-91	Dehradun	106.3	-8
Khargone	193.0	237	Kushi nagar	25.5	-64	Garhwal Pauri	37.6	-51
Mandsaur	92.3	68	Lucknow	1.1	-98	Garhwal Tehri	28.3	-55
Morena	4.3	-90	Maharajganj	7.0	-89	Haridwar	2.5	-96
Neemuch	105.3	111	Mau	0.0	-100	Nainital	49.9	-43
Raisen	108.3	31	Mirzapur	6.1	-89	Pithorgarh	77.7	-23
Rajgarh	96.5	35	Pratapgarh	1.0	-98	Rudraprayag	41.6	-59
Ratlam	134.9	110	RaiBareilly	5.9	-88	Udham Sing Nagar	61.8	-17
Sehore	124.5	48	Sahuji Maharajnagar	58.5	-14	Uttarkashi	130.9	76
Shajapur	112.4	86	Sant Kabirnagar	4.0	-94	<b>East Rajasthan</b>		
Sheopur Kalani	74.4	79	Sant Ravidas Nagar	0.0	-100	Ajmer	57.4	119
Shivpuri	43.3	-13	Shrawasti	0.8	-99	Alwar	12.9	-65
Ujjain	121.9	70	Sidharthnagar	14.2	-78	Banswara	186.4	171
Vidisha	127.1	69	Sitapur	0.8	-99	Baran	98.4	91
<b>Chattisgarh</b>			Sonbhadra	43.0	-15	Bharatpur	22.2	-49
Bastar	145.6	89	Sultanpur	0.1	-99	Bhilwara	53.1	43
Bijapur	139.9	54	Unnao	4.0	-92	Bundi	41.3	5
Bilaspur	90.1	55	Varanasi	0.0	-100	Chittorgarh	63.6	16
Dantewara	134.2	71	<b>West Uttar Pradesh</b>			Dausa	9.2	-74
Dhamtari	169.8	208	Agra	2.1	-96	Dholpur	15.0	-66
Durg	122.5	111	Aligarh	7.8	-84	Dungarpur	104.9	124
Janjgir	99.5	40	Auraiya	1.7	-97	Jaipur	14.8	-58
Jashpurnagar	32.9	-62	Badaun	13.4	-80	Jhalawar	114.2	79
Kanker	99.7	24	Baghpat	0.0	-100	Jhunjhunu	17.7	-34
Korba	77.7	13	Bareilly	16.2	-75	Karauli	28.3	-22
Koriya	52.5	2	Bijnor	11.3	-82	Kota	90.0	74
Kawardha	127.0	113	Bulandsahar	7.4	-85	Pratapgarh	138.6	118
Mahasumund	151.4	138	Etah	5.8	-86	Rajsamand	90.4	159
Narayanpur	167.6	110	Etawah	0.7	-99	Sawai Madhopur	30.3	-24
Raigarh	100.8	61	Firozabad	1.0	-98	Sikar	11.5	-55
Raipur	143.6	144	GBNagar	9.5	-67	Sirohi	105.9	78
<b>State/District s</b>	<b>Actual</b>	<b>31.08.11</b>	Ghaziabad	17.9	-65	Tonk	26.7	-21
Rajandgaon	155.8	136	Hamirpur	4.4	-92	Udaipur	128.1	220
Surguja	22.1	-67	<b>State/District s</b>	<b>Actual</b>	<b>31.08.11</b>	<b>West Rajasthan</b>		
<b>East Uttar Pradesh</b>			Jalaun	46.9	-22	Barmer	46.0	193
Allahabad	26.2	-51	Jhansi	0.4	-99	Bikaner	17.6	11
Ambedkar Nagar	0.0	-100	Jotirba Phule Nagar	37.5	-40	Churu	13.3	-33
Azamgarh	0.7	-99	Kanshiramnagar	2.0	-96	Hanumangarh	48.9	226
Bahraich	4.7	-92	Lalitpur	0.0	-100	<b>State/District s</b>	<b>Actual</b>	<b>31.08.11</b>
Ballia	2.8	-95	Mahamaya Nagar	0.0	-100	Jaisalmer	10.8	23
Balrampur	1.7	-98	Mahoba	0.0	-100	Jalore	38.2	87
Banda	22.2	-59	Mainpuri	1.5	-96	Jodhpur	38.4	121
Barabanki	7.4	-86	Mathura	0.0	-100	Nagaur	29.3	19
Basti	6.1	-89	Meerut	29.8	-36	Pali	58.1	105
Chandauli	0.0	-100	Moradabad	33.6	-46	Sri Ganganagar	52.0	364
Deoria	20.5	-69	Muzzaffarnagar	1.1	-97	<b>Gujarat Region</b>		
Faizabad	6.3	-87	Pilibhit	5.0	-93	Ahmedabad	58.8	53
Farrukhabad	0.5	-99	Rampur	10.2	-85	Anand	82.8	53
Fatehpur	1.4	-97	Saharanpur	27.3	-44	Banaskantha	72.3	104
Gazipur	28.4	-45	Shahjahanpur	1.1	-98	Baroda	124.8	84
Gonda	4.1	-93	<b>UttaraKhand</b>			Broach	69.2	39
Gorakhpur	12.6	-81	Almora	20.9	-54	DNH	655.0	333
Hardoi	0.0	-100	Bageshwar	42.6	-6	Dahod	70.3	10
Jaunpur	0.0	-100	Chamoli	111.8	121	Daman	655.0	333
Kannauj	0.0	-100	Champawat	36.5	-56	Dangs	94.0	-24
Kanpur City	7.2	-83				Gandhinagar	55.0	26
Kanpur Dehat	8.0	-86				Kheda	91.4	65
Kaushambi	21.7	-57				Mehsana	65.1	48

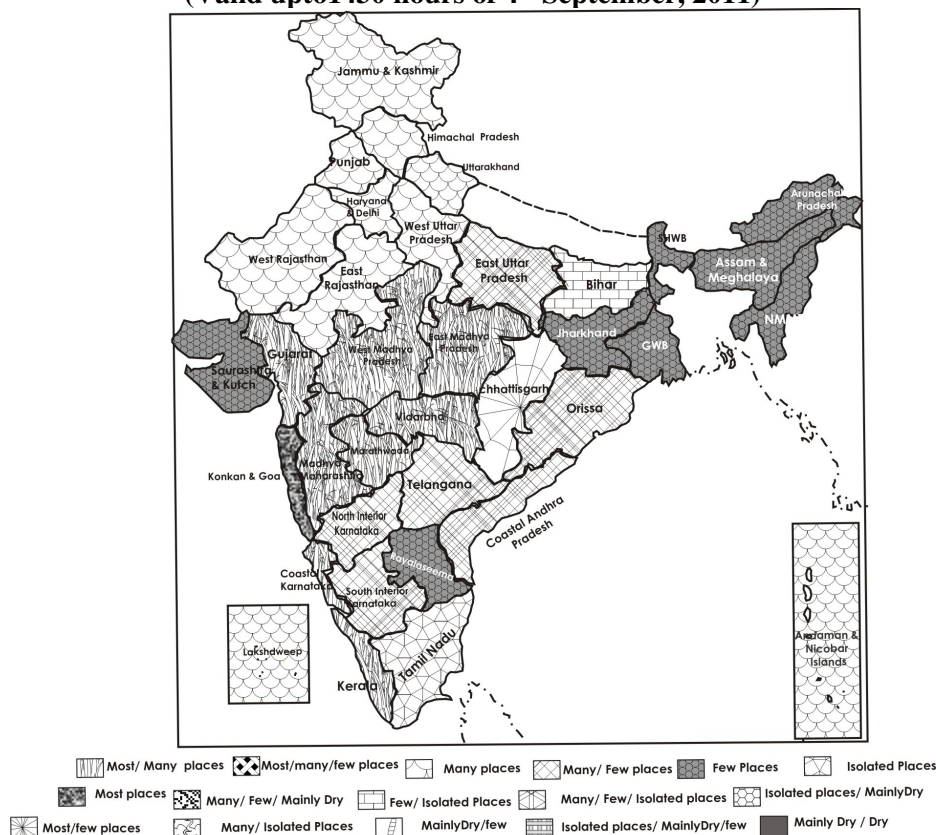
Narmada	156.3	105	Wardha	155.6	205	West Sikkim	34.0	-64
Navsari	515.8	414	Washim	73.6	106	<b>Karnataka</b>		
Panchmahal	94.3	39	Yeotmal	69.6	38	<b>Coastal Karnataka</b>		
Patan	25.0	-22	<b>Orissa</b>			Dakshin Kannada	156.4	23
Sabarkantha	96.5	73	Angul	115.0	44	Udupi	231.2	69
Surat	252.0	262	Balasore	107.6	53	Uttar Kannada	216.7	128
Tapi	220.0	121	Bargarh	101.6	62	<b>North Interior Karnataka</b>		
Valsad	419.2	284	Bhadrak	103.7	39	Bagalkote	6.4	-59
<b>Saurashtra, Kutch &amp; Diu region</b>			Bolangir	211.5	151	Belgaum	49.9	146
Amreli	79.6	176	Boudh	130.3	59	Bidar	86.8	102
Bhavnagar	77.4	114	Cuttack	103.3	46	Bijapur	20.7	-16
Diu	72.4	223	Deogarh	103.8	42	Dharwad	27.6	58
Jamnagar	84.1	198	Dhenkanal	94.9	16	Gadag	18.0	3
Junagarh	104.5	194	Gajapati	143.6	133	Gulbarga	61.4	69
Kutch	101.5	300	Ganjam	110.2	79	Haveri	25.3	61
Porbandar	96.9	236	Jagatsingpur	25.5	-61	Koppal	9.5	-60
Rajkot	75.6	142	Jajpur	91.9	11	Raichur	21.2	-26
Surendranagar	52.1	43	Jharsuguda	60.8	-18	Yadgir	26.8	-18
<b>Maharashtra</b>			Kalahandi	157.8	137	<b>South Interior Karnataka</b>		
<b>Konkan &amp; Goa</b>			Kandhamal	146.3	78	Bangalore Rural	16.4	-42
Goa	276.9	182	Kendrapara	90.8	20	Bangalore Urban	17.7	-35
Mumbai	502.1	415	Keonjhar	78.2	23	Bellary	8.8	-62
Raigad	516.1	239	Khurda	96.6	39	Chamarajnaragar	7.8	-45
Ratnagiri	275.1	92	Koraput	73.2	-9	Chichballapur	19.5	-17
Sindhudurg	350.8	175	Malkangiri	62.0	-21	Chickmagalur	91.8	76
Thane	441.3	278	Mayurbhanj	107.9	35	Chitradurga	13.5	9
<b>Madhya Maharashtra</b>			Nawapara	192.9	218	Davangere	18.1	20
Ahmednagar	68.3	163	Nawarangpur	188.8	117	Hassan	19.4	4
Dhule	117.5	314	Nayagarh	167.5	146	Kodagu	102.3	39
Jalgaon	133.6	237	Puri	78.0	9	Kolar	14.6	-27
Kolhapur	184.4	152	Rayagada	83.9	53	Mandya	4.3	-69
Nandurbar	98.7	88	Sambalpur	89.0	22	Mysore	17.7	45
Nasik	131.2	153	Sonepur	44.8	-51	Ramnagara	17.6	-31
Pune	119.4	226	Sundargarh	81.0	11	Shimoga	128.2	143
Sangli	50.7	134	<b>West Bengal</b>			Tumkur	6.6	-62
Satara	153.7	404	<b>GWB</b>			<b>Kerala</b>		
Solapur	60.0	139	Bankura	35.8	-42	Alappuzha	68.6	7
<b>State/Districts</b>	<b>Actual</b>	<b>31.08.11</b>	Birbhum	15.7	-74	Kannur	120.4	43
<b>Marathwada</b>			Burdwan	33.8	-33	Ernakulam	121.8	92
Aurangabad	127.2	216	Hooghly	44.3	-20	Idukki	195.9	131
Beed	110.0	203	Howrah	28.0	-59	<b>State/Districts</b>	<b>Actual</b>	<b>31.08.11</b>
Hingoli	128.8	165	<b>State/Districts</b>	<b>Actual</b>	<b>31.08.11</b>	Kasaragod	125.0	28
Jalna	93.6	139	East Midnapore	91.6	1	Kollam	80.3	39
Latur	117.4	141	Murshidabad	22.1	-58	Kottayam	87.4	20
Nanded	105.4	109	Nadia	23.1	-46	Kozhikode	103.0	54
Usmanabad	76.3	97	24 Pargana (N)	30.9	-48	Malappuram	96.7	61
Parbhani	97.2	89	Purulia	28.0	-58	Palakkad	74.1	50
<b>Vidarbha</b>			24 Pargana (S)	42.7	-53	Pathanamthitta	53.0	-28
Akola	64.1	45	West Midnapore	54.2	-13	Thiruvananthapuram	36.6	35
Amraoti	142.7	221	<b>SHWB</b>			Thrissur	121.4	80
Bhandara	93.4	34	Cooch Behar	33.0	-78	Wyanad	128.5	50
Buldhana	77.2	89	Darjeeling	78.0	-43	<b>Tamil Nadu</b>		
Chandrapur	113.3	59	East Sikkim	29.6	-66	Chennai	186.9	473
Gadchiroli	83.1	2	Jalpaiguri	79.4	-49	Coimbatore	14.3	46
Gondia	138.1	69	Malda	36.2	-40	Cuddalore	5.7	-84
Nagpur	109.5	85	North Dinajpur	5.8	-92			
			North Sikkim	21.0	-78			
			South Dinajpur	7.1	-86			
			South Sikkim	9.4	-89			

Dharmapuri	8.3	-68
Dindigul	10.5	-45
Erode	4.2	-77
Kanchipuram	59.2	56
Kanyakumari	37.5	173
Karur	11.7	-36
Krishnagiri	9.7	-59
Madurai	12.2	-51
Nagapattinam	18.9	-30
Namakkal	6.9	-72

Nilgiris	69.2	108
Perambalur	12.2	-61
Puducherry	42.1	48
Pudukottai	35.2	5
Ramanathapuram	1.0	-93
Salem	10.2	-69
Sivaganga	13.3	-45
Thanjavur	22.3	-22
Theni	26.9	228
Tirunelveli	4.5	-25

Tiruvallur	48.8	42
Tiruvannamalai	22.4	-39
Tiruvarur	11.8	-54
Toothukudi	1.3	-74
Trichy	24.6	1
Vellore	38.6	30
Villupuram	8.6	-78
Virudhunagar	7.7	-51

### Weather Forecast (Valid upto 1430 hours of 4<sup>th</sup> September, 2011)



#### Major Feature of Weather Forecast upto 1430 hours IST of 4<sup>th</sup> September, 2011

- Widespread rain/thundershowers would occur along west coast and over south Madhya Pradesh, interior Maharashtra and Gujarat Region during next 48 hours and decrease thereafter.
- Fairly widespread rain/thundershowers would occur over Western Himalayan Region and adjoining plains of northwest India, north Madhya Pradesh, Orissa, north coastal Andhra Pradesh, Telangana, interior Karnataka, Lakshadweep and Andaman & Nicobar Islands.
- Scattered rain/thundershowers would occur over remaining parts of the country.

#### Weather Warning



- Isolated heavy rainfall would occur over Vidarbha, Telangana and south Chhattisgarh during next 24 hours and over Konkan & Goa, coastal Karnataka, Kerala, Madhya Pradesh, Madhya Maharashtra, Marathwada and Gujarat Region during next 48 hours.

### Weather Outlook up to 1430 hours IST of 6<sup>th</sup> September, 2011

- Fairly widespread rainfall activity would continue over central and parts of northwest India and along west coast.
- Decrease in rainfall activity over interior peninsular India.

## Zonewise Agromet Advisories

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

- **Realised Rainfall:** Most of the districts of Orissa received significant rainfall during last week.
- **Rainfall Forecast:** Fairly widespread rain/thundershowers would occur over Orissa.
- **Advisories:**
  - In view of likely occurrence of fairly widespread rain / thundershowers and realized rainfall over Orissa, farmers are advised to postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
  - In Jharkhand, farmers are advised to complete transplanting of rice within a week using SRI method. Undertake sowing of urd and improved & short duration varieties of horse gram in upland in Central and North Eastern Plateau Zone of Jharkhand.
  - In South Eastern Plateau Zone of Jharkhand, farmers are advised to undertake sowing of maize, arhar, green gram, black gram and groundnut. Also complete sowing of arhar as sole crop as well as intercrop with any of the crops like jowar, maize, groundnut, soybean, urd, moong bean and okra.
  - Undertake sowing of arhar, green gram black gram and cowpea, transplanting of rice and planting of mangoes, marigold in Orissa utilizing monsoon rain. Also undertake sowing of ragi and sesame as the weather is optimum for sowing of these crops.
  - Farmers in West Bengal are advised to undertake sowing of maize, early tomato and cauliflower, transplanting of *aman* rice in low land and start cultivation of mushroom. Drain out excess water from already planted ginger and turmeric fields in Terai Zone.
  - Farmers in laterite and red soil zone of West Bengal are advised to postpone irrigation in *kharif* maize due to receipt of rainfall during last week. Maintain 5 cm standing water in tillering stage of *aus* rice and apply irrigation as per schedule.
  - In New Alluvial Zone of West Bengal, maintain stagnant water (2 to 3 cm) upto 10 days in rice field after transplanting due to realised rainfall. Increase the depth of stagnant water with age of crop. Prepare the seed bed for early cauliflower and tomato.
  - Due flooding situation occurred in Coastal Saline Zone then check the drainage system. Farmers are advised to restrict seedling destruction under submerged field condition. In place of destruction use those seedlings for gap filing in the field. Black gram /or 'kalai' should be cultivated as rain-fed crop where rice cultivation should not be possible. Particularly up-land areas where drainage system is good or on the 'bund'. Go for nursery preparation of early cauliflower.
  - In Hill zone of West Bengal For medium duration varieties of Rice urea should be applied @ 80kg/ha as topdressing 21-30 days after transplanting. Care should be taken to maintain a water level of 1" in the main field. Harvesting of maize should be done. Main field should be prepared for the transplantation of early cauliflower.
  - Farmers in Old Alluvial Zone of West Bengal are advised to complete transplanting of *kharif* rice within this week and maintain 2-3cm depth of water in the field up to 7-10 days.
  - Farmers in the districts of North West Alluvial Plain Zone of Bihar are advised to weed the rice crop and farmers who have not top dressed nitrogen in the medium duration rice crop varieties are advised to apply urea@70-75 kg per hectare in the crop. In North Bihar start preparing the field in the upland areas for sowing of September pigeon pea.

- Farmers in South Bihar Alluvial Zone are advised to adopt contingent crop planning if suffered from flood and regular monitoring of paddy field. SRI method of rice should be adopted for contingent and late transplanting of short duration rice varieties. Farmers in South Bihar Alluvial Zone are advised to undertake transplanting of vegetable crops like brinjal, tomato, chilli and cauliflower on ridges, if seedlings are ready. Farmers are also advised to start weeding and topdressing of urea in rainy season vegetables crop and provide plant protection measure like malathion @ 2ml/litre of water as per needs in kharif vegetables crop. Apply intercultural operations (weeding, application of urea) in Kharif arhar, til and maize crops.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- In some pockets of Western Plateau Zone of Jharkhand crops like mung, urd, ground nut etc. are attacked by hairy Catterpillar, spray dichlorvos (Nuvan) @ 5 ml per 10 litre of water during clear weather. In the solution of insecticide, mix Tipol or Sandovit @ 0.5 ml per litre of solution. Due to attack of termites in upland crops, in some pockets plants are drying. In case of sevier attack of termites, spray insecticides like Chlorpyrifos @ 2.5 ml. per litre of water near the root zone in the soil.
- Due to prevailing weather there may be aphids and thrips attack in Orissa on maize crop, so apply Dimethoate 30EC @ 400ml/acre and for root rot of pointed gourd spray 10gm Plantomycin along with 20gm Blitox 50 in 10 litres of water in Keonjhar and Mayurbanj districts of Orissa.
- In the North Eastern Coastal Plain Zone of Orissa, in Jajpur district, early shoot borer infestation occurred in sugarcane. Spray 2.5 ml Monocrotophos in each litre water and for Stem Borer in *kharif* rice Spray Chloropyrifos @ 400 ml/acre or Monocrotophos @ 400 ml/acre or apply Cartap hydrochloride @ 7.5 kg/acre, for leaf folder, Spray Chloropyrifos @ 400ml/acre in 200 lts of water.
- In this weather condition in Terai Zone of West Bengal brown spot with yellow halo can be found on the leaf of betel vine. To manage this disease spray mancozeb 64% + matalaxyl 8% @ 1.5 gm/ltr or Bordeaux mixture 1% by wetting the whole vine.
- Undertake plant protection measures after current spells of rain in Orissa.
- Stages of major crops are mentioned in Annexure I.

#### **Animal Husbandry**

- In North Central Plateau Zone of Orissa in Keonjhar district and North Eastern Plateau Zone of Orissa, RD vaccine should be given immediately to the chicks which are 7 days old. To prevent coxidirosis disease spray antibiotic solution named Kohrsolin-TH in the poultry house. Periodic vaccination viz. FMD, HS & BQ may be carried out to protect the dairy animals. Clean and hygienic water should be fed to dairy animals. Keep clean the animal shed.
- In North West Alluvial Plain Zone of Bihar prevailing weather (high humidity & moist condition) is congenial for outbreak of several poultry diseases. Poultry farmers are advised to keep the floor of poultry house dry and clean and ensure that rain water does not enter/moisten the floor. Farmers are also advised to provide vaccination to their cattle to protect the animals from contagious diseases under current weather condition.

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

- **Realised Rainfall:** Most of the districts of Arunachal Pradesh and Assam received rain during last week.
- **Rainfall Forecast:** Fairly widespread rain / thundershowers would occur over the states of this region during next 3 days.
- **Advisory**
  - As most of the districts of Assam and Arunachal Pradesh received rain during last week and also fairly widespread rain / thundershowers would occur over the states of this region, farmers are advised to postpone irrigation to the crops in this region. Farmers are also advised to postpone intercultural operations and application of fertilizer and plant protection measures. Farmers are also advised to arrange for adequate drainage to avoid water stagnation.
  - In Assam, farmers are advised to continue sowing of pulses, pigeon pea, cauliflower (early varieties), radish and planting of banana and pine apple. Taking the advantage of adequate rain during last few weeks, farmers are also advised to prepare the land and undertake transplanting of *sali* rice. Also start sowing of black gram, green gram, sesamum, brinjal (early varieties), country bean, Dolichos Bean, marua etc.

- In Arunachal Pradesh, farmers are advised to harvest mature maize cobs and dry properly before storing. They are also advised to conserve rain water.
- In Meghalaya, farmers are advised to start sowing of toria.
- Farmers in Mid Tropical Hill Zone in Nagaland are advised to start sowing of French bean and to complete sowing of groundnut, soyabean, pulses and transplanting of rice crop.
- Farmers in Mid-tropical plain zone of Tripura are advised to prepare nursery for sowing of early cauliflower and Brinjal.
- Farmers in the States of the region are advised not to allow the rain water to stand in the maize crop as this crop is highly sensitive to standing water.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- In Central Brahmaputra Valley Zone in Assam, there is a chance of attack of stem borer in *Sali* rice, farmers are advised to spray Chloropyriphos(20%) @2ml/lit.
- In Hill Zone of Assam, there is chance of infestation of rice hispa where the crops are at tillering stage; farmers are advised to monitor the crop and spray Quinolphos @ 2 teaspoonful / 5 litres of water to control the attack. To control attack of banana wilt on banana, soil drench with 1.0% Bordeaux mixture or 0.05% Bavistin. To control sap sucking insects (aphids/mealy bug/scales), *khasi* mandarin should be sprayed with Malathion 0.1%
- In North Bank Plain Zone of Assam, there is chance of attack of leaf folder and rice hispa, farmers are advised to spray Chloropyriphos20EC @ 1.5ml per liter of water. There is also chance of attack of gummosis disease on citrus due to heavy rainfall and high relative humidity. Farmers are advised to clean the affected portion and wash with 'potash water'. Bordeaux mixture should be used in affected area. As preventive measure, it is essential to drain out excess water from the area. Due to water stagnation in root zone, the betel vine may be infected with foot rot and leaf spot diseases farmers are advised to keep root zone free from water stagnation, apply four drenches (in root zone) with 1% Bordeaux mixture and spray (on leaves) 0.5% Bordeaux mixture.
- In Sub Tropical Plain Zone of Manipur, there is chance of Bacterial Leaf Blight, sheath blight, leaf folder, stem rot on rice. Farmers are advised to spray with 250 ppm of Agrimycin100 against BLB, spray validamycin @ 2ml/lit of water against Sheath Blight, spray Cartap @ 600ml/ lit. of water against leaf folder, spray validamycin 3 l@ 2.5 ml/lit or Thiophanate methyl 75 WP @1 g/ lit of water against stem rot.
- In Mizoram, there is chance of infestation of rice stem borer, leaf hopper and plant hopper on rice, farmers are advised to monitor the crop and to apply Nuvacron / Monocil 36 SL @ 1020 WG in 400 litre of water per ha. Farmer in low land advised to spray Bavistin 50 WP @ 200 g or Tilt 25 EC or Monceren 250 SC 200 ml in 200 litres of water against sheath blight. Also, activity of trunk borer is likely to increase in Khasi Mandarin; farmers are advised to regularly monitor and killing of larvae by inserting a wire in tunnel. There is also chance of rust and leaf spot disease in groundnut due to warm and moist weather conditions; farmers are advised to spray chlorothalonil 75 WP @ 750 g a.i. ha<sup>-1</sup>. There is chance of downey mildew on soyabean crop, spray mancozeb @ 2 kg a.i. ha. In cucurbits, there is attack of downey mildew, farmers are advised to pluck and destruct affected leaf and spray Dithane M-45@0.2%. Spray Mancozeb 0.3% against soft rot in ginger and turmeric. Due to hot and humid conditions and high wind speed, there is also chance of sigatoka leaf spot on banana in Mizoram. Farmers are advised to apply Mancozeb @ 0.01%.
- In Ri-Bhoi, East Khasi and West Khasi hill districts of Meghalaya, there is chance of occurrence of blast disease in rice; farmers are advised to spray Carbendazim 50 WP @ 1-1.5 g / litre of water. There is chance of wilt in banana; farmers are advised to drench the field with 1-2 % Bordeaux mixture. There is chance of aphid on khasi mandarin, spray 0.1% Malathion against attack. There is chance of incidence of shoot borer on ginger & turmeric, in West Garo, East Garo and Ri-Bhoi district, spray Rogor @0.05% and to control leaf spot, spray Mancozeb (2.5 g/l)

- In Nagaland, due to high moisture in the soil, there is chance of stem rot in papaya; farmers are advised to spray Copper oxychloride @ 3 g / litre of water. Farmers are advised to monitor turmeric crop against shoot borer and spray monocrotophos @ 1ml / liters
- In Mild Tropical Plain Zone of Tripura, due to the prevailing humid weather, there is chance of attack of gundhi bug and sheath blight in upland rice; farmers are advised to spray Imidachloprid @ 1.5 ml per liter of water for gundhi bug and surf @ 1 g per litre of water for sheath blight. In aman rice, there is chance of attack of sheath blight, spray Bavistin 50 WP @ 1 gm per liter of water.
- Apply plant protection measures after current spells of rain.
- Stages of major crops are mentioned in Annexure I.

#### **Animal Husbandry:**

- Undertake immunizations against Brucellosis, Foot and mouth disease (FMD), HS, BQ and Anthrax diseases in cattle and buffaloes in Central Brahmaputra Valley Zone in Assam.
- Cattle farmers in Arunachal Pradesh are advised to avoid dumping excreta and also to undertake deworming with broad spectrum anthelmintic viz., Albendazole, Fenbendazole etc. Also provide adequate clean water to the pigs throughout the day in present weather condition. Poultry farmers are advised to vaccinate chicks against Ranikhet diseases.
- Farmers in Manipur are advised to deworm the cattle, sheep, goat etc. and vaccinate against Haemorrhagic Septicemia, Foot and Mouth Disease (FYM) and Black Quarter (BQ). It is also advised to deworm and vaccinate pigs with SFV (Swine Fever vaccine).
- In Mizoram and Tripura, vaccinate and deworm the pigs from swine fever and internal parasite. Avoid dampness to prevent from coccidiosis in poultry. Due to prevailing of high moisture chance of cause's ammonia fumes which irritate the respiratory tract and eyes in poultry. Poultry farmers are advised to provide good ventilation.

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

- **Realised Rainfall:** Most of the districts of Rajasthan, Himachal Pradesh, Uttarakhand received rainfall as compared to the remaining parts of the region where rainfall is received by few districts only.
- **Rainfall Forecast:** Fairly widespread rain/thundershowers is likely to occur over the region except East Uttar Pradesh where rainfall is likely to occur at a few places during next 48 hours and at many places thereafter.
- **Advisory:**
  - As fairly widespread rain/thundershowers is likely to occur over the region, postpone irrigation to the standing crops.
  - Farmers are advised to adopt proper drainage to remove stagnant water from standing crops in Uttarakhand due to receipt of excess rainfall during last week. Application of Urea as top dressing and weeding may be undertaken after current spells of rain.
  - Farmers in Bhabar and Tarai Zone of Uttarakhand are also advised to undertake sowing of vegetable pea at high hills.
  - Farmers in Uttar Pradesh are advised to undertake sowing of early cauliflower during this week.
  - Farmers in Delhi are advised for sowing of sarson saag, radish, spinach, coriander and turnip and transplanting of brinjal, onion, tomato, chilli, cauliflower and cabbage on raised bed. Chrysanthemum and marigold may be transplanted in raised bed. Farmers are also advised to prepare nurseries of cauliflower for mid season cultivation with proper drainage facilities.
  - Farmers in Punjab and Haryana are advised to undertake sowing of toria, early varieties of radish, turnip, carrot, pea, potato and palak. Sowing of late season varieties of cauliflower can be started. This is suitable time for planting of evergreen fruit plants like lemon, guava & ber. Undertake sowing of these crops.
  - Farmers in Rajasthan are advised to undertake field preparation for the sowing of rainfed taramira, toria and mustard, early planting of pea and late sown cauliflower.

- In Himachal Pradesh, nursery sowing of early varieties of cauliflower and cabbage in mid-hills regions, sowing of carrot, turnip, radish, tomato in high hills, plantation of kulthi in sloppy lands, hybrid chari in lower region, direct sowing of medicinal plants like Ashwagandha, kalmegh, plantation of evergreen plants like mango, litchi, guava, citrus, loquat and amla, plantation of lettuce, leafy vegetables in higher reaches may be undertaken.
- Farmers in Kashmir are advised to harvest fodder crops and mature fruits of tomato, cucumber, capsicum, brinjal and chilli.
- In Himachal Pradesh, weather is conducive for the attack of red pumpkin beetle and fruit fly in cucurbits. Farmers are advised to spray malathion 1ml/litres +50 gram gur or sugar for control of fruit fly and to spray cypermethrin @ 30ml per 30 litres water in one kanal for control of red pumpkin beetle.
- In Himachal Pradesh, cucurbit wines are dying due to wilt disease and also attack of powdery mildew is seen in the cucurbits for control spray Karathane @ 0.15 % solution at weekly interval. Attack of cut worm is seen in the bhindi crop. For control, farmers are advised to drench the fields with chlorpyrifos@1ml per litre of water. Fruit borer is also appearing in brinjal, tomato for control spray carbaryl @ 2g /litres.
- White grub attack is seen in groundnut & pearl millet in Semi Arid Eastern Plain Zone of Jaipur in Rajasthan. Farmers are advised to provide chloropyrifos @ 4 litre with irrigation water mix, the above chemicals in 80-100 kg pure sand (Bajri) & broadcast in field at the onset of rains.
- In Jammu division, due to prevailing weather, incidence of hairy caterpillars in moong & mash crop is likely. Farmers are advised to destroy the young larvae in gregarious phase or spray the crop with Endosulfan @0.07% or quinalphos@ 0.03% or Dichlorovos @ 0.05% during these days.
- Spraying may be undertaken after current spells of rain in the region.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandary**
  - In semi-arid eastern plain zone of Jaipur in Rajasthan, livestock may be attacked by external parasites like ticks. These parasites causes blood parasite diseases like Babesia & Thelaria. In this disease frequent fever come in animals. Treat animal immediately if symptoms are seen.

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

- **Realised Rainfall:** Coastal Karnataka, Andhra Pradesh, most of the districts in Kerala except Thiruvananthapuram and Alappuzha, most of the districts in North Interior Karnataka except Haveri, most of the districts in South Interior Karnataka except Chitradurga, Davangere and Hassan and most of the districts in Tamil Nadu received good rainfall.
- **Rainfall Forecast:** Fairly widespread rain/thundershowers would occur over Coastal Karnataka, Kerala and Coastal Andhra Pradesh. Isolated rain/thundershowers would occur over the remaining region except Telangana where scattered rainfall is likely to occur. Isolated heavy rainfall would occur over north Andhra Pradesh during next 48 hours.
- **Advisories:**
  - Rainfall condition in most parts of Andhra Pradesh has been improved due to receipt of good rainfall particularly in Rayalaseema. Already sown groundnut and contingent crops like redgram and short duration pulse crops have recovered from the stress condition in the region.
  - As there was sufficient rainfall in Coastal Karnataka, Andhra Pradesh, most of the districts in Kerala except Thiruvananthapuram and Alappuzha, most of the districts in North Interior Karnataka except Haveri, most of the districts in South Interior Karnataka except Chitradurga, Davangere and Hassan and most of the districts in Tamil Nadu received good rainfall, postpone irrigation to the crops. Apply irrigation to the crops in the regions where there was no significant rainfall. Provide drainage facilities in north Andhra Pradesh as isolated heavy rainfall is expected during next 48 hours.

- Farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to undertake gap filling in cotton, *kharif* sowing of red gram, cotton and maize etc., utilizing realized rainfall.
- Farmers in the North Dry Zone of Karnataka are advised to harvest the matured green gram crop and continue sowing of *desi* cotton, horse gram, maize and sunflower.
- Farmers in North East Dry Zone of Karnataka are advised to undertake inter cultivation and hand weeding in early sown pigeon pea and cotton crops. Harvesting of green gram may be undertaken on bright sunny days. Farmers are advised to continue sowing of pigeon pea in North East Dry Zone of Karnataka.
- Farmers of North Transition Zone are advised to provide protective irrigation at the critical stages of crops, wherever possible, undertake plant protection measures to prevent the crop withering from the biotic stress (sucking pests in cotton and defoliators in groundnut, soybean and other crops.) and uproot and destroy the heavily infested and infected crops with insects and diseases.
- Farmers in Western Zone of Tamil Nadu are advised to go in for late sowing of groundnut after treating the seeds with *Trichoderma viridii* at a rate of 10 grams for every 1 kg of seed and planted at space of 30 cm between rows and 10 cm between plants as they received rainfall last week.
- Land preparation for early mundakan may be started in the central zone of Kerala and continue manuring in coconut, ginger, turmeric and vegetables.
- Farmers of the Northern Zone of Kerala are advised to carry out weeding, standing water regulation and fertilizer application in paddy and continue planting in black pepper, ginger, turmeric, tapioca, cocoa, cashew, vegetables and coconut seedlings.
- In the Coastal Zone of Karnataka, farmers are advised to drain out excess water in rice as flooded situation are noticed in paddy field due to heavy rain splashes in low land area in last few days. Late planted paddy seedling affected with pest and diseases like thrips, leaf folder, caseworm. Farmers are advised to drain the paddy field, pull the rope across the crop by holding rope ends on either side of the field and spray the Quinolphos 2ml/lit of water to control caseworm, spray of Quinolphos 2ml/lit of water to control leaf folder, spray the Monocrotophos @ 1.5 ml/lit of water to control thrips.
- In the Cauvery Delta Zone of Tamilnadu there is wide spread occurrence of black bug in paddy. To control the pest, spray acephate @ 250 gm/acre (or) profenophas 400 ml/ acre along with sticking agent in the base of rice crop. Also, there is a chance for occurrence of diseases like Bacterial Leaf Blight and bacterial leaf spot. To control these bacterial infections, apply 1 kg *Pseudomonas fluorescence* per acre along with 20 kg of FYM or sand in the main filed.
- In the prevailing climatic condition in the Problem Areas Zone of Kerala, there is chance of sheath blight occurrence in paddy fields. The attack of black bug is noticed in different fields. Bacterial leaf blight is noticed in many of the padasekharams in Kuttanadu. To prevent the spread of the disease to other padasekharams, it is advised to keep bleaching powder in small bundles at the entrance of irrigation channels @ 2 kg/acre. Spraying fresh cowdung water made by mixing cowdung in water @ 20 g/litre is effective for controlling the disease in the initial stages.
- In the Western Zone of Tamilnadu incidence of red hairy caterpillar was observed on irrigated groundnut. Farmers are advised to raise one row of cowpea for every five rows of groundnut (or) spraying of Quinolphos 25 EC @ 300 ml / acre. If no herbicide is applied, hand weeding and hoeing should be done on 20 days after sowing. For controlling bollworm in cotton farmers are advised to spray of NPV at 3 x 10<sup>12</sup> POB /ha with 10% cotton seed kernel extract, 10% crude sugar, 0.1% each of Tinopal and Teepol. Use pheromone trap to monitor the adult moth activity. For controlling pink bollworm, spray of triazophos 40 EC 2.5l/ha and endosulfan 35 EC 2.0 l/ha in alternation even after 100 DAS.
- In the Southern Zone of Tamilnadu stem borer and leaf folder incidences are found in the paddy field. Farmers are advised to monitor it using the light trap and to control these, spray neem oil @ 20 ml/lit or Azadirachtin @ 3 ml/lit in the morning hours, tie trichogramma card @ 2 cc/acre and in when it reaches above ETL spray profenophos at 2.0 ml/lit of water or Chlorpyriophos @ 2 ml per litre of water.
- In the anticipated weather with moderate cloud cover and humidity of the South Zone of Tamilnadu, case worm is noticed in paddy. For controlling this pest add 3 litre of kerosene to the standing water, drag a rope on the foliage and drain the water. Spray monocrotophos 500 ml / ha.
- Wilt is noticed in scarce rainfall zone of Rayalaseema in June sown red gram crop. Farmers are advised to undertake preventive measures.

- The incidence of thrips and bud necrosis disease is noticed in groundnut in Southern Telangana Zone of Andhra Pradesh. To control thrips, spray Dimethoate @ 2 ml per litre of water and spray Imidacloprid @ 0.4 ml or Dimethoate @ 2 ml per litre of water to control bud necrosis. Incidences of various pests and diseases were noticed in vegetables and fruits. Farmers are advised to undertake precautionary measures.
- Undertake plant protection measures after spells of rain in Kerala, Coastal Karnataka and Coastal Andhra Pradesh and on a non- rainy day over Telangana.
- Varieties are mentioned in Annexure II.

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

- **Realised rainfall:** All districts in Maharashtra and Gujarat States except Patan in Gujarat region received significant rain during last week.
- **Rainfall forecast:** Widespread rainfall would over Maharashtra. Widespread rain/thundershowers would occur over Gujarat Region during next 48 hours and decrease thereafter.
- **Warning.** Isolated heavy rainfall would occur over Vidarbha during next 24 hours and over Konkan & Goa, Madhya Maharashtra, Marathwada and Gujarat region during next 48 hours.

#### **Advisory:**

- Farmers are advised to postpone irrigation in all sub divisions of Maharashtra and Gujarat region as widespread rainfall is likely in these regions. Also provide drainage facilities in the above regions due to likely occurrence of isolated heavy rainfall in the above regions during next 48 hours. Postpone irrigation in Saurashtra & Kutch region as there was sufficient rainfall during last week.
- Maintain water level 5 cm by bunding in rice field in Konkan, Kolhapur, Pune and Nasik division and 2-3 cm water level in Vidarbha. Clean bunds and remove excess water from the field. Apply Nitrogenous fertilizers, weeding, application of fertilizers after current spells of rain.
- Undertake weeding in *kharif* jowar and cotton, and complete earthing up in 35 to 40 days old groundnut in Madhya Maharashtra and Marathwada after current spells of rain.
- In view of favourable weather for planting of all fruit crops in Konkan and Kolhapur division. While planting remove plastic bag without disturbing the soil of the graft. Press the soil near to the graft. Give the support to the plant.
- For better growth of cotton boll and control of red leaf in cotton, spray Magnesium Sulphate 1 kg + DAP @ 4 kg/acre. Spray 2% Urea or DAP at flowering stage on soyabean in East Vidarbha.
- As green gram is at maturity stage, farmers are advised to start plucking of already matured pods on a non rainy day.
- Farmers in Middle Gujarat Zone Farmers are advised for split application of fertilizer at the rate of 87 kg urea per hectare on a non rainy day.
- Due to isolated heavy rainfall in South Gujarat, farmers are advised to make arrangement for drainage in vegetables. Use runoff water to recharge wells or store in farm pond.
- As heavy rainfall is likely in North Gujarat Zone, farmers are advised to avoid application of irrigation, chemical spraying and fertilizers in the crops. Avoid water logging condition in low land areas of the field. Excess water may be harvested or stored at suitable location for future use.
- Farmers in North Saurashtra Zone of Gujarat are advised to apply 40 kg N /ha as top dressing in cotton on a non rainy day.
- Due to possibility of significant rain in Middle Gujarat Zone, clean drainage channels to facilitate run off of excess rain water from the field. Also farmers are advised to transplant tobacco seedling @90\*75 cm spacing.
- Farmers in South Gujarat Zone are advised to apply first spray of 2% DAP solution in green gram and black gram at flowering stage and second spray after 15 day of first spray. Also take care against water stagnation in fruit crop.

- Farmers in South Saurashtra Zone of Gujarat are advised for sowing of pigeon pea between two rows of groundnut crop in relay cropping.
- Suitable varieties of the crops for sowing are mentioned in Annexure II.
- Due to cloudy weather in Middle Gujarat Zone, infestation of sucking pest occurred in vegetable and other crops. Farmers are advised to spray 10 ml Monocrotophose or 10 ml Dimethoate or 10 ml Methyl-o-Dematone in 10 liter water at 10 days interval. Also to control phyllody in sesamum, spray moncozeb @ 0.2 %.
- To manage sigatoka disease in Banana crop in South Gujarat Zone, farmers are advised to spray the crop with Propiconazole 1 ml or Dithane Z-78, 2.5 g. dissolved in one liter of water.
- Due to cloudy condition, there is a chance of tikka disease in groundnut crop in South Gujarat heavy Rainfall Zone. Farmers are advised to spray mancozeb @ 25 g/10 liter water.
- To control sucking pest in cotton crop farmers in South Saurashtra Zone of Gujarat, farmers are advised to spray Trazophos 20 ml or Mithyle-o-Demeton 5 ml of Diamethoate 10 ml or Monocrotophos 12 ml in 10 liter of water.
- Stages of major crops are mentioned in Annexure I.

### Animal Husbandry

- Due to isolated medium to very heavy rainfall in Gujarat keep animals in safe place during rainfall.
- In North West Zone of Gujarat, for control of fly and Mosquito in cattle shed, spray Malathian dust & clean the shed frequently.

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

- **Realised Rainfall:** Sufficient rain occurred in Chattisgarh and Madhya Pradesh during last week.
- **Rainfall Forecast:** Rainfall is likely at many places in Madhya Pradesh and at few places in Chhattisgarh during next three days.
- **Advisory:**
  - As fairly widespread rain occurred over Madhya Pradesh and Chhattisgarh during last week, postpone irrigation to the crops.
  - Farmers in Jhabua Hill Zone of Madhya Pradesh are advised to carry out transplanting of fruit plants like mango, guava, anola, citrus, chickoo and pomegranate etc. utilising the realised rainfall during last week.
  - Farmers in Kymore Plateau and Satpura Hill Zones are advised for transplanting of tomato, brinjal and chilly and sowing of ladies finger and pigeon pea.
  - Farmers in Gird Zone of Madhya Pradesh are advised for transplanting of brinjal, tomato, cauliflower, kharif onion and chilli.
  - Farmers in Central Narmada Valley and Vindya Plateau of Madhya Pradesh are advised for proper drainage of water in field of soybean, arhar, til, jawar and maize and vegetables.
  - Due to possibility of rainfall, farmers in Central Narmada Valley Zone of Madhya Pradesh are advised to transplant fruit plants like papaya, guava and mango. Also prepare nursery for cabbage and cauliflower.
  - Present weather conditions are suitable for the sowing of nursery of early varieties of cabbage, tomato, brinjal, chilli etc. in raised nursery in Chattisgarh Plain Zone.
  - Due to prevailing weather conditions chances of stem borer attack in summer rice in Chattisgarh Plain Zone. Farmers are advised to keep watch over the crops and use light traps in that fields between 7 pm to 9 pm for effective control of pests. In case of heavy incidence use of Fipronil / Cartup @ 25 kg/ha is recommended. After the treatment, water in the field should not be drained out at least for 24 hours.
  - Plantation for tuber crops should be done by cuttings for crops like Discorea, Colocasia, elephant foot yam, zinger and tapioca. Discorea crops should be given support by bamboo sticks in Dantewada and Bijapur districts of Chattisgarh.
  - There is report of attack of girdle beetle and semi lopper in soybean crop in Bundelkhand Zone of Madhya Pradesh. Farmers are advised to spray Trizophos 40 E.C. 2.0 ml per litre of water. Also



there is possibility of attack of yellow mosaic in soybean, urd, moong crops and vegetables like chilli and tomato. If found, spray Methyl Dimeton 2.0 ml. or Imidachloprid @ 1/2 ml. per liter of water for their control.

- Weather is congenial for attack of girdle beetle in Central Narmada Valley Zone in soybean of Madhya Pradesh, spray Trizophos 0.75 lit/ha or Quinolphos 0.75lit/ha.
- Spray chemicals after spells of rain Madhya Pradesh and on a non rainy day in Chhattisgarh.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry & Poultry**
  - In Central Narmada Valley Zone of Madhya Pradesh vaccination goats against PPR disease. Provide de-warming to the calf of dairy animals and keep on dry and clean shade.
  - Humid weather condition prevailed in Kymore Plateau and Satpura Hill Zone of Madhya Pradesh. Hence keep cattle's in dry and clean place. Also create neem leaves smoke in night to save them from mosquitoes and bees. Arrange for vaccination for foot and mouth disease, and anthrax. Use Potassium Permanganate @ 5 ml per liter of water for infected animals.
  - In Budelkhand Zone of Madhya Pradesh, cows, buffalos, goats and sheep may be vaccinated against the foot & mouth disease. Spray Melathion or Phinate and clean the cattle shade for the protection from mosquito, house fly and other external parasite. In view of cloudy condition next five days, provided bulb light four-five hours in the poultry houses during night.
  - Tobacco caterpillar is likely to damage soybean, black gram, pigeon pea in Chhattisgarh Plain Zone, farmers are advised to keep watch over the crop and it is better to collect the insect and destroy it at early stage. For effective control spraying of Quinolphos @ 1.25 l or Fenvelrate 20EC @ 375 ml per hectare.
  - Stem borer attack is being observed in maize in Bastar and Narayanpur districts of Chattisgarh. For its control, 2-3 grams of Carbofuran should be given per plant or this insecticide can be applied at the time of earthing up @ 10 kg./ acre. Beetle attack is being observed in cashew, spray Carboryl 2 gms. per litre.
  - Fruit fly attack is being observed in bittergourd and bottlegourd vegetables in Dantewara and Bijapur districts of Chattisgarh. Farmers are advised to adopt appropriate plant protection measures.

## Annexure I Major Crops

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

- Sugarcane (early vegetative / vegetative), rice, *kharif* maize, *kharif*farhar, sesame, sorghum, jowar, lobia for green fodder, mishrikand (sowing / vegetative), onion, radish (sowing), cauliflower fruit trees (transplanting) and pigeon pea (land preparation) in Bihar.
- Sugarcane (early vegetative / vegetative), papaya (transplanting), turmeric, ginger, elephant foot yam (vegetative / tuber development stage), rice (transplanting/ vegetative), rainy season vegetables like bhindi, bean, tomato, french bean, cauliflower, cabbage etc. (vegetative / flowering / fruiting), maize, pigeon pea, urd, moong bean, groundnut( vegetative) and sweet potato (transplanting / vegetative)in Jharkhand.
- Arhar and maize (sowing / early vegetative), papaya, marigold, tuberose (planting), cowpea (sowing / early vegetative), *kharif* vegetables (sowing / vegetative), sugarcane (vegetative), *kharif* rice (transplanting / tillering), groundnut (sowing / early vegetative), chrysanthemum, ragi (sowing / vegetative), turmeric and ginger (planting / early vegetative), yam (sowing), sesamum, green gram, black gram, niger (sowing / early vegetative), mango, banana, lemon, cashew nut, marigold(planting) in Orissa.
- *Aman* rice (transplanting / tillering), tomato, cauliflower (nursery preparation / transplanting), *aus* rice (tillering), *kharif* maize (sowing / tillering/harvesting), jute (vegetative / harvesting), mango, coconut, guava, banana (planting) and *kharif* vegetables (sowing / planting / vegetative / fruiting/harvesting) in West Bengal.

- Large cardamom (capsule formation / transplanting of suckers from nursery/grain maturity;), *kharif* vegetables (harvesting), orange (fruiting.), ginger (germination / early vegetative), rice (early tillering), maize (harvesting), seed potato (maturity/harvesting;) in Sikkim.

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

- Sugarcane (active vegetative), *ahu* rice (ripening/harvesting), *sali* rice (transplanting / tillering), *olitorius* jute (maturity / harvesting / retting/fiber extraction ), Capsularis jute, (retting / fiber extraction), maize (vegetative), sesame, groundnut (early vegetative / vegetative), arhar, pigeon pea, radish, cauliflower and brinjal (early variety) (sowing / early vegetative / vegetative) and jute (for seed production) (early vegetative), ginger / turmeric (vegetative), black / green gram (sowing / vegetative), banana (various), cowpea (sowing / vegetative) and khasi mandarin (sowing / vegetative) in Assam.
- Rice (vegetative/panicle initiation/anthesis/grain formation), tuber crops (vegetative), soyabean and groundnut (vegetative) and maize (vegetative/fruiting/harvesting) in Arunachal Pradesh.
- Soyabean (flowering / fruiting / pod formation), groundnut (pod formation/maturity), *kharif* rice (transplanting / tillering), ginger and turmeric (vegetative / rhizome formation), early cauliflower (transplanting), tomato (nursery raising), lemon (fruiting / harvesting), Brinjal (Flowering/fruiting) in Manipur.
- *Ahu* rice (panicle initiation / flowering / grain filling), arhar (vegetative), *sali* rice ( tillering /panicle initiation), maize (fruiting), early cauliflower and cabbage (transplanting / vegetative), ginger and turmeric (rhizome formation), toria (sowing), groundnut (vegetative), *Khasi* mandarin (flowering / fruiting), banana (vegetative) in Meghalaya.
- Rice (transplanting / tillering), *kharif* maize (cob formation/harvesting), groundnut (flowering/pegging), soyabean (vegetative / flowering), okra (flowering/fruiting /harvesting), ginger and turmeric (vegetative/rhizome formation), *khasi* mandarin ( vegetative / fruiting), French Bean, rice bean, urd and moong bean (flowering / pod formation), banana (vegetative / fruiting/maturity), cucurbits (vegetative/flowering) in Mizoram.
- Soyabean (flowering), groundnut, green gram and black gram (sowing / vegetative),finger millet (flowering), paddy (preparation of nursery bed), rice (transplanting), maize (maturity/harvesting), okra (flowering / fruiting), lowland rice (heading), upland paddy (maturity), banana (fruiting), colocasia (flowering), turmeric (vegetative) and papaya (transplanting) in Nagaland.
- *Aus* or *kharif* rice (panicle initiation / flowering / grain formation), *aman* rice (transplanting /tillering), upland / jhum rice (early milking), cucurbits and other vegetables (flowering / fruiting), maize (tasseling / silking / cob formation), early cauliflower, brinjal (sowing) and sesame (vegetative / flowering / pod formation) in Tripura.

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

- Tomato, chilli, paddy (transplanting/early vegetative), brinjal & cucurbits crops (flowering/fruiting), lentil (pod formation), maize, hybrid cluster bean, baby corn, Pigeon pea (sowing/ vegetative), green gram and black gram, cotton (sowing), Sugarcane(sowing) in Delhi.
- Vegetables (flowering / fruiting / harvesting), garlic, ginger (planting), bhindi, (transplanting), cucurbits (transplanting), Khira, summer squash, bitter gourd, tur, brinjal, Shimla mirch, and tomato (transplanting), Apple (fruit development/maturity), pomegranate (fruit development), ginger, arbi, amaranthus, turmeric, rice, maize (sowing/transplanting) in Himachal Pradesh.
- Berseem (vegetative), cucurbits (vegetative / flowering/maturity), onion (seed bed preparation), capsicum, chilli, brinjal, raddish, carrot, turnip, cauliflower, cabbage, broccoli (vegetative / fruiting), *kharif* fodder viz. maize, jowar, bajra, cowpea (growth / harvesting), early sown maize (initiation of tassel emergence / grain development), maize (vegetative / silking / grain filling and

development), *khariif* pulses, moong, mash (flowering / pod development), rice (tillering/panicle initiation/ milking / grain filling), *Khariif* oilseed like groundnut, sunflower, summer brassica etc. ( vegetative/ flowering / seed development), orchards (apple-fruit development and pear – maturity) in Jammu & Kashmir.

- Chilli, capsicum (transplanting), tomato (vegetative/maturity/harvesting) and lahi (flowering / fruiting), sugarcane (planting), rice (tillering/ panicle initiation), litchi, loquat, peach, citrus (flowering / fruiting), mango (early varieties) (flowering), maize (cob formation), foxtail millet, okra, bottle gourd, bitter gourd, ginger, turmeric, soyabean (sowing / planting), sorghum, pigeon pea, urd and pearl millets(sowing) in Uttarakhand.
- *Spring* sugarcane (sprouting), berseem (vegetative), vegetables (sowing/fruiting), sugarcane (tillering/grand growth), *Khariif* pulses (branching/pod formation), cotton (boll initiation), okra (sowing/vegetative), rice (transplanting/panicle initiation/tillering), maize (knee height stage/tasseling) in Punjab.
- Sugarcane (spring season) (planting/emergence/early vegetative), barseem (vegetative), pulses, moong, mash, pigeon pea (sowing), rice (tillering / vegetative growth) in Haryana.
- Rice (Transplanting / tillering), winter sugarcane (vegetative growth / formative), summer sugarcane (initial growth / formative stage), cucurbits like gourd, bitter gourd, cucumber, etc. and another vegetables like lady's finger, tomato, brinjal, chilli etc. (sowing / flowering/fruiting), black gram, baby corn/ maize / fodder maize, vegetables (vegetative/flowering/fruiting), groundnut, jowar, bajra, til, moong, urd, moong, lobia (early vegetative), arhar (sowing /early vegetative), tomato, brinjal, cabbage (sowing) in Uttar Pradesh.
- Rice (nursery sowing/transplanting), narma cotton, desi cotton (flowering / boll formation in Sriganaganagar), sweet potato(sowing), pearl millet, sorghum, maize, soybean, chilli, moong, cowpea, urd, sorghum and cluster bean (sowing) in Rajasthan.

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

- Kuruvai rice (grain formation), Samba rice (land preparation / nursery), cotton (vegetative to flowering), vegetables (nursery / transplanting/ fruiting), sugarcane (vegetative/ grand growth/maturity), groundnut (vegetative/ flowering / peg formation/ pod development/maturity), maize (vegetative/flowering/harvest/), sorghum (vegetative), black gram (flowering/ harvest) in Tamil Nadu.
- Sugarcane (ratooning/vegetative), cotton (sowing / vegetative), hybrid jowar, maize, ragi, sunflower, groundnut, red gram and horticultural crops (vegetative) in Karnataka. Early sown crops are at early vegetative stage.
- Maize (Sowing to seedling stage), jowar, cotton (vegetative), sugarcane and pulse crops like green gram (vegetative), red gram (vegetative), rice (nursery / transplanting/ tillering), groundnut (Early sown- pod initiation & development stage/Late sown crop - flowering stage/ vegetative) in Andhra Pradesh.
- *Virippu* rice (flowering), black pepper (berry development), ginger (vegetative), turmeric and vegetable crops (flowering to harvesting stage), *Mundakan* rice (sowing/transplanting) in Kerala.

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

- *Sugarcane* (new adsali - planting / old adsali - grand growth), sugarcane (pre-seasonal (vegetative), sugarcane (suru) (early vegetative), : *Khariif* paddy ( tillering in Konkan, Kolhapur, Pune, Nashik division, Early tillering in East Vidarbha), jowar (vegetative), soyabean (flowering / pod formation), groundnut (flowering / pegging in Pune division and vegetative/flowering in other division) cotton (vegetative growth/floral bud initiation), red gram(Early vegetative / primary branching) and green gram(pod development / pod maturity)

- *Kharif* bajra (vegetative), vegetables (transplanting / vegetative), sugarcane (vegetative), groundnut (vegetative / flowering / pegging), *kharif* pulses (sowing / germination / vegetative), maize (vegetative), cotton (vegetative / flowering), rice (transplanting / tillering) in Gujarat.

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

- Sugarcane (vegetative), vegetables (flowering and fruiting), moong, urad, maize, soybean, sesame, groundnut, jowar groundnut, pigeon pea(sowing), *kharif*onion, brinjal, tomato and chillietc. (transplanting), rice (transplanting) in Madhya Pradesh.
- Rice (seedling / tillering), sugarcane (planting), maize (flowering), groundnut, arhar, green gram and sesame (sowing), ginger, turmeric, papaya, mango and guava (planting),kuthi, niger (sowing) in Chhattisgarh.

## Annexure II List of Varieties

### Orissa

#### Arhar:

**Early duration-** Prabhat, Upas-120, ICPL-86012, ICPL-87.

**Medium duration** - Asha, Visakha, DA-11, C-11 etc.

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

#### Cow pea:

**Bush type** – PusaPhalguni, PusaKomal, SEB-2, PusaBarsati.

**Runner type** – American Long and Banarasi Long.

**Other improved varieties** – Russian Giant, EC-4316, NP-3, C-152, UPC-286, UPC-5286 and IGFI-450.

#### Okra:

**Improved high yielding varieties** – UtkalGourav, ArkaAnamika, Uphar, ParvaniKranti.

**Hybrid varieties** – Varsa, Vijay, Vishal, Tara, Adhunik, Atyadhunik and Supriya.

**Bitter gourd:** PusaDomousumi, Coimbatore Long Green and ArkaHarit.

**Ridge gourd:** PusaNajdar, Jaypur Long and any local variety.

**Cluster bean:** PusaNaubahar.

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

**Turmeric:** Roma, Surama, Rang, Rashmi etc.

**Maize:** Navjot, Shakti, Decan-107, Decan-109.

#### Rice:

**Extra early** – Kaling-3.

**Early** – Khandagiri, Bandana, Pathara, Parijat, Annada, Jogesh, Siddant.

**Medium** – Pratikshya, Manaswini, Tapaswini MAS, Konark, Kharavela, Naveen, Abhisek, Lalat, MAS MTU-1001, MTU-1010, Konark, Gajapati, Surendra, Lalat.

**Late** - CR-1009, CR-1018, Swarna (MTU-7029), Indravati, Mahanadi, Puja, Ramachandi, Kanchana, Sarala, Lunishree, Ranidhan, Mrinalini, RGL-2837, Ketakijoha, Moti, Padmini, Kanchana, Mahanadi, Jagabandhu.

**Fine** - CR-1014, BPT-5204.

**Flash flood areas** - Swarna Sub-1.

**Yam:** Shreekirti, Shreerupa, Hatikhoj, Shreeshilpi; small yam – Shreelata, Shreekala.

**White yam:** Shreesubhra, Shreepriya, Shreedhanya.

**Groundnut:** Ak-12-24, TG-3, TG- 38, TMV 2, ICGS -11, JL-24 and Smruti for oil.

**Ragi:** Divyasingh, AKP-2, AKP-3, AKP-7, Godavari, Neelachal, Bhairavi, Shubhra and Chilika.

**Chrysanthemum:**

**Yellow** - Chandrama, Kiku, Biory, Super Giant and Evening Star.

**White** - Snow Ball, Inoscence and Premier.

**Red** - Brave, Rustic, Alfred and Wilson.

**Sesamum:** Kanaka, Kalika, Vinayak, Uma, Prachi, Tilottama, Nilima.

**Green gram:** K-851, PDM-11, PDM-54, OUM-11-5.

**Black gram:** T-9, Pant U-11, Pant U-19, Pant U-30.

**Niger:** Deomali, Niger-1.

**Cashew nut:** BPP-4, Bhubaneswar-1, VRI-2, Hybrid 2-17.

**Banana:** Dwarf Cavendis, Robusta, G-9, Tissue cultured Banana – Hampa, Patakpara, Bantal and Kabuli.

**Mango:** Baiganpalli, Totapuri, Bombay green, Suvarnarekha, Neelam, Himsagar, Langra, Dusheri, Amrapalli, Mallika, Ratna, Sindhu, Alphanso, Keshar etc.

**Lemon:** Ureka, Lisbon, Bhillafranka of lemon and Kagazilembu, Mexican lime, Sarbati lime and Tahita of lime.

**Marigold:** Giant Ball, African Yellow, Giant Ball African Orange, Early Yellow, Early Orange, Serakola, Africut, Sun Giant, Crown Of Gold, Spun Gold and Cuprid Yellow.

**West Bengal**

***Aman rice:***

**Upland situation (110-120 days):** Rasi, Khitish, Bhupen, CST-7-1, PNR-519, Kunti, Ajaya, CSR-6.

**Shallow low land (130-140 days):** ManasSarovar, MTU-7029 (SwarnaMasuri), MTU-1001, MTU-1010, Naveen, IET-5656.

**Semi deep water (150-160 days):** Jogen, Sabita, Purnendu, Amulya, CR-1009, CR-1018, Sarala.

**Banana:** Mortoman, Chapa, Kathali, Singapuri.

**Black Gram:** Sarada, T-9, Pant-U-19 and kalindi

**Cauliflower:** Pusadepali, Pusachetaki

**Jharkhand**

**Turmeric:** RajendraSona.

**Ginger:** Burdwan and Nadia.

**Elephant foot yam:** Gajendra.

**Maize:** Birsa-1, Birsa Vikas-1, Suhan-1, Suwan Composite 1 (100 days) and hybrid variety – HQPM 1 (100 days), composite variety – BirsaMakka 1 (80-85 days) and hybrid variety - Kanchan (80-85 days), BirsaVikashMakka 2 (70-80 Days).

**Rice:** Swarna (MTU 7029), Rajshree, BPT 5204 (SambhaMahsuri), Birsamati and for hybrid rice – Proagro or Arize 6444; for medium land rice – IR 36, 64, Lalat, Naveen, Sahbhagi, BR 10, Kanak, RajendraDhan 202, Sugandha, BirsaVikashSugandhDhan 2, BirsaVikashDhan 203; Birsamati, early duration varieties – Vandana, Lalat, BirsaDhan 108, 109, 110.

**Horse gram:** Birsa Kulthi-1 (95 days), G.H.G.-20 (75 days).

**Urd:** T 9, Pant U 19, 30, 35 and BirsaUrd 1.

**Moong bean:** Pusa Vishal, SML 668, K 885, PS 16, Pant Moong 2 and PDM 11.

**Pigeon pea:** BirsaArhar (210 days), Bahar (240 days) and ICPH 2671 (210 days).

**Finger millet:** BirsaMarua 2, A 404 and GPU 45, 47.

**Groundnut:** AK 12-24, BirsaMoongfali 1, 2, 3 and bold type – Birsa Bold (BAU 13).

**Sweet Potato:** Birsa Sakarkand-1 and Sri Bhadra.

**Sesame:** KankeSafed and Krishna.

**Horse Gram:** Birsa Kulthi-1 (95 days), G.H.G.-20.

**Bihar**

**Rice:** Mansuri, RajendraMansuri, NataMansuri, RajendraSweta, Santosh, Rajshree, Satyam, Pankaj, Swarna (MTU 7029), Sita, Kank and IR-36.

Short duration varieties: Pusa 2-21, IR-36, Saket-4, Prabhat and photosensitive tall local varieties like Katarni, Kamini, Sugandha, TulsiMunjari.

**Kharifmaize:** Shaktiman 2, Shaktiman 3, Shaktiman 4 and Deoki.

**Scented rice:** Sugandha, Kamani, RajendraSuwasani and RajendraKasturi.

**Mishrikand:** RajendraMisrikand 1.

**Onion:** N-53, Agrifound Dark Red and Baswant 780.

**Tomato:** DBRT-2, ArkaVikash, PusaGaurav, Labonita, Marglov, Punjab Kesri, Sweet 72, Pant Bahar and hybrid varieties such as Vaishali, Rupali, Navin, Ratna, ARTH-3.

**Brinjal:** Rajendra Baigan-2, Rajendra Annapurna, Pant Baigan, PusaAnmol, Pusa Purple Long, ArkaNavneet, Pusa Hybrid-5.

**Radish:** PusaChetki, PusaDeshi, PusaHimani, PusaReshmi, JapaniSafed, ArkaNishant.

**Cauliflower:** Kuwari, Patna Early, PusaKatki, PusaDipali, HajipurAgaat.

**Pointedgourd:** RajendraParwal 1, RajendraParwal 2, F.P. 1, F.P. 3.

**Pigeon pea:** Sharad, Pusa-9 and Bahar

**Assam*****Sali rice:***

**Long duration:** Monohar Sali, Andrew Sali, Gitesh, Prasad bhog.

**Others:** Jalashree, Jalkuwari, Plaban.

**Arhar:** T-21

**Early cauliflower:** Early Kunwari, Pusa Deepali, Pusa Katki.

**Green gram:** T-44, Kopergaon, K-851, ML-56, ML-131.

**Black gram:** SB 121 (Saonia Mah), T-9, T-27, Pant U-19, T-122, KU 301, USJD 113, T 9, T27.

**Radish:** Pusa Desi, Pusa Himani, Pusa Chetki, Japanese white, Bombay Red

**Brinjal :** Pusa Kranti, Pusa Purple Long, Longai

**Cowpea:** RC 19, TVX-944-02E.

**Dolichos Bean :** Pusa Early Profile and SD-18.

**Meghalaya**

**Arhar:** T-21.

**Delhi**

**Hybrid cluster bean:** Pusa Komal, Pusa Sukamol,

**Baby corn:** HM-4.

**Sugarcane:** Karan-1, Karan-2, Co-64, and Co-1496.

**Late varieties of Cotton:** H-777, H-974, H-1098.

**Pigeonpea -** Pusa 2001, Pusa991, Pusa992, Paras manak, UPAS 120.

**Soybean:** Pusa-9712, Pusa-9814, and Pusa-16.

**Fodder Sorghum:** Pusa chari-9, Pusa chari-6.

**Sarson Saag-** Pusa Saag-1;

**Radish-** Pusa Chatki, Versa Kee Rani, Long Chetaki;

**Spinach-** All Green;

**Coriander-** Pant Haritama, Hybrids;

**Turnip-** Pusa Swati

**Early Pea:** Pusa Pragati

**Carrot:** Pusa Rudhira and Pusa Kesar

**Mustard:** Pusa Sarson-25, Pusa Sarson-26, Pusa Agrni, Pusa Taraka, Pusa Mahak

**Himachal Pradesh****Cauliflower:** Sweta, Madhuri**Capsicum green:** California wonder, Mahabharat, Capsicum yellow : US 616**Cucumber:** Kiyani**Summer squash:** hybrid green**Lettuce:** Iceberg**Brinjal :** Arka Nidhi, PPC**Ageti bhindi :** P-8, Prabhini kranti, Arka anamika**Frenchbean :** Contender**Pepper :** Surjmukhi**Broccoli:** Palam Samridhi**Rajmash :** Triloki, Jwala, baspa Kailash**Jammu & Kashmir****Brinjal :** PPL, PPC & PPR**Raddish:** Japanese white**Carrot:** . Nantes and Pusa Yamdagini**Turnip :** Purple Top White Globe**Chillies :** NP-46A, Pusa jawala**Bajra:** WCC-75, ICMS-7703 and Hybrid M.H.B-110,**Cabbage:** GA, POI**Punjab****Paddy :** Pusa Basmati 1, Pusa 1121, Punjab Basmati 2, Punjab Mehak and Super Basmati during these days and Basmati 370 and Basmati 386, PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115 etc.**Okra :** Punjab 7 / Punjab 8**Radish:** Punjab Ageti, Pusa Chetk**Toria:** PBT 37/ TL 15**Early Varieties:** radish (Punjab Pasand & Punjab Safed), turnip (L-1 & 4-white), carrot (PC-34), pea, potato and palak (Punjab Green).**Late season varieties of cauliflower:** Snow-Ball-16, Pusa Snow ball 1 & Pusa Snow ball K-1**Haryana****Baisakhi Mung:** K851 and Type 44 and Muskan**Pigeon pea:** UPAS 120, T-21.**Uttar Pradesh****Arhar :** T-7, Amar, Bahar, Narendra Arhar-1, Azad, Malaviya -13, Pusa-9.**Vegetables:****Pumpkin:** Azad pumpkin-1, Narendra pumpkin-1, **Gourd:** Kalyanpur Lambi Hari, Pusa Meghdoot,**Taroi-** Kalyanpur Chikni, Pusa Chikni, **Bitter gourd:** Baramasi, Narendra Baramasi, **Cucumber –**Kalyanpur Hara, **Lady's finger –** Azad Bhindi-1,2, Parmani, Kranti, Pusa Sawani, Vaishali, Selection-1,**Brinjal :** Azad-1 type-3, Pusa purple log, Azad Baingan gol, Kranti, **Onion :** N-53, AG found Dark

Red, Arka Kalyan.

**Fruits:****Mango:** early var.: Bambai Hara, Gopal Bhog, Medium var.: Dabhahari, Langada, Lucknow Safeda, late var.: Chouda, Amrapali, Mallika, Swarn Rekha, **Banana:** Dwarf Kovindis, Basrai Dwarf, for vegetablespurpose: Hari chhal, **Pappaya:** Pusa Delectus, Pusa Mejestry, Pusa Dwarf, Pusa joint, C.O.-1,2,3,

**Amrud:** Lucknow-49, Alahabadi Safeda, Banarasi Surkh, Chittidar, Apil colour, Arkamrudula, **Awala:** Chakaiya, Krushna, Kanchan, Narendra Awala-6,7, Lakshmi-52, **Lemon:** Kagji gol, Hybrid-2

### Uttarakhand :

**Lobia :** Russian Joint, EC-4216, UPC-5286 etc.

**Okra :** VL Bhindi-1

**Soyabean :** Brag, PK-262, VL Soya-2, VL Soya 21, VL Soya-47, pant soya-1042, 1092 and PRS-1

**Urd :** Pant Urd-19, Pant Urd-30. Pant Urd-31 or Pant Urd-35

**Cabbage:** GA, POI

**Vegetable pea:** VL Ageti Mater-7, Vivel Mater-10, Pant Subjee Mater-3, Azad Mater-3 and Arkel

### Rajasthan

**Rice :** JC152(90 to 95 days), JC5(100 to 110 days), JC10(100 to 120 days), RC9(80 to 85 days), RC19(60 days), Ratan BK79, Jay Basmati 370] Kasturi(IET8580)] Taravari Basmati, Pusa Sugand 4 & 5, Pusa improved Basmati-1.

- i. **Pearl millet:** Pusa 334, Pusa 383, HHB 67, HHB 94, Raj 171, ICMH 356, ICTP 8201 and RHB 121, H.H.B.-67(I), I.C.T.P.-8203, H.H.B.-60, Raj.- 171, G.H.B.-538, R.H.B.-90 and I.C.M.H.-356, Raj 171, H.H.B. 67, Pusa 334, Pusa 383, HHB 67, HHB 94, Raj 171, ICMH 356, ICTP 8201, RHB 121 MH-169, RHB 90, RHB121, CZP 9802, ICMH356, Pusa-334, HHB-67, HHB-94.

**Moong :** K-851(60 to 65 days), Pusa Baishaki(60 to 80 days), RMG62(60 to 65 days) ML131, 267, Ganga-1(Jamunothri), Ganga-8 (Gangothri), SML668, SUM-2, K-851, , ML131, Pusa 267,

**Sorghum:** Improved varieties/hybrids - CSV 15, CSH 14, CSH 16, CSH 5-6,9,SPV 245, 346, 475, 96, CSV 15, SSG-59-3 and MP-Chari, CSV-15, CSV-17, Pratap Jowar-1430 and green fodder, varieties are Rajasthan Chari-1, Rajasthan Chari-2, SPV-837, and MP-Chari.

**Cluster bean:** Improved varieties - RGC 936, RGC 986, RGC 1002, RGC 1003, RGC 1017, and HG 365.

**Sesamum:** Improved varieties - Pratap, TC 25, RT 46, RT 54, RT 103, RT 125 and Tt 13.

**Ground nut:** Improved varieties - GG 2, GG 7, HNG 10, Prakash and M 13.

**Green gram:** Improved varieties - K 851, RMG 62, RMG 268 and Ganga

**Bajra:** R.H.B.-121, H.H.B.-67(I), I.C.T.P.-8203, H.H.B.-60, Raj.- 171, G.H.B.-538, R.H.B.-90 and I.C.M.H.-356

**Guar:** HG 75, RGC 936, RGC 197, RGC 966, RGC 1017, RGC 1002 and RGC 1003 a

**Moth bean:** RMO-40, RMO-435, RMO-225, RMO 257, RMO 423

**Cowpea :** FS-68, RC-19 and 101, C-152, JC-5, JC-10, C-52, RS-9, FS-68, RC-19, RC-101 and RCP-27

**Maize:** Sagar Ganga white 2, Sagar Ganga 5, Pratap maize 2, 5, PEHM-2 and Mahi Kanchan

**Arhar:** Prabhat, Gwalior-3, UPAS 120, ICPL 87, 151, ICPH-8.

**Early Pea:** Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6 are improved varieties

**Late sown cauliflower :** Pusa Snow ball, K-1, Hissar-1 Dania and selection-7, Golden Acre, Pride India & Mitra (Hybrid)

**Soyabean:** MACS 58, 450, JS 80-21 335, 93-0, PS16, PK472, NRC-12, Pratap soya 2, RKS24.

**Groundnut :** RSB 87, RS 138, JL 24, RG 14,

**Cowpea: Tomato:** Pusa Ruby, Pusa early dwarf, Roma

**Brinjal:** Pusa long, Meghdoot, ArkaBahar, Pusa summer and prolific round

**Fodder grass :** Desmodium, Muslai, Gold, Penicum Koleratum.

### **Vegetables:**

**Cucumber:** Balam, PusaSahyog, **Radish :** Pusa Chetki, Pusa Rashmi, **Cauliflower :** Improved Japanese, Pusa hybrid-2 & Himjyoti.

**Guava:** Allahabad safeda and Lucknow 49, **Pomegrante:** Ganesh, Jhalore and Seedless, **Orange:** Nagpur and Kinnoo, **Lime:** Kagzi and Baramasi, **Aonla:** Banarshi, Krishana, Kanchan, Chakaiya, NA7, NA9 and NA10, **Ber:** Sonor,Thornless, Katha Alwar, Gola,and Seb



**Sweet potato:** Pusa Safed, Pusa Lal, Pusa Sunhari & L-20  
**Ashwaghandha:** Ashwaghandha-20 and Ashwaghandha-134

### **Andhra Pradesh**

Blackgram: LBG-20, LBG-623, T-9, Madira-307 and LBG-752  
 Greengram: LGG-407, LGG-430, LGG-460 warangal-2  
 Redgram: LRG-30, LRG-38, LRG-41, ICPL-8863, ICPL-87117  
 Groundnut: TAG-24, JL-24, K-6, K-9, Narayani, ICGV-91114  
 Sesame: Gauri, Madhavi, YLN-11, YLH-17, YLH-66

### **Paddy:**

MTU-7029 (Swarna), MTU-2067 (Chaitanya), MTU-2077, Krishnaveni, BPT-5204 (sambamashuri), BPT-1768 (Bapatlasannalu), MTU-1061 (Indra), NLR-T-145 (Swarnamukhi), NLR-34449 (Nelluri mashuri), NLR-9674 (kothamolokolukulu), NLR- 28523 (Sriranga), NLR-3BPT-5204 (sambamashuri), Pushkala (RGL-2624), IR-64 and MTU-9993, MTO-1010, MTU-1001, Vasundhara, Swarna and Srikakulam sannalu

### **Karnataka.**

Sugarcane : CO-419 , CO-62175, & CO-7804  
 Sunflower : Modern, KBSH-1,41,42,&44  
 Field bean : HA-3,4  
 Green gram : Selection – 4, BGS-9  
 Black gram : TAU – 1, DU – 1, T-9  
 Soybean : JS - 335  
 Jowar : DSV – 2  
 Rubber: RRIM-600 ,RRII 105, GT-1  
 Paddy: Mangala, Mukthi, KMP-105  
 Ragi: GPU-26,28,45 &48, HR-911, Indaf-5,9 PR-205  
 Redgram: TTB-7, BRG-1, 2, ICP-7035 , CPI-7035  
 Maize: Ganga-11, Deccan-103, NAC-1137, NAH-1137  
 Tur Var.: (Medium to Long Duration)PT-221,GS-1,ICP-8863(Maruti),ICPL-87119(Asha)WRP-1 & Short Duration Var: like ICPL-87(Pragati), Selection-31(Zone 2 irrigated areas ),GCS-11-39 (Zone-2)  
 Pigeon pea: PT-221, GS-1, ICP-8863 (Maruti),ICPL-87119 (Asha)WRP-1,TS-3-R ICPL-87(Pragati), GCS-11-39 (Zone-2)

### **Gujarat**

**Cluster bean:** G.Guar-2.  
**Caster:** GAUCH-1, GCH-2, GCH-4, GCH-5, 6 or 7.  
**Pegion pea:** BDN-2, Viashali, ICPL-87, Gujarat-100.  
**Sesame:** GT-1 or GT-2.

### **Maharashtra**

**Red gram:** ICPL-87, Vipulla, BSMR-853, 736 for Madhya Maharashtra, ICPL-87119 (Asha), C-11 for Vidarbha.  
**Adsali Sugarcane:** CO-86032 (Neera), COM-88121, COM-0265 (Phule-265).  
**Banana:** Basrai, Shrimanti and Gradnine.  
**Mrug Banana:** Basrai, Shrimanti, Gradnine.

### **Madhya Pradesh**

**Maize-** JM 12, JVM 421, JM 13, JM 216; **Hybrid varieties:** HPQM-1, Payonior 30R77, Sinzenta NK 30, Monsanto Allrounder, Bioseed 9681;

**Soybean:** JS 9560 (85 days), JS 9305 (90-95 days), JS 335 (110 days);

**Urd:** JU 86, JU 3, T- 9 etc

**Moong:** K851, Jowar moong-721, Pant moong-4, TJM-3,

**Urd:**Oant U-30, RBU-38, Jowar Urd-3, RJU-88.

**Arhar:** Laxmi, Pragti, Asha, Jagrati, JKM-7 and JKM-189

**Mango:** Kesar, Aamrapali, Dasahri, Mallika, Guava: seedless, Sardar, Allahabadi safeda,

**Amla:**chakaiya, NA 3, NA 7, **Pomegranate:** Ganesh, Mradula.

### Short duration varieties for Jabalpur

**Paddy-**JR-201, Poornima, JRH-5, JRH-8 (Hybrid), IR-36, JR-503SV-1

**Jowar-**JJ-741, JJ-938, JJ-1022, JJ-1041 and CSV-15

**Arhar-**Laxmi, Pragti, Asha, Jagrati, JKM-7 and JKM-189

**Soybean-**JS-95-60, JS-93-05, JS-97-52, JS-80-21, JS-335, NRC-37

**Moong-**Pusa Vishal, K-851, JN-721, Jawahar-99-37, HUM-1, HUM-2, JM-98-90, PDM-11

**Urd-**JU-2, JU-3, JU-86, T-9, JCB-623, LGB-884 and TAU-1

### Chattisgarh

**Paddy:** MTU-1001, MTU-1010, IR-64, IR-36, Poornima, Annada, Mahamaya, Karma, Mahsuri, Bamleshwari, Swarna

**Soybean:** JS 335, Indira Soya-09, JS 93-05.

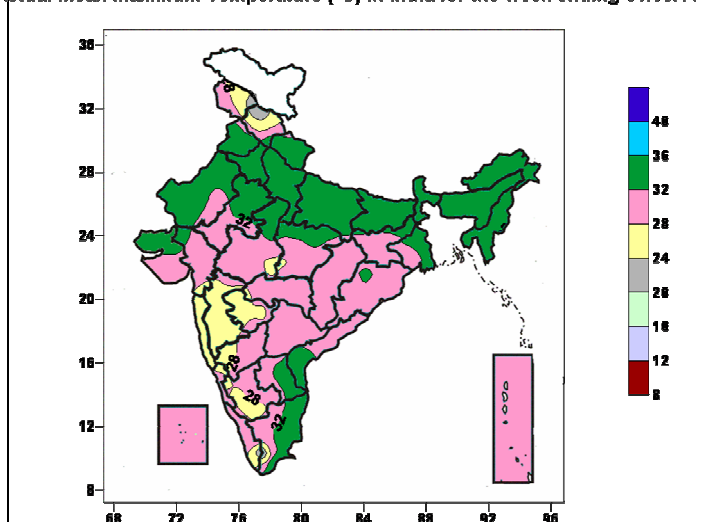
**Niger:** JNC-1, JNC-9, JNC-6, GA-10, Ootakmund, KGN-2.

**Kulthi:** AK-21, AK-42, BastarKuthi, BirsaKuthi, VLG-9.

### Annexure III

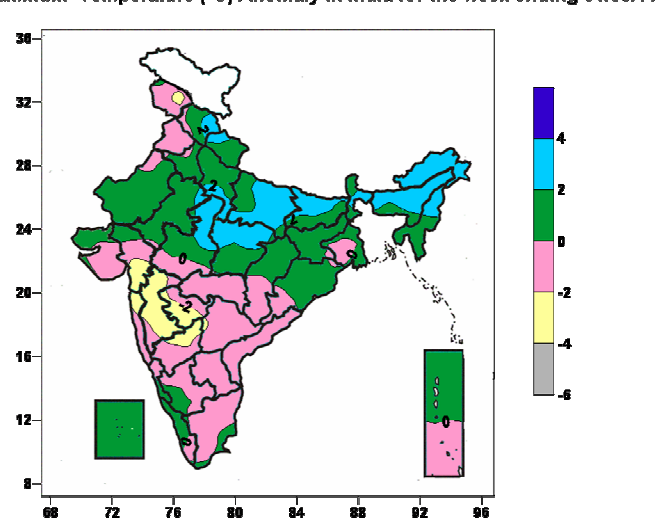
#### Contour maps for the week ending 31.08.2011

Actual Mean Maximum Temperature ( $^{\circ}\text{C}$ ) in India for the week ending 31.08.11



Actual Mean Maximum temperature ranged between 32 to 36 $^{\circ}\text{C}$  over most parts of West Rajasthan, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, West Bengal & Sikkim, Bihar, North East India, some parts of Himachal Pradesh, Jharkhand, Orissa, Coastal Andhra Pradesh, Raylaseema, Tanil Nadu, Madhya Pradesh, Gujarat, Saurashtra & Kutch, 24 to 28 $^{\circ}\text{C}$  over most parts of Konkan & Goa, Madhya Maharashtra, Marathwada, some parts of Jammu & Kashmir, Himachal Pradesh, Tamil Nadu, Kerala, North & South Interior Karnataka, Vidarbha, Madhya Pradesh, Gujarat, 20 to 24  $^{\circ}\text{C}$

Maximum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 31.08.11

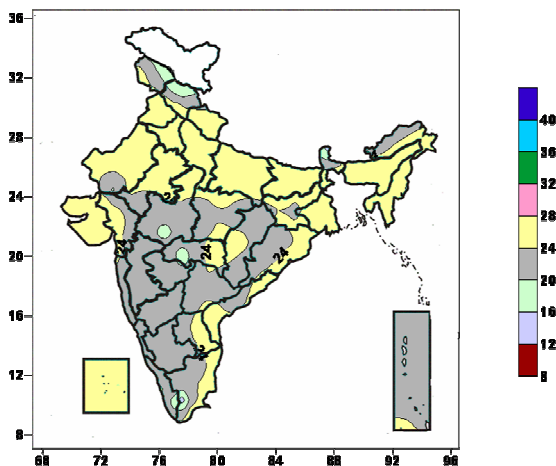


Actual Mean Maximum temperature anomaly between 2 to 4 $^{\circ}\text{C}$  over most parts of East Uttar Pradesh, Assam & Meghalaya, Arunachal Pradesh, Nagaland, some parts of Himachal Pradesh, Jammu & Kashmir, East Rajasthan, West Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, Manipur, Madhya Pradesh, 0 to 2 $^{\circ}\text{C}$  over most parts of Himachal Pradesh, Uttarakhand, Rajasthan, West Uttar Pradesh, Jharkhand, West Bengal & Sikkim, Mizoram, Tripura, Orissa, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, East Uttar Pradeesh, Bihar, Assam & Meghalaya, Chattisgarh, Madhya Pradesh, Tamil Nadu, Kerala, Coastal & South Interior

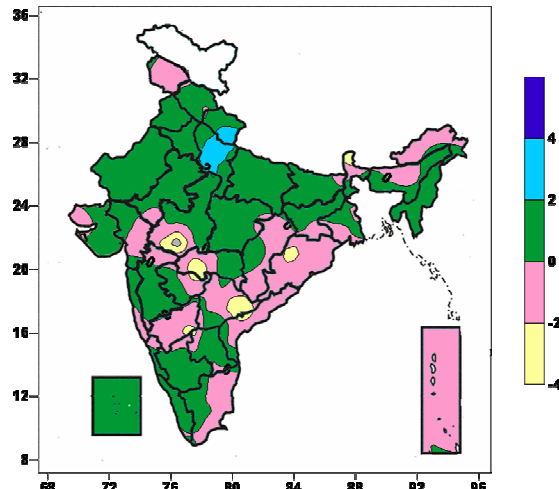
over some parts of Jammu & Kashmir, Himachal Pradesh, Tamil Nadu, Kerala, 28 to 32°C over remaining parts of the country.

Karnataka, Gujarat, Saurashtra & Kutch, -4 to -2°C over most parts of Madhya Maharashtra, some parts of Jammu & Kashmir, Konkan, Marathwada, North Interior Karnataka, Gujarat, -2 to 0°C over remaining parts of the country.

**Actual Mean Minimum Temperature (°C) In India for the week ending 31.08.11**



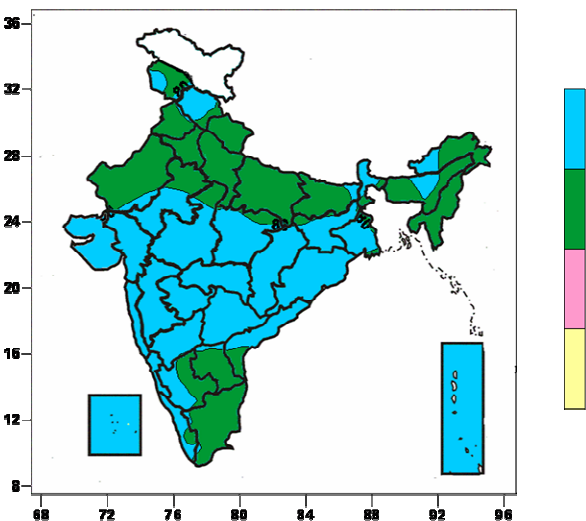
**Minimum Temperature (°C) Anomaly In India for the week ending 31.08.11**



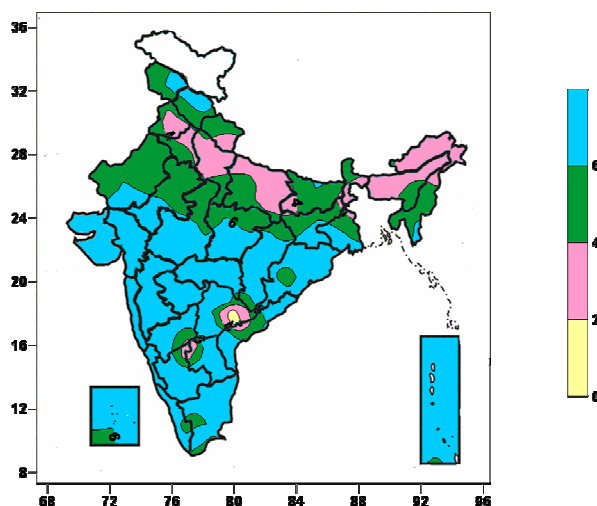
Actual Mean Minimum Temperature ranged between 20 to 24°C over most parts of Chattisgarh, Orissa, Madhya Pradesh, Maharashtra, Telangana, Raylaseema, Karnataka, Tamil Nadu, Kerala, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Rajasthan, Jharkhand, Sub-Himalayan West Bengal, Arunachal Pradesh, Coastal Andhra Pradesh, Gujarat, 16 to 20°C over most parts of Sikkim, some parts of Jammu & Kashmir, Himachal Pradesh, Vidarbha, West Madhya Pradesh, Tamil Nadu, Kerala, 24 to 28°C over remaining parts of the Country..

Minimum Temperature anomaly ranged 2 to 4°C over some parts of Uttarakhand, West Uttar Pradesh, -2 to 0°C over most parts of Jammu & Kashmir, Arunachal Pradesh, Orissa, Telangana, Coastal Andhra Pradesh, Coastal Tamil Nadu, North Interior Karnataka, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Bihar, Jharkhand, West Bengal, Assam, Chattisgarh, Raylaseema, Kerala, Coastal & South Interior Karnataka, Maharashtra, Gujarat, Saurashtra & Kutch, Madhya Pradesh, -4 to -2°C over some parts of Orissa, 0 to 2°C over remaining parts of the Country.

**Relative Humidity (%) over India for the week ending 31.08.11**



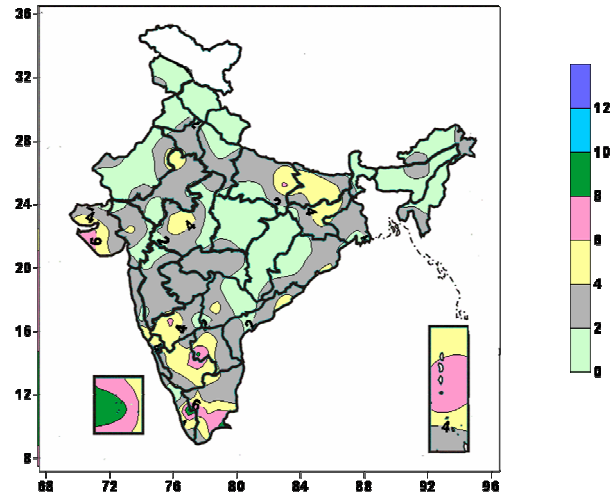
**Cloud amount (okta) over India for the week ending 31.08.11**



Relative humidity between 60 to 80% over most parts of Jammu & Kashmir, Uttarakhand, Punjab, Haryana, Delhi, West Rajasthan, Uttar Pradesh, Bihar, North East India Raylaseema, Tamil Nadu, South Interior Karnataka, some parts of Himachal Pradesh, East Rajasthan, West Bengal, Coastal Andhra Pradesh, Kerala, Madhya Pradesh, Saurashtra, 80% and above over remaining parts of the country.

Cloud amount 4 to 6 okta over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Rajasthan, Bihar, Sikkim, Manipur, Mizoram, Tripura, some parts of Punjab, Haryana, Delhi, Uttar Pradesh, West Bengal, Assam, Orissa, Chattisgarh, Andhra Pradesh, Madhya Pradesh, Tamil Nadu, Kerala, North & South Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, 2 to 4 okta over most parts of Uttar Pradesh, Assam & Meghalaya, Arunachal Pradesh, some parts of Uttarakhand, Punjab, Haryana, Bihar, Jharkhand, West Bengal, Andhra Pradesh, North & south Interior Karnataka, 0 to 2 okta over some parts of Telangana, 6 okta and above over remaining parts

Wind speed (knots) over India for the week ending 31.08.11



Wind speed ranged between 8 to 10 knots over some parts of Lakshadweep Islands, 6 to 8 knots over some parts of Gujarat, Raylaseema, North & South Interior Karnataka, Tamil Nadu, Kerala, Lakshadweep, Andaman & Nicobar Islands, 0 to 2 knots over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, West Rajasthan, Punjab, Sub-Himalayan West Bengal, Sikkim, North East India, East Madhya Pradesh, Chattisgarh, some parts of Rajasthan, Haryana, Delhi, East Uttar Pradesh, Bihar, Jharkhand, Orissa, South & North Interior Karnataka, West Madhya Pradesh, Maharashtra, Gujarat, Saurashtra, Andaman & Nicobar Islands, 2 to 4 knots over remaining parts of the country.