

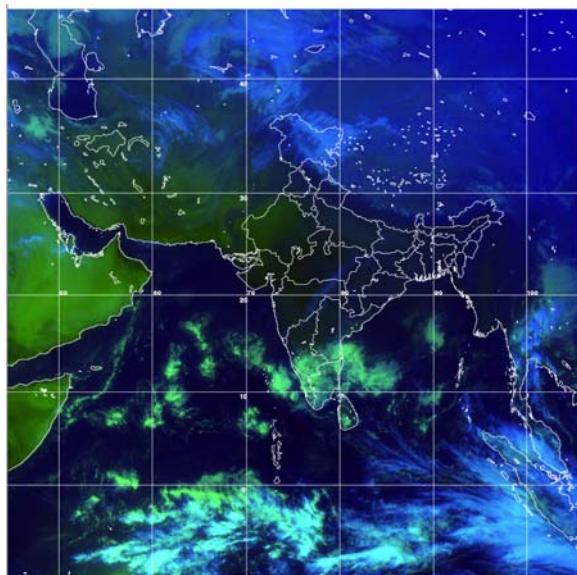


National Agromet Advisory Bulletin

Wednesday, 15th December, 2010

(For the period 15th to 19th December, 2010)

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Executive Summary

Due to heavy rainfall during first week of December, rice crop have been extensively damaged in Cauvery Delta districts mainly in Thanjavur, Nagapattinam, Thiruvarur and Cuddalore districts in Tamil Nadu. In areas where immediate drainage is not possible, farmers are advised to undertake foliar application of 0.5% ZnSO₄ + 1% urea may be sprayed. In water drained paddy field, top dressing can be done (22 kg urea + 18 gypsum + 4 kg neem cake mixed well and keep it over night) to avoid nutrient deficiency. Farmers are advised to undertake retransplanting of *samba* rice in Pudukottai district where the crop was completely damaged due to rains.

Due to heavy rains during first week of December in North Coastal districts viz. Srikakulam, Vizianagaram and Visakhapatnam of Andhra Pradesh, most of the paddy, sugarcane, banana, pulses and vegetable fields were submerged due to rain water. Farmers are advised to arrange for drainage facilities. Spraying of 5% salt solution on harvested crop to prevent grain germination and discoloration is advised.

Due to unseasonal rains upto last week of November in Konkan region of Maharashtra vegetative growth extended and may cause late flowering of mango which is usually begins in the last week of December or January first week. There are chances of reduction in number of flowers. However a favourable weather in next 15 days may accelerate fruit development.

Farmers are advised to complete sowing of late sown wheat in Punjab, Haryana, Himachal Pradesh, Rajasthan, Delhi and Madhya Pradesh and Chhattisgarh. Due to fall in temperature in some parts of Punjab, Haryana, Uttarakhand and Himachal Pradesh and Jammu and Kashmir, farmers are advised to apply light and frequent irrigation to the standing rabi crops. Farmers can continue the sowing of normal sown wheat under irrigated and rainfed areas and barley in rainfed areas in Jammu region. Farmers are advised to apply light irrigation in the standing crops like wheat, mustard, early sown vegetable and new plantations of fruit crops to protect the crops from cold injury.

Farmers are advised to provide *Sarkanda/Kahi/* rice straw mulch to save the early transplanted tomato plants from frost in parts of Punjab. Dwarf tomato varieties can be saved from frost injury by mulching with 100 gauge thick white plastic bags of 35 x 25 cm size. Utilising the prevailing dry weather conditions, farmers are advised to undertake harvesting of toria.

Due to favourable weather conditions incidence of *Heliothis* in gram, downey mildew in grapes, thrips and blight in onion in Madhya Maharashtra is reported. Farmers are advised to monitor the crop and undertake plant protection measures.

Incidence of *Spodoptera* and *Helicoverpa* are noticed in Bengal gram in almost all parts of Raichur district in Karnataka. Farmers are advised to undertake spraying of Profenophos or Chlorpyrifos or Endosulfan @ 2ml / liter or Lamda sylothrin 0.5 ml/l of water.

Distribution of rainfall (% departure from normal) for the districts Chattisgarh, Orissa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh during last five Weeks

State/Districts	17.11.10	24.11.10	01.12.10	08.12.10	15.12.10
Chattisgarh					
Bastar	2058	-100	-100	2345	169
Bilaspur	-100	-100	-100	4675	298
Dantewara	572	-100	-100	285	671
Dhamtari	4275	-100	-100	4978	3725
Durg	1720	-100	-100	567	600
Janjgir	-100	-100	-100	214	1240
Jashpurnagar	-100	-100	-100	141	1958
Kanker	-100	-100	-100	1913	1378
Korba	-100	-100	-100	280	114
Koriya	-100	-100	-100	286	287
Kowardna	580	-100	-100	47	50
Mahasumund	-100	-100	-100	-100	3175
Raigarh	-100	-100	-100	1138	109
Raipur	1188	-100	-100	315	750
Rajandgaon	769	-100	-100	56	415
Surguja	-64	-100	-100	1665	1322
Orissa					
Angul	-56	-100	-100	17114	2188
Balasore	-99	-100	85	2288	826
Bargarh	2433	-100	-100	200	55
Bhadrak	-35	-100	-100	1144	407
Bolangir	386	-81	-100	1764	204
Boudh	-100	-100	-100	8467	603
Cuttack	-99	-100	-2	1196	532
Deogarh	-100	-100	-100	3727	71
Dhenkanal	42	-100	-100	10160	2996
Gajapati	-93	-100	-100	2820	176
Ganjam	-41	-88	-8	2752	302
Jagatsingpur	-96	-98	-84	818	533
Jajpur	292	-100	-100	958	1202
Jharsuguda	-100	-100	-100	8775	302
Kalahandi	275	-100	-100	5775	2770
Kandhamal	500	-100	-100	16008	1879
Kendrapara	-100	-100	-100	928	369
Keonjhar	122	-100	-100	1043	1565
Khurda	-100	-100	-100	15900	1254
Koraput	504	-100	-100	16400	-53
Malkangiri	874	-100	-100	200	275
Mayurbhanj	15	122	-95	200	632
Nawapara	-100	166	-100	200	487
Nawarangpur	-88	-100	-100	200	4650
Nayagarh	-100	-100	-100	200	573
Puri	-79	-97	-100	4936	579
Rayagada	-72	-100	-100	38040	73
Sambalpur	3825	-100	-100	4151	242
Sonepur	-100	-100	-100	1567	33
Sundargarh	107	-100	-100	1696	2550
Karnataka					
Coastal Karnataka					
Dakshin Kannada	778	245	-66	-65	48
Udupi	275	155	-51	13	0
Uttar Kannada	337	43	-95	-92	32
North Interior Karnataka					
Bagalkote	340	315	-100	-100	-87
Belgaum	247	76	-82	-100	-100
Bidar	1046	300	-100	-100	-100

State/Districts	17.11.10	24.11.10	01.12.10	08.12.10	15.12.10
Bijapur	233	217	-100	-100	64
Dharwad	40	122	-100	-100	-76
Gadag	169	639	-100	-100	-90
Gulbarga	347	24	-100	-100	70
Haveri	200	114	-100	-68	-89
Koppal	414	1015	-100	-100	-100
Raichur	97	-14	-100	-80	10
South Interior Karnataka					
Bangalore Rural	312	-9	-99	-72	83
Bangalore Urban	343	2	-82	-68	-99
Bellary	721	77	-100	-90	-92
Chamarajnaragar	354	115	-33	-36	-5
Chickmagalur	645	127	-99	-59	-19
Chitradurga	228	250	-100	-100	-100
Davangere	499	573	-100	-100	-100
Hassan	444	120	-99	-89	-100
Kodagu	184	289	22	-41	-97
Kolar	210	-44	-99	-67	69
Mandya	189	-25	-19	-93	-99
Mysore	228	71	13	-62	-100
Shimoga	453	335	-75	-88	-16
Tumkur	203	-47	-98	-97	-100
Kerala					
Alappuzha	104	192	2	30	195
Kannur	350	406	453	-80	-90
Ernakulam	272	348	-29	-83	-70
Idukki	65	277	23	-38	-63
Kasaragod	530	241	26	-30	12
Kollam	43	405	225	138	381
Kottayam	84	521	-55	58	82
Kozhikode	90	265	220	-96	-94
Malappuram	90	156	151	-20	-95
Palakkad	117	275	47	-35	-97
Pathanamthitta	254	503	56	117	109
Thiruvananthapuram	65	287	294	443	154
Thrissur	169	287	-55	-80	-91
Wyanad	111	97	-49	-98	-95
Tamil Nadu					
Chennai	-47	5	-63	216	-89
Coimbatore	4	228	9	47	-100
Cuddalore	-48	51	403	94	-72
Dharmapuri	168	142	175	-6	-50
Dindigul	-3	386	357	124	-54
Erode	105	252	50	-13	-45
Kanchipuram	-1	-27	-16	295	-77
Kanyakumari	143	409	470	534	485
Karur	31	357	537	17	140
Krishnagiri	56	172	89	-65	-88
Madurai	305	383	166	70	196
Nagapattinam	-84	2	332	77	-78
Namakkal	103	259	160	62	-62
Nilgiris	138	321	138	-3	-51
Perambalur	-1	38	553	42	-61
Pondicherry	-34	1	34	158	-41
Pudukottai	-12	110	371	154	-87
Ramanathapuram	75	233	424	48	-44
Salem	179	196	126	69	-4
Sivaganga	155	118	258	57	-12

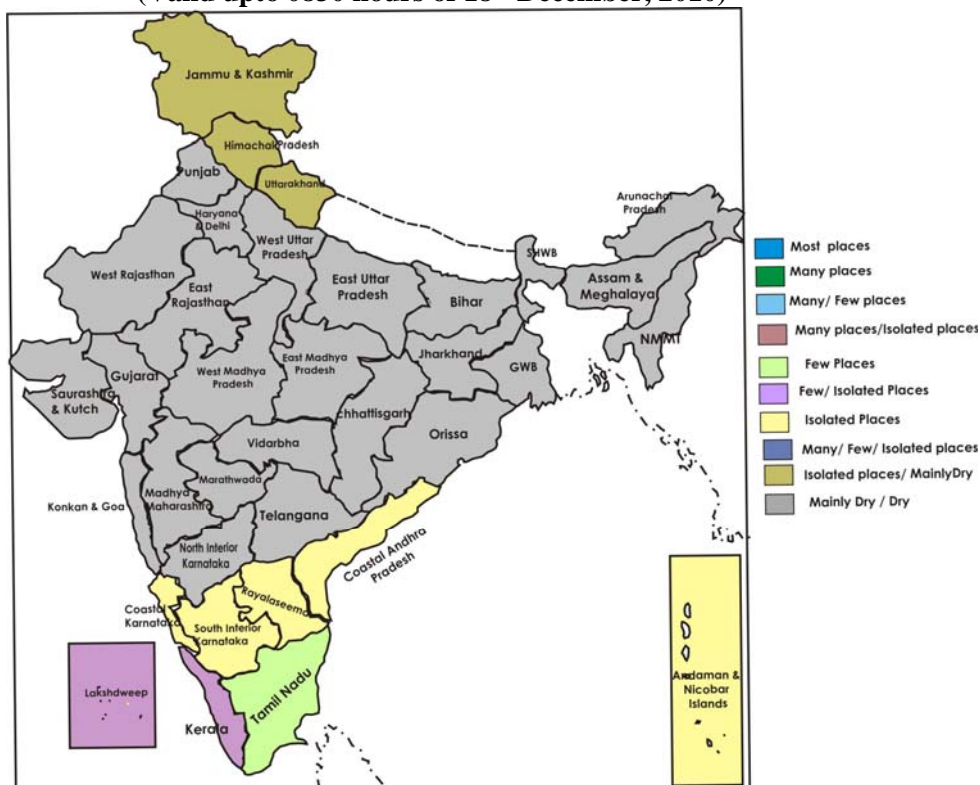
Thanjavur	-6	35	449	107	-68
Theni	7	504	154	10	118
Tirunelveli	14	253	261	236	22
Tiruvallur	-14	-51	-30	124	-72
Tiruvannamalai	-26	65	112	149	313
Tiruvarur	-28	10	524	203	-72
Tuticorin	13	270	307	161	-45
Trichy	-28	70	633	69	13
Vellore	19	19	-2	107	-68
Villupuram	45	39	304	136	-64
Virudhunagar	-32	252	157	19	107
Andhra Pradesh					
Coastal Andhra Pradesh					
East Godavari	595	-80	-100	5485	402
Guntur	-22	-36	-99	4090	-39
Krishna	172	14	-75	4566	-51
Nellore	59	-8	-82	220	-57
Prakasam	6	60	-90	1360	-80
Sirkakulam	-46	-90	-100	11891	469
Visakhapatnam	407	-4	-100	13747	1142
Vizianagram	323	-49	-100	9704	411
West Godavari	754	-72	-25	7077	75
Telangana					

Adilabad	1348	125	-100	1	107
Hyderabad	48	-93	-100	298	142
Karimnagar	303	-30	-100	457	168
Khammam	129	117	-100	4290	350
Mehabubnagar	19	115	-100	313	-84
Medak	3	-80	-100	-69	-100
Nalgonda	13	1	-100	2829	22
Nizamabad	1016	-86	-100	-63	-100
Rangareddy	176	-99	-100	99	-56
Warangal	147	-30	-100	1123	10
Rayalaseema					
Anantapur	208	-13	-88	-27	-89
Chittoor	88	-14	-80	84	-33
Cuddapah	230	-2	-83	142	-89
Kurnool	504	-17	-100	299	6

LEGEND

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

Weather Forecast (Valid upto 0830 hours of 18th December, 2010)



Major Feature of Weather Forecast (upto 0830 hours IST of 18th December, 2010)

- Scattered rain/thundershowers would occur over extreme south peninsular India.
- Under the influence of a feeble western disturbance, light precipitation may occur over Jammu & Kashmir from tomorrow onwards.
- Mainly dry weather would prevail over plains of northwest, west, central and east India.
- Slight fall in minimum temperatures would occur over northwest India during next 3 days.

Weather Outlook (upto 0830 hours IST of 20th December, 2010)

- Scattered rainfall activity would occur over extreme south peninsular India and Andaman & Nicobar Islands.
- Mainly dry weather conditions would prevail over northwest, west, central and east India.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Most of the districts in received rainfall during the past week. Weather remained dry over Orissa, Jharkhand, West Bengal, Bihar and Sikkim.
- **Rainfall Forecast:** Weather will remain dry over Orissa, Jharkhand, West Bengal, Bihar and Sikkim.
- **Major Crops:**
 - Gram (early vegetative), mustard and sarson (early vegetative), maize (sowing), wheat (sowing / crown root initiation stage), potato (planting), vegetables like cauliflower, cabbage, chillies, tomato, palak, carrot, radish, knolkhol, turnip, beet, garlic, onion etc. (sowing / early vegetative / vegetative), barseem, lucerne, oat (sowing), coriander, fenugreek(sowing /germination) in Bihar.
 - Kulthi and niger (grain filling stage), arhar, pigeon pea and green pea (flowering/ pod formation), wheat (sowing/ crown root initiation /tillering stage), potato (planting/tuber formation/ vegetative), toria, mustard (preflowering/flowering / pod formation stage), tomato, cabbage and cauliflower (nursery sowing / transplanting / early vegetative), chilli and brinjal (nursery sowing / transplanting) other *rabi* crops (Post germination /flowering stage) in Jharkhand.
 - Cotton (maturity/harvesting), rabi paddy (nursery raising), rabi vegetable crops (sowing / germination / early vegetative / vegetative), *rabi* oilseeds groundnut, mustard, sesamum, sunflower (sowing / early vegetative), arhar (flowering/ pre flowering stage), wheat(sowing/ crown root initiation), potato (planting/ vegetative), *rabi* pulses like lentil, field pea and chickpea (sowing), sugarcane (harvesting), green gram, black gram, other pulses & sesame, niger and castor (flowering stage), garlic (sowing) in Orissa.
 - *Aman* rice (harvesting), pulses (maturity / harvesting), wheat (sowing/ crown root initiation stage stage), arhar (flowering / pod formation), mustard (early vegetative), potato, lentil, pea, masur, Bengal gram (sowing), *rabi* vegetables - cabbage and cauliflower (nursery sowing / transplanting) in West Bengal.
 - Large cardamom (harvesting / post harvesting), orange (maturity / harvesting), wheat (crown root initiation/ tillering/ active tillering), *rabi* potato (planting / germination / vegetative), ginger (harvesting), rice (grain maturity/ harvesting), *rabi* vegetable (vegetative / late vegetative) mustard (vegetative), rice (grain maturity / harvesting) in Sikkim.
- **Advisories:**
 - Farmers in Bihar are advised to complete sowing of late sown wheat, maize, gram, oilseed crops like sunflower, fodder crops like barseem, lucerne and spices crops (coriander, fenugreek). Undertake transplanting of cauliflower, cabbage, chillies, tomato, palak, carrot, radish, knoll-khol, turnip, beet, garlic, onion etc. as soon as possible. Farmers are advised to give 1st irrigation to the wheat crop where it is at crown root initiation stage.
 - Minimum Temperature is decreasing gradually and hence, field should have sufficient moisture to overcome the adverse effect of lower temperature in different crops and protective measures may be applied in potato like, smoking, spraying of fungicide etc. in Western Plateau Zone of Jharkhand.
 - In gram after 30-40 days of sowing and before flowering stage, nipping is beneficial for the crops,it enables the plant to bear more branches as well as flowers and pod in Western Plateau Zone of Jharkhand.
 - Faster wind likely to blow during next five days . So, Spraying of insecticide and fungicide should be done when the wind remains calm in South Eastern Plateau Zone of Jharkhand.
 - Oweing to change in weather scenario try to create smoky environment around the field and farmers facing potato infestation with early and late blight apply Krilaksil or Ridomil MZ chemical@ 1.5 g per liter of water to check it for further spreading in South Eastern Plateau Zone of Jharkhand.
 - In tomato due to upside down in weather wilt problem is more prominent . So, spraying of 100 mg streptomycin and 1.5 g copper oxychloride per liter of water in South Eastern Plateau Zone of Jharkhand.
 - Since there is no possibilities of rainfall in the coming five days, farmers can go for light to medium irrigation, fertilizer application and spraying schedule in Terai Zone of West Bengal.

- Farmers in Orissa are advised to undertake sowing of groundnut, mustard, sesamum, sunflower, lentil, field pea and chickpea, vegetables crops like carrot, radish, pea and chilli.
- As the weather remains dry, dry the harvested paddy soaked in field due to rain during last week and dry the threshed paddy. As the temperature will come down cover the seedlings of vegetable seedlings with paper packets in the night. Complete sowing of rabi pulses other non paddy crops for best utilizing the soil moisture recharged from rain during the last week and go for nursery raising of summer rice in wet low land. Cloudy weather favours the infestation of aphid in beans. Spray 2 ml Dimethoate or Methyle demeton per litre water. Increased humidity may favour the infestation of blight. Spray 20 g Copper Oxy chloride and along with 10 g Plantomycin in 10 litre water. Withhold irrigation to the non paddy crops in East and South Eastern Coastal Plain Zone of Orissa
- Wheat crop is at CRI (crown root initiation) stage is the most critical period for irrigation, care should be taken for irrigating the crop in West Central Table land Zone of Orissa.
- Farmers in West Bengal are advised to undertake sowing of wheat, potato, lentil, pea and masur utilizing rainfall during last week.
- Farmers in Sikkim are advised to provide need based irrigation to the large cardamom and wheat as no significant rainfall is likely over the State. Harvest the rice on bright sunny days.
- Recommended varieties of crops for the States in the region are mentioned in Annexure I.
- Pigeon Pea are at grain filling/pod formation stage, at this stage crops are susceptible to attack of pod borer insects to control it, spray insecticide like Monocrotophos @ 1 ml. per litre of water and in arhar is at flowering to pod formation stage and at this stage attack of leaf eating insect and pod borer are found should be sprayed Endosulphan @ 2 ml/lt of water two times at an interval of 10-12 days in Western Plateau Zone of Jharkhand.
- Attack of early blight disease in potato in Jharkhand. To control the disease, spray the crop with fungicide like Mancozeb (@ 2.5 gm per litre of water), Saaf or Intop (@ 2 gm per litre of water) or Redomyl (@ 1.5 gm per litre of water) during clear weather.

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

- **Realised Rainfall:** No significant rainfall occurred during last week over the region.
- **Rainfall Forecast:** Mainly dry weather will prevail over northeastern states.
- **Major Crops:**
 - *Rabi* vegetables (transplanting / early vegetative), sugarcane (cane development), *sali* rice (harvesting), arhar (flowering / pod formation), sesamum (maturity / harvesting), black gram and green gram (harvesting), potato (vegetative/ fruiting), rapeseed & mustard (vegetative/ flowering) jute and *boro* rice (sowing/seedling), oats, linseeds, onion (sowing) in Assam.
 - *Rabi* vegetables like cauliflower, cabbage, tomato etc. (transplanting / early vegetative), pea, potato, tomato, mustard, maize (vegetative), orange (fruiting/ picking), ginger, turmeric (vegetative) and potato (seedling/vegetative) in Arunachal Pradesh.
 - *Aman* rice (maturity / harvesting), toria, lentil, red gram (sowing) and *rabi* vegetables (transplanting / early vegetative / vegetative) in Tripura.
 - *Boro* rice (nursery sowing), *rabi* vegetables (sowing/ transplanting / early vegetative / vegetative) in Meghalaya.
 - Mustard/ rapeseed (sowing to early vegetative), field pea (sowing to early vegetative) in Manipur.
 - Khasi Mandarin (maturity), banana (various stages), onion (transplanting), pea, carrot, radish (vegetative), tomato, cole crops and chilli & capsicum (late nursery / transplanting), rice (harvesting) in Mizoram
 - Orange (picking), cabbage (heading), potato (vegetative), pea (vegetative/ flowering/ pod formation stage), toria (flowering) in Nagaland
- **Advisory:**
 - As there was no significant rainfall in the region, farmers are advised to apply irrigation to the standing crops. Undertake intercultural operations, application of fertilizers and pesticides as favourable weather conditions prevail during these days.

- In view of clear weather conditions prevailing in the region, late transplanting should be completed without delay. Light irrigation should be provided to wheat crop with more than 25 days old and rape seed and mustard as no rain is likely to occur in the coming week.
- Farmers in Mizoram are advised to undertake sowing of lentil after harvesting of rice crop.
- Farmers in Assam are advised to undertake sowing of lentil, planting of potato in Hills Zone, sowing of *boro* rice in Lower Brahmaputra Valley Zone, sowing of rapeseed and mustard and *boro* rice in Upper Brahmaputra Valley Zone, sowing / planting of linseed, rapeseed and mustard, garlic and onion in Barak Valley Zone, sowing of *rabi* pulses and oilseeds, wheat, *boro* rice in Hill zone, Central Brahmaputra Valley Zone and *boro* rice, wheat in North Bank Plain Zone (List of varieties mentioned in Annexure I). Complete harvesting of *Sali* rice.
- Farmers in Arunachal Pradesh are advised to undertake intercultural operations in mustard, hybrid tomato, cauliflower and cabbage and carrot, pea and potato.
- Farmers in Tripura are advised to undertake sowing of *boro* rice and pulses like lentil and pea.
- Farmers in Mizoram are advised for sowing of carrot, raddish, peas, *rabi* onion, lentil etc and transplanting of cauliflower, cabbage, capsicum and tomato.
- Farmers are advised to apply Dimethoate 30EC or Chloropyriphos 20EC @ 1ml per litre of water in toria, *rabi* pulses, oilseeds to control saw fly and aphids in Nagaon & Marogaon of Assam districts.
- Weather conditions are congenial for the incidences of white rust in mustard in Jharnapani region due to high humidity and cloudy conditions. Farmers are advised to monitor the crop for the disease and undertake plant protection measures
- In Mild Tropical Plain Zone, due to fall in temperature there is a chance of attack of aphids in toria, monitor the crop for the attack and apply Rogor or Monocrotofos @ 2 ml per litre of water.
- Due to congenial weather condition in Tripura, there are chances of attack of leaf curl disease in brinjal and tomato, monitor the crops and uproot the infected plants and spray neem green @ 2 to 3ml per litter of water.
- Due to congenial for leaf miner in nursery of Snowball group of cauliflower and Pusa Mukta of cabbage late variety, farmers are advised to spray rogor @ 1.5 ml / liter water.
- Weather conditions as per forecasting and past prevailed that create long periods of dew at night, with low night temperatures are the most favorable for the incidence of early blight in tomato and chilli crops. Farmers are advise to spray of Mencozeb @ 1 gm per litre of water at 10-15 days intervals 8-10 when disease appeared.

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

- **Realised Rainfall:** Mainly dry weather prevailed over the region during last week.
- **Rainfall Forecast:** Mainly dry / dry weather is likely to prevail during next 3 days over the region except isolated rainfall during next two days over Himachal Pradesh, Jammu & Kashmir and Uttarakhand.
- **Major Crops:**
 - Wheat (sowing / Crown root initiation), broccoli, cauliflower, cabbage, onion (transplanting), Early sown gram, lentil (early vegetative), garlic (planting) in Delhi.
 - Wheat, potato (sowing) and vegetables (sowing/transplanting), tea (raising nursery in Chamba, Kanga), garlic (planting in Seobagh) in Himachal Pradesh. Early sown crops are at early vegetative / vegetative stage.
 - Gram, berseem /oats (vegetative), wheat, barley, brown sarson, potato, radish, carrot, garlic, spinach and peas (sowing/germination), toria (flowering/pod mation / maturity), mustard (early vegetative/vegetative), vegetable crops like tomato, chilli, brinjal, cucurbits, onion (vegetative) in Jammu & Kashmir.
 - Sugarcane (maturity / harvesting), wheat (sowing / crown root initiation), potato (sowing / grand growth / tuber initiation), toria, mustard (early vegetative), barley, lentil, gram, onion, garlic, seasonal vegetables (sowing), pea (flowering in hill zone), lahi (fruiting / flowering) in Uttarakhand.
 - Sugarcane (germination / tillering / maturity), barseem, wheat (sowing/germination), potato, lentil, gram, radish, raya, African sarson (sowing), pulses, vegetables (sowing / transplanting), ghobi sarson

(vegetative), oilseeds (flowering), papaya (transplanting, early sown crops are at early vegetative / vegetative stage in Punjab..

- Sugarcane (cane development / early maturity / maturity), wheat (sowing / CRI / tillering), barley (sowing), gram, rapeseed, mustard and berseem (vegetative/ flowering) in Haryana.
- Wheat (germination / emergence), barley, oats, rajmah, safflower (sowing), bajra (flowering / milking stage), arhar (grand growth / flowering), toria (early vegetative/ flowering / pod filling), mustard, potato, field pea, chick pea, lentil, linseed (early vegetative), sugarcane (grand growth / formative stage / maturity / harvesting), winter vegetables like green pea, carrot, garlic, onion etc. (early vegetative), radish, cauliflower, cabbage, palak, chilli, brinjal, tomato (harvesting stage) in Uttar Pradesh.
- Sugarcane (grand growth), wheat, barley (sowing / crown root initiation), mustard (vegetative / flowering), gram (vegetative), lentil, Bengal gram, oats, taramira, ajwain, fenugreek, cumin and isabgol (sowing) in Rajasthan.

● **Advisory:**

- Apply irrigation to the standing wheat, mustard, barley, gram and other *rabi* crops in the region as there was no significant rainfall during last week and no significant rainfall is likely to occur during next three days.
- Farmers in Delhi region are advised to complete the sowing of wheat if not completed earlier (varieties in Annexure I). Undertake intercultural operations in early sown gram, mustard, lentil, oat, berseem, pea, garlic, potato, sarson, amaranthus, radish, spinach, turnip, and coriander.
- As there was no rain for the next five days, irrigation of timely sown wheat crop, which are about 21-23 days old and are in the CRI stage is advised. Second dose of fertilizer should be applied 3-4 days after irrigation
- Farmers in Mid Hills Sub-Humid (Solan, Shimla, Sirmaur) of Himachal Pradesh are advised to undertake sowing of garlic, onion and peas. Complete sowing of wheat in mid-hills and undertake sowing/transplanting of onion, radish, cabbage, cauliflower, broccoli, peas and garlic also in Sub Montane & Low Hills Sub-Tropical Zone (Hamirpur, Kangra and Una Chamba districts).
- In view of the high evaporative demand of the atmosphere and no rainfall occurred during the previous weeks and with no chance of getting the rain during coming week in Himachal Pradesh, farmers are advised to apply frequent irrigation to vegetable and floricultural crops.
- Farmers in Sub Tropical Zone (Jammu, Kathua and Reasi district) are advised to continue sowing of late varieties of wheat, barley and nursery sowing / transplanting of onion and cauliflower. Apply I dose of nitrogen fertilizer as top dressing after irrigation under if the crop is 30-40 days old in mustard crop Complete sowing of all the crops without any further delay. Farmers in Kathua district are advised to cover young fruit plants to protect from cold injury...
- Farmers in Uttarakhand are advised to complete sowing of wheat in Babar and Tarai Zone. Also if the crop duration is 40 to 45 days then give 2nd irrigation in wheat crop. Apply light & frequent Irrigation for potato in sub-humid sub tropic zone and also for late sown sarson crop.
- Farmers in Punjab are advised to complete sowing of wheat, potato, lentil, gram, radish, turnip, ghobi sarson, pulses, raya and African sarson. Complete sowing of wheat and potato. Apply need based irrigation for sugarcane crop. The harvesting of toria should be completed to avoid losses due to shattering.
- As slight fall in night temperatures is expected in Punjab, provide sarkanda / khahi / rice straw to save the young fruit plants from cold. Farmers are advised to withhold the irrigation to deciduous fruits such as pear, peach, grapes to withstand cool weather.
- Farmers in Haryana are advised to complete sowing of wheat crop with late sown varieties upto mid December. Apply need based irrigation for sugarcane crop.
- Farmers in Uttar Pradesh are advised to continue sowing of wheat, potato, gram, barley, lentil, barseem, pea, rajmah, linseed, safflower, oats, onion and maize. Apply first irrigation after 20 to 25 days of sowing when wheat is at CRI stage.
- Farmers in Rajasthan are advised to continue sowing of ajwain, fenugreek, cumin, Bengal gram, oats, taramira and isabgol. Raise nursery for autumn vegetable crops like tomato, brinjal, cauliflower, cabbage and raddish.

- As there is possibility of white rust in pea in Babar & Tarai Zone in Uttarakhand due to favourable weather conditions, farmers are advised to spray 0.5 % solution of Carbendazim immediately at an interval of 10 days if symptoms appeared.
- Weather is congenial for saw fly or flea beetle in mustard crop under such situations farmers can go for spray the crop with malathion 50EC @ 0.05% in Jammu & Kashmir division.
- To control Aphid insects attack in Mustard, Barley, cauliflower & Radish farmers are advised to spray of insecticide Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 litre per hectare is suggested and also to protect milch & infant animals from cold, cover the door of animal house and wrap jute bag around animal back. Keep litter dry everyday in Rajasthan, Jaipur Semi Arid Eastern plain zone

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

- **Realised Rainfall:** The districts of Kanyakumari, Madurai, Tiruvannamalai, Virudhunagar in Tamil Nadu, East Godavari and Visakhapatnam districts in Andhra Pradesh and Alapupuzha, Kollam, Pathanamthitta and Thiruvananthapuram districts in Kerala received rainfall.
- **Rainfall Forecast:** Rain is likely to occur over Tamil Nadu at a few places during and dry weather / isolated rain will occur over the remaining region.
- **Major Crops:**
 - Pepper and arecanut are at harvesting stage in Kerala. In cashew, flowering has initiated in some areas.
 - Late samba / thaladi rice (active tillering / panicle initiation), sugarcane (cane development), banana (fruit bearing / maturity stage), pulses (pod formation / development) in Tamil Nadu. This is proper time for sowing or rainfed crops.
 - Red gram (pod formation/ development), cotton (boll formation); early sown rabi crops are at vegetative/flowering stage, groundnut (flowering/ pegging/ pod development) in Andhra Pradesh.
 - Sugarcane (cane development), cotton (boll development/picking), pigeon-pea (pod development), rabi jowar (vegetative); early sown gram, safflower, rabi sorghum and sunflower crops are at early vegetative stage in Karnataka.
- **Advisories:**
 - As there was no significant rainfall in the region except in Kanchipuram, Kanyakumari, Madurai, Tiruvannamalai, Virudhunaga districts in Tamil Nadu, Alapupuzha, Kollam, Pathanamthitta and Thiruvananthapuram districts in Kerala and East Godavari and Visakappattinam in Andhra Pradesh, farmers are advised to apply irrigation to the standing crops. Postpone irrigation in the above districts as there was sufficient rainfall during last week. Arrange for drainage facilities in flood affected areas due to excess rainfall received during November.
 - In flood affected areas in Cauvery Delta Zone of Tamil Nadu, undertake foliar spraying of ZnSO₄ to prevent the crops from nutrient deficiency. In flood affected areas of Cauvery Delta Zone (Thanjavur, Nagapattinam, Thiruvarur, Karur, Perambalur and Tiruchirapalli) where immediate drainage is not possible in late samba / thaladi rice the plants will show yellowing symptoms. To rectify this foliar application of 0.5% ZnSo₄ + 1% urea can be followed. In water drained field to avoid nutrient deficiency top dressing can be done (22 kg urea + 18 gypsum + 4 kg neem cake mixed well and keep it over night and add 17 kg MOP before top dressing.
 - Due to heavy rainfall in most of the districts of Coastal Andhra Pradesh in the first week of December, farmers are advised to arrange for drainage facilities for draining out excess water from the fields.
 - Farmers are advised to undertake sowing of rice fallow blackgram and maize in coastal areas of Krishna Godavari Zone and prepare the nursery beds for rabi rice in the High Altitude Tribal Zone and Northern Telangana Zone in Andhra Pradesh.
 - Farmers in Central Dry Zone of Karnataka are advised to complete harvesting of rice and undertake sowing of rice fallow black gram and green gram. Farmers in hill Zone are advised to undertake nursery bed preparation for ragi.
 - Rice crop in Western Zone (Coimbatore, Erode, Thiruppur) and Southern Zone (Dindigul, Madurai, Pudukottai, Ramanathapuram, Sivaganga, Theni) in Tamil Nadu is affected by leaf folder. For controlling the same spray Quinalphos @ 1000 ml/ha. Farmers in the south zone are also advised to control powdery

mildew in pulses by spraying Wettable sulphur @ 2 kg /ha. and to control pod borer carry out IPM measures including use of Trichogramma card @ 5cc/acre and extreme cases spray chlorpyrifos 800 spray 320 ml/acre.

- Prevailing fog and dew fall conditions were favourable for the incidence of anthracnose in pomegranate crop in Scarce Rainfall Zone in Andhra Pradesh. Also present weather conditions are favourable for the incidence of stem borer in paddy, *maruca* leaf webber, *helicoverpa* in redgram, white fly and jassids in the Southern Telangana Zone, leaf minor in groundnut in Scarce Rainfall Zone of Rayalaseema in Andhra Pradesh. Farmers are advised to monitor the crops for the pests and disease and undertake plant protection measures.
- Incidence of pollu beetle and quick wilt in pepper and mahali disease in arecanut is observed in the districts of High Altitude Zone in Kerala. Farmers are advised to monitor the crop for the disease and undertake plant protection measures.
- Plant protection measures may be undertaken after spells of rain in Tamil Nadu,

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall:** Either no significant rain or dry weather prevailed in the region during last week.
- **Rainfall forecast:** Mainly dry / dry weather is likely over the region during next three days.

Major Crops:

- **Kharif crops:** red gram (pod development/ pod maturity), *kharif* & irrigated cotton (boll maturity/picking), **Rabi crops:** jowar and safflower (early vegetative/vegetative), gram (primary branching / secondary branching / flowering), maize (vegetative growth), sunflower (vegetative growth), irrigated wheat (sowing/ germination / CRI), mustard, groundnut (sowing/ germination) in Maharashtra.
- Castor (harvesting), cotton (picking), mustard (flowering), pigeon pea (pod development), gram (branching / flowering), potato (vegetative growth), Brinjal, Tomato (productive), Chilli (flowering) rabi fennel (growth & flowering), kharif fennel (flowering & grain formation), cumin (germination/ vegetative), wheat (germination / tillering), isabgol (sowing), sugarcane (emergence / early vegetative) in Gujarat.

Advisory:

- As mainly dry weather prevailed over the region during last week and mainly dry/dry weather would prevail during next 3 days, farmers are advised to apply protective irrigation to standing crops.
- Farmers in Gujarat state are advised to irrigate wheat crop after 21 days of sowing as weather will be mainly dry during next three days.
- Farmers in Madhya Maharashtra are advised to undertake planting of suru sugarcane in between 15th December to 15th February. Varieties are given in Annexure I.
- Reduction in temperature may retard the growth of leaves in banana plant in Maharashtra. Apply N @ 38 g, Phosphorous @ 40 g & Potash @50 g/ plant.
- As weather conditions are favorable farmers in Maharashtra are advised to complete late sowing of irrigated wheat, mustard, sunflower, groundnut, maize etc. Irrigation may be given to groundnut, mustard, sunflower and to wheat at development stage.
- Farmers in south Konkan region are advised to complete sowing of rabi rice as early as possible as there is chance of sparse rain in the week.
- Complete picking of fully opened cotton boll in Vidarbha taking advantage of dry weather likely to prevail during the next three days.
- Farmers in Gujarat state are advised to complete sowing of wheat, isabgol, cumin etc as weather conditions are favorable for sowing of these crops. Continue harvesting of matured crops like cotton and castor as dry weather will prevail in Gujarat state during next three days.
- Farmers in North Gujarat Zone are advised to undertake intercultural operations in early sown amaranth, wheat, isabgol, cumin, fennel etc.
- Prevailing foggy weather is favourable for attack of thrips and blight disease in onion in Madhya Maharashtra. For control of thrips, spray Cypermethrin @ 5 ml or Deltamethrin + Trizophos @ 20 ml

or Carbosulfan @ 10 ml per 10 lit of water. For control of blight, spray Mancozeb @ 30 g or Chlorothalonil @ 25 g or Copper oxychloride @ 25 g in 10 liters of water.

- Due to favourable weather conditions, attack of downey mildew is reported in grape in Madhya Maharashtra. For control, spray Metalacetyl MZ-72 @ 2 g per lit of water at an interval of 10 to 15 days. If grapes are at development stage then spray, Fenamedon + Mancozeb @ 2.5 g per lit of water or Dimethomark @ 1 gm + Mancozeb @ 2 g per lit of water. If grapes are developed then dip the bunch in a solution of Azacystrabin @ 0.5 ml per lit of water
- Due to favourable weather condition there are chances for the incidences of anthracnose on inflorescence in mango in Konkan, to control spray Carbendazim @ 10 g or Thiophenate methyl @ 10 g or Propineb @ 20 g per 10 litres of water.
- Due to untimely rain damage has been reported in Tur in some districts of Madhya Maharashtra because of incidence of pod borer and flowering also has been delayed. Farmers are advised to spray Heliokil 200ml + Sticker 200 ml per 200 lit of water per acre to control the pod borer.
- Due to rains and cloudy weather in current week there may be incidence of Tea Mosquito bug in cashew at flowering stage in South Konkan region. To control spray 35% Endosulphan @ 15ml per 10 litres of water.
- Present weather conditions state are favourable for the incidences of sucking pests in cotton and okhra, fruit fly in fruit crops and shoot borer in brinjal in bhal and coastal zone and sucking pests in red gram and vegetable crops North West Zone in Gujarat. Farmers are advised to undertake plant protection measures to control the pests.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** No significant rain occurred during last week in most of the districts of this region except in Jashpurnagar district in Chhattisgarh.
- **Rainfall Forecast:** Dry weather is likely to prevail over the region.
- **Major Crops:**
 - In Madhya Pradesh, wheat (tillering), Chickpea (emergence/pre branching), pigeon pea (flowering/pod formation), gram, garlic and sugarcane (sowing / planting), cotton (boll formation).
 - Pigeon pea (flowering/pod formation stage and also this is proper time for sowing of rabi crops, wheat, sugarcane in Chattisgarh.
 - **Advisory:**
 - As there was no significant rainfall in the region except in Jashpurnagar district in Chhattisgarh, farmers are advised to apply irrigation to the standing crops. Postpone irrigation the above said district as there was sufficient rainfall received during last week.
 - Farmers in Satpura Plateau Zone, Malwa Plateau Zone and Nimar Valley Zone in Madhya Pradesh are advised to complete sowing of wheat, sowing/transplanting of cabbage, cauliflower, tomato, chilly, brinjal and sowing / planting of coriander, garlic, onion.
 - Farmers are advised to transplant mature seedlings of tomato, cauliflower, onion, cabbage in Bundelkhand Zone and continue sowing of wheat, coriander, pea, potato and sugarcane in Central Narmada Valley Zone in Madhya Pradesh as weather is congenial.
 - Farmers are advised to sow wheat, potato, coriander and fenugreek, transplanting of cauliflower in Kymore Plateau, Satpura Hill and Malwa Plateau Zone and undertake sowing of late sown wheat varieties under ranifed, semi irrigated and irrigated condition in Jhabua Hill and Grid Zone in Madhya Pradesh.
 - Farmers in Chattisgarh Plain Zone are advised to prepare the field for sowing of wheat, gram and other *rabi* crops and also prepare nursery for *summer* rice. Farmers in Bastar Plateau Zone are advised to undertake sowing of *rabi* crops, like wheat, sugarcane.
 - Weather is congenial for caterpillar in gram in Nimar Valley Zone in Madhya Pradesh, spray Quinolphos 25 EC or Methomyl 12.5. %.
 - Weather is congenial for painted bug in mustard, pod borer in chickpea, and aphid in *rabi* crops and purple blotch in onion crops in Bundelkhand Zone in Madhya Pradesh. Spray Carbaryl (Sevin) 2 g/liter

of water for painted bug, Endosulfan or Quenolphas @ 2.0 ml. per liter for pod borer and Endosulfan @ 2.0 ml. per liter or Malathion 50 E.C. @ 2 ml/litre of water for aphids and spray Dithane M-45 or Blitox 50 @ 0.25% for purple blotch.

- Weather (cloudy) is congenial for pod borer in pigeon pea and infestation of aphids, fruit and shoot borer in brinjal, diamond back moth in cole crops in Chattisgarh Plain Zone, spray Endosulphan or Metasystox @1.5 ml per liter etc. for pod borer and continuously monitor the crops infestation of aphids, fruit and shoot borer and if needed spray Endosulfan @ 1.5 ml per liter water solution.

Animal Husbandry & Poultry

- Undertake vaccination of cattle for the control of Anthrax, Galghotoo, foot and mouth diseases and deworming of animals.
- Due to cloudy weather during this week farmers are advised to provide appropriate light in poultry houses during night otherwise, insufficient light may affect egg production.
- In this week there is possibility of decrease in the night temperature during next five days, so farmers are advised to protect their animals from low night temperature.

Annexure I List of Varieties

Bihar

Potato: Kufri Lalima, Kufri Kuber and Kufri Alankar, Kufri Jyoti, Kufri Chandramukhi, Kufri Ahoka, Ranjendra Aloo 1, 2 and 3, Kufri Badshah.

Cauliflower: Kuwari, Patna Early, Pusa Katki, Pusa Deepali and Hajipur Agat.

Gram: Rajendra Chana, K.P.G. 59, Pusa 256, RAU 52, KWR 108, Uday, SG2, Pusa 372.

Lentil: Pusa 25, Pant L 406, Mallika, Arun, Pant L 639, BR 25.

Peas: Ratna, Aprna, Harbhajan.

Mustard: Baruna, Pusa Bold, Kranti, Rajendra Rai Pichheti, Rajendra anukul and Rajendra sufalam.

Rapeseed: Rajendar Rai Pichheti, Rajendra Anukul and Rajendra Suflam.

Sarson: Rajendra Sarson-1, Swarna etc.

Sunflower: Morden, Surya, Paradovic, KBSH 1, 44.

Maize: Saktiman 1, 2, 3, 4, Laxmi, Rajendra Shankar Makka 1 and 2.

Wheat: HD-2824, HD-2733, PBW-343, HP-1731, K-9107, K-9006, K- 307, K- 8804, HP-1761, PBW-434, UP-262, RW-346, RW-3413, H.U.W-206.

Rai: Rajendra Rai Pichheti, Rajendra anukul, Rajendra sufalam Sarson –Var.-Rajendra Sarson-1.

Jharkhand

Wheat: C.-306, H.D.R.-77, K.-8027, K.- 8962, K.-9107, H.U.W.-468, H.D.-2733, Birsa genhu-1, Birsa genhu-2 etc.

Mustard: Pusa Jaikisan, Siwani, Varuna and Kranti, Pusa Bold.

Potato: Kufari Chandramukhi, Kufari Ashoka and Kufari Kanchan.

Pea: Arkel and Azad P-1 for vegetable and D.D.R 23 and swarn Rekha for grain.

Gram: Birsa Chana-3, BG-372, BG-256, KWR-108, Pant G-186, Pant G-114 and BG-1053, BG-1003, KAK-2.

Lentil: P.L.-406, P.L.-639, D.P.L.-15, D.P.I.-62

Linseed: Shekhar, T-397, Sweta etc.

Brinjal: Pusa Purple Long, Swarn Pratibha, Pusa Hybrid-5, Pusa Hybrid-6, Swarn Shakti.

Kabuli : B.G. 1053, 1003, H.K.-94-134 and Kak 2

Chickpea : Birsa chana –3, B.G.- 372, B.G.-256, K.W.R.-108, Pant G.-108, 114

Onion: Pusa Red, Pusa Ratnar, N-53, Early Grano, Light Red, Arka Niketan, Agrifound Dark Red, Pusa madhavi, Bombay selection, Patna white.

Cabbage: Late Drumhead, Subyoy cabbage.

Cauliflower: Snowball-6, Pusa Snowball-21 etc.

West Bengal

Wheat: Rajlakshmi, HP 1701, Janak, HP-1209, BW-11, Sonalika and UP-262.

Potato: Kufri Alankar and Kufri Chandramukhi

Lathyrus : Nirmal and Ratan.

Masur: Masur like, Asha, Ranjan.

Bengal-gram: Mahamaya1 and 2, Anuradha.

Delhi

Wheat: UP 2338, RAJ 3765, Sonalika, WH 1021 and PBW 373

Himachal Pradesh

Peas: linkan, Azad P-1

Wheat : Late sown wheat in the mid hills of H.P. (H.S- 295, HPW -42)

Jammu & Kashmir

Wheat : Raj-3077, Raj-3765 & PBW-373

Uttar Pradesh

Wheat : Narendra Wheat-1012, 1014, HP-1731, HP-1633, UP-2382, HD-2733, HD-2824, H-1744, Malwiya-234, U.P.-2425, HD-2428, 2189, 2733, PBW-343, Raj-3765, HI-1077,

Irrigated wheat: Improved varieties: K-307(Shatabdi), Ujjiyar (K-9006), HUW-468, U.P.-2382, HD-2888, DVW-17, HUW-510, W-502, PVW-443, CVW-38,

Kathiya (Duram) varieties – PBW-34, 225, 233, Raj-1555, WH-896, HI-8494, 8381, DW-190, GW-273

Recommended varieties (in sandy fallow land areas) K-8434(Prasad), KRL-19, NW-1076, 1067

Barley / Oats: Rutumbhara(K-551), DWR-28, DL-88, Pragati(K-508)

Rajasthan

Wheat: for late sowing : Lok-1, H.D.- 2236

Barley: RD-2508

Cumin: RS-1 and RZ-19 are improved varieties

Punjab

Wheat: PBW-590, PBW-373 and PBW-509

Gram : PDG 3, PDG 4 and GPF 2

Haryana:

Wheat: UP 2338, RAJ 3765, Sonalika, WH 1021 and PBW 373

Gram: PDG 3, PDG 4 and GPF 2

Assam

Lentil: T – 397

Boro rice: Mahsuri, IR-50, Dinanath, Bishnuprasad, Jyotiprasad, Swarnabh and Kanaklata

Oats : Kent, HJ 114 and JHOS 19.

Onion : Pusa Red, Pusa White, Pusa Ratnar and N – 53.

Garlic : Eknalio. T – 56 -4

Linseed : T – 397

Arunachal Pradesh

Potato- Kufri Chandramukhi, Kufri Jyoti, Kufri Megha, Kufri Badshah, Kufri Sindhuri

Mizoram-

Pea-Bonville

Cauliflower- Snowball -16, Pusa synthetic-1 and 2

Manipur

Field pea: Rachana.

Potato-Kufri Megha, Kufri Kanchan (Red tuber) and Kufri Giriraj.

Meghalaya

Cauliflower: Pusa Snowball, Pusa Synthetic etc.

Cabbage: Pusa Mukta, Pride of India etc.

Andhra Pradesh

Blackgram : LBG-645, LBG-685, LBG-648, LBG-402, LBG-709, LBG-22, LBG-611, LBG-17 and LBG-752 in A.P..

Kerla

Rice : Uma and Vyttila 6.

Karnataka

Jowar: M-35-1, Hybrid CSH-10

Bengal Gram : A-1, JG-11, KAK-2, Visha.

Ragi: Rainfed varieties GPU-45, 48, 26 and irrigated Indol-7, Indol-15

Maharashtra

Wheat: NIAW-34 variety for Pune division, HD-2501, AKW-1071 & 381 in Central Vidarbha Zone.

Maize: Deccan 103,105; Ganga-11; Bio- 9637, 9681

Sunflower: Modern, S.S.56, B.S.H-1

Sugarcane: C0-86032, C0-94012, C0-8014, C0-M-0265(Phule265), C0-C-671, C0-92005, C0-014

Gujarat:

Wheat: GW- 173, G.W.-496, lok-1, GW-496 or GW-366 or GW-173 or GW-322.

Isabgol: Gujarat Isabgol – 1,2 or 3

Cumin: GC 4

Madhya Pradesh

Gram: JG-14, JG-06, JG-63, JG-11, JG-11, JG-130, JG-16, JG-322 and JG-01 Jacky-9218 & Kabuli channa, Kak-2, JGK -1

Mustard: Pusa Mahak, Pusa Agrani, Pusa Jaikisan, Pusa Bold, Jaggannath etc.

Linseed: PKDL-21.

Lentil: JLS-03.

Onion: Udaipur 102, Pusa White, Nasik Red, Nasik Roja etc.

Wheat: Amar, Amrita, Harshita and gram JG 130, JG 226, Vishal, Vijay etc in rainfed and semi irrigated condition and rabi Maize cv.: JM- 421, JM- 8, JM- 12, Chandan makka- 3, Ganga- 3, Ganga- 4, HPQM – 1 in irrigated condition.

Wheat (Satpura Plateau Zone):-GW 273, GW 322

Wheat (Vindya Plateau Zone)

Irrigated - GW – 190, GW – 273, Kanchan (GW -332), Mangal, HI – 1077, Lop-1, Malwa Shakthi, Malwa Ratna, Sudha, etc

non irrigated (1 irrigation) Sujatha.

Wheat: (Jhabua Hila Zone)

Early sown: Amar (HW 2004), Amrita (HI 1500), Harshita (HI 1531)- 1-2 irrigation;

Timely sown: Naveen Chandosi (HI 1418), Swarna (HI 1479), Poorna (HI 1544) – 3-4 irrigation, GW 273, GW 322, GW 366 - 5 - irrigation

Late Sown:M.P. 4010, Vidisha (DL 788-2), G W 173, Naveen Chandosi (HI 1418) and for gram JG 130, JG 226, Vishal, Vijay etc in rainfed and semi irrigated condition.

Rabi Maize cv.: JM- 421, JM- 8, JM- 12, HPQM – 1

Garlic: G-283, G-1, G-41, G-323

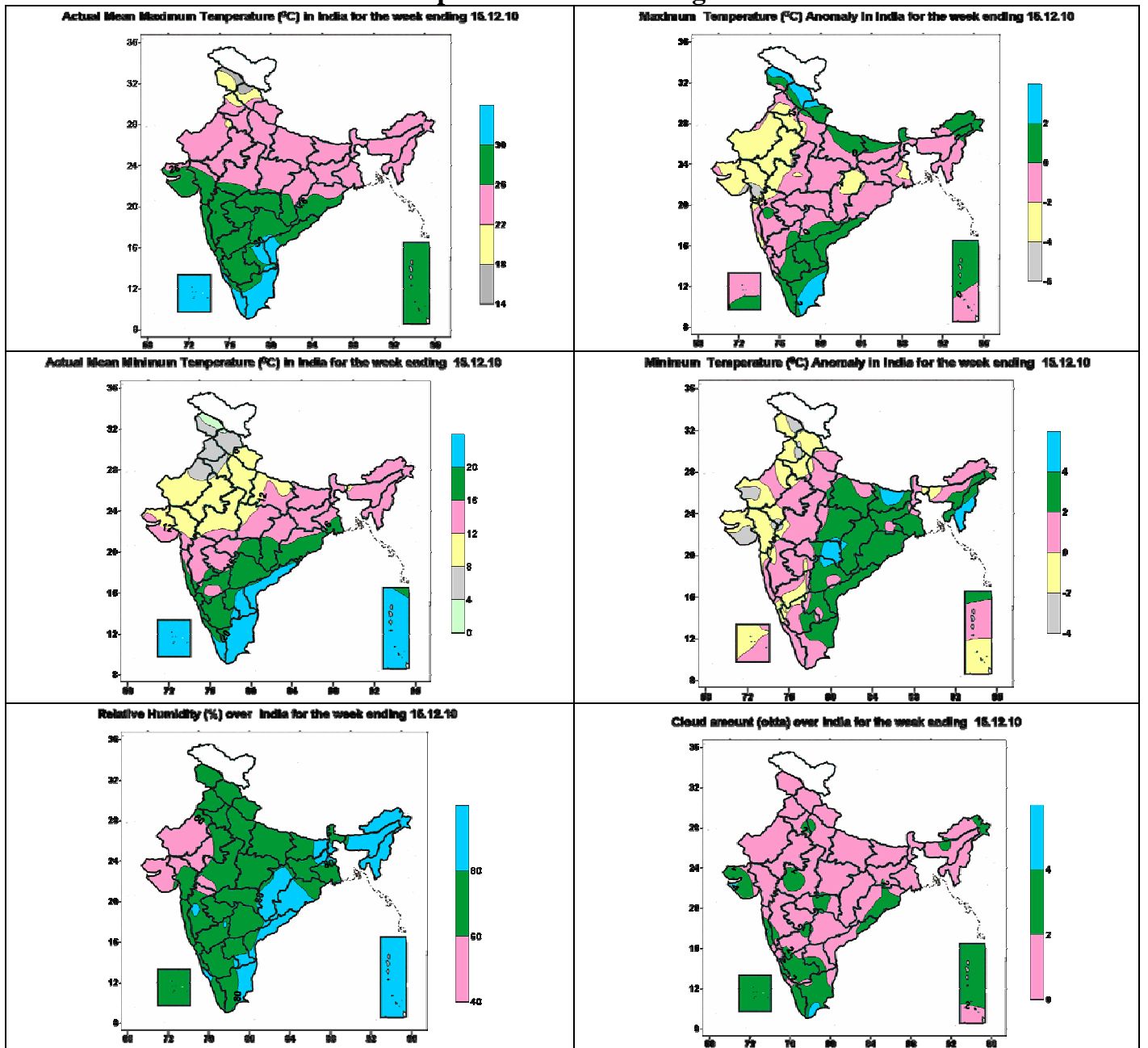
Sugarcane: K Jawahar-86141, K Jawahar – 86572, K –N 8632, K-6304, KC-671, Ko. 86032, Ko-J-N 86600 or 86141.

Chattisgarh

Wheat : GW-273, Kanchan, GW-173, Amar, Lok-1, Ratan and HD-2329

Gram : Vaibhav, JG-74, TG-315, ICC-2 (Kabuli)

Annexure II Contour maps for the week ending 15.12.10



Wind speed (knots) over India for the week ending 16.12.10

