



National Agromet Advisory Bulletin

Thursday, 23rd December, 2010

(For the period 23rd to 27th December, 2010)

Satellite image 0600 UTC Dated
24th December, 2010



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Executive Summary

Due to decrease in temperature severe cold prevailed across north and eastern states of the country during last week. There are also chances of ground frost in some parts of Punjab. As there are chances of cold injury in the standing *rabi* crops in the above region, farmers are advised to apply light irrigation to the standing crops regularly and create smoke around the fields to protect the standing *rabi* crops from cold/frost injury. Farmers in Punjab are advised to protect the mango and litchi nursery seedlings with mulching with paddy straw. Liming @ 200 kg/ha may be done to prevent the diseases in fishes in Manipur due to low temperature. To avoid frost injury, sprinkler irrigation for a short period of time in the early morning is recommended in the tea gardens of Nilgiris.

Due to heavy rainfall during early part of December, rice crop have been extensively damaged in Cauvery Delta districts mainly in Thanjavur, Nagapattinam, Thiruvarur and Cuddalore districts in Tamil Nadu. Farmers are advised to undertake foliar application of 0.5% ZnSO₄ + 1% urea. 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.

Due to heavy rains during early part 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. Farmers in Krishna Godavari zone are advised to apply 50 grams of Annabedi, 5 grams of citric acid and 50 grams of urea in 10 liters of water in *rabi* upland pulses, 2% urea in rice fallow maize for immediate recovery from excess moisture due to rains. Due to excess moisture, root rot in chickpea may appear; farmers are advised to apply 0.1 % of Carbendazim and 0.25% Mencozeb.

Early sown *rabi* crops like wheat, mustard, gram etc are at vegetative / late vegetative stage in northwest and adjoining central and east region of the country, viz., Punjab, Haryana, Himachal Pradesh, Rajasthan, Delhi, Madhya Pradesh, Chhattisgarh and Bihar. After the abatement of low temperature conditions with the application of irrigation and under ideal soil moisture conditions, farmers are advised to undertake intercultural operations and application of fertilizers. Farmers can continue the sowing of barley in Jammu region.

Prevailing fog and dew fall conditions are 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 and maruca leaf webber and helicoverpa in redgram in the Southern Telangana Zone and 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.

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

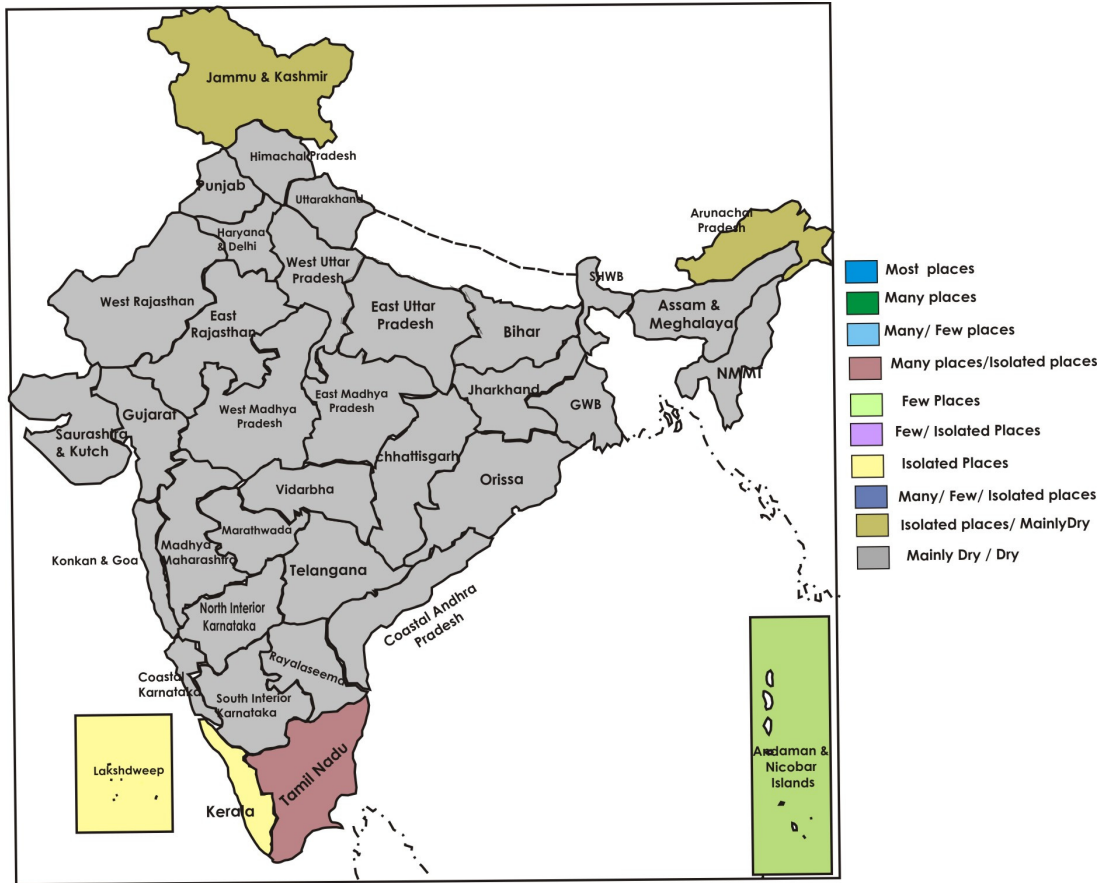
Karnataka	24 th Nov 2010	1 st Dec 2010	8 th Dec 2010	15 th Dec 2010	22 nd Dec 2010
Coastal Karnataka					
Dakshin Kannada	245	-66	-65	48	86
Udupi	155	-51	13	0	223
Uttar Kannada	43	-95	-92	32	340
North Interior Karnataka					
Bagalkote	315	-100	-100	-87	-100
Belgaum	76	-82	-100	-100	-100
Bidar	300	-100	-100	-100	-100
Bijapur	217	-100	-100	64	-100
Dharwad	122	-100	-100	-76	-64
Gadag	639	-100	-100	-90	-100
Gulbarga	24	-100	-100	70	-100
Haveri	114	-100	-68	-89	-100
Koppal	1015	-100	-100	-100	-100
Raichur	-14	-100	-80	10	-100
South Interior Karnataka					
Bangalore Rural	-9	-99	-72	83	-40
Bangalore Urban	2	-82	-68	-99	-58
Bellary	77	-100	-90	-92	-100
Chamarajnaragar	115	-33	-36	-5	349
Chickmagalur	127	-99	-59	-19	-2
Chitradurga	250	-100	-100	-100	-100
Davangere	573	-100	-100	-100	-100
Hassan	120	-99	-89	-100	-7
Kodagu	289	22	-41	-97	177
Kolar	-44	-99	-67	69	10
Mandya	-25	-19	-93	-99	-53
Mysore	71	13	-62	-100	42
Shimoga	335	-75	-88	-16	-100
Tumkur	-47	-98	-97	-100	-100
Kerala					
Alappuzha	192	2	30	195	172
Kannur	406	453	-80	-90	-100
Ernakulam	348	-29	-83	-70	475
Idukki	277	23	-38	-63	-91
Kasaragod	241	26	-30	12	-26
Kollam	405	225	138	381	-81
Kottayam	521	-55	58	82	250
Kozhikode	265	220	-96	-94	365
Malappuram	156	151	-20	-95	143
Palakkad	275	47	-35	-97	285
Pathanamthitta	503	56	117	109	114
Thiruvananthapuram	287	294	443	154	-60
Thrissur	287	-55	-80	-91	189
Wyanad	97	-49	-98	-95	-84
Tamil Nadu					
Chennai	5	-63	216	-89	79
Coimbatore	228	9	47	-100	-2
Cuddalore	51	403	94	-72	197
Dharmapuri	142	175	-6	-50	-30
Dindigul	386	357	124	-54	105

Erode	252	50	-13	-45	229
Kanchipuram	-27	-16	295	-77	75
Kanyakumari	409	470	534	485	-81
Karur	357	537	17	140	70
Krishnagiri	172	89	-65	-88	-7
Madurai	383	166	70	196	203
Nagapattinam	2	332	77	-78	107
Namakkal	259	160	62	-62	208
Nilgiris	321	138	-3	-51	470
Perambalur	38	553	42	-61	18
Pondicherry	1	34	158	-41	49
Pudukottai	110	371	154	-87	-45
Ramanathapuram	233	424	48	-44	9
Salem	196	126	69	-4	154
Sivaganga	118	258	57	-12	45
Thanjavur	35	449	107	-68	58
Theni	504	154	10	118	-78
Tirunelveli	253	261	236	22	-86
Tiruvallur	-51	-30	124	-72	28
Tiruvannamalai	65	112	149	313	33
Tiruvarur	10	524	203	-72	119
Tuticorin	270	307	161	-45	-51
Trichy	70	633	69	13	51
Vellore	19	-2	107	-68	-11
Villupuram	39	304	136	-64	129
Virudhunagar	252	157	19	107	-9
Andhra Pradesh					
Coastal Andhra Pradesh					
East Godavari	-80	-100	5485	402	-100
Guntur	-36	-99	4090	-39	-100
Krishna	14	-75	4566	-51	-100
Nellore	-8	-82	220	-57	12
Prakasam	60	-90	1360	-80	-100
Sirkakulam	-90	-100	11891	469	-100
Visakhapatnam	-4	-100	13747	1142	-100
Vizianagram	-49	-100	9704	411	-100
West Godavari	-72	-25	7077	75	-100
Telangana					
Adilabad	125	-100	1	107	-100
Hyderabad	-93	-100	298	142	-100
Karimnagar	-30	-100	457	168	-100
Khammam	117	-100	4290	350	-100
Mehabubnagar	115	-100	313	-84	-100
Medak	-80	-100	-69	-100	-100
Nalgonda	1	-100	2829	22	-100
Nizamabad	-86	-100	-63	-100	-100
Rangareddy	-99	-100	99	-56	-100
Warangal	-30	-100	1123	10	-100
Rayalaseema					
Anantapur	-13	-88	-27	-89	-100
Chittoor	-14	-80	84	-33	104
Cuddapah	-2	-83	142	-89	-97
Kurnool	-17	-100	299	6	-100

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 25th December, 2010)



Major Feature of Weather Forecast (upto 0830 hours IST of 26th December, 2010)

- Scattered rain/thundershowers would occur over Andaman & Nicobar Islands.
- Isolated rain/thundershowers would occur over Kerala, Tamil nadu and Lakshadweep. However, rainfall would increase over Tamilnadu from tomorrow onwards.
- Isolated rain/snow would occur over Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 24 hours.
- Dry weather would prevail over plains of northwest, west, central and east India.
- Rise in minimum temperatures by 1-2⁰C
- Cover many parts of northwest, central and adjoining east India during next 24 hours and fall thereafter.

Weather Outlook (upto 0830 hours IST of 27th December, 2010)

- Scattered rainfall would occur over parts of south peninsular India.
- Mainly dry weather conditions would prevail over remaining parts of the country.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** 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 (vegetative), mustard and sarson (vegetative), maize (sowing), wheat (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 (crown root initiation /tillering stage), potato (planting/tuber formation/ vegetative), toria, mustard (pre flowering/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 (picking), 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(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 (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 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.
 - Undertake nipping in Western Plateau Zone of Jharkhand in gram after 30-40 days of sowing and before flowering stage as it is beneficial for the plant to bear more branches as well as flowers and pod.
 - 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.
 - Farmers are advised to make smoke around the field of potato in Jharkhand. 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.
 - 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 and other *rabi* crops utilizing the soil moisture recharged from rain during the last week and go for nursery raising of summer rice in wet low land. Wheat

crop is at CRI (crown root initiation) stage in West Central Table land Zone of Orissa and this is the most critical period for irrigation, care should be taken for irrigating the crop.

- 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 in nursery 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/lit 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.
- Present weather conditions favours the infestation of aphid in beans in Orissa. 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.

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

- **Realised Rainfall:** No significant rainfall occurred during last week over the region.
- **Rainfall Forecast:** Mainly dry / dry weather will prevail over northeastern states except in Arunachal Pradesh where rain is likely at isolated places during next 24 hours.
- **Major Crops:**
 - *Rabi* vegetables (transplanting / early vegetative), sugarcane (cane development), *sali* rice (harvesting), arhar (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.
 - Toria, lentil, red gram (sowing) and *rabi* vegetables (transplanting / early vegetative / vegetative) in Tripura.
 - *Boro* rice (nursery sowing), *rabi* vegetables (early vegetative / vegetative) in Meghalaya.
 - Mustard/ rapeseed (vegetative), field pea (vegetative) in Manipur.
 - Khasi Mandarin (maturity/vegetative), banana (various stages), onion (transplanting), pea, carrot, radish (vegetative), tomato, cole crops and chili & capsicum (transplanting), rice (harvesting) in Mizoram.
 - Orange (harvesting) potato (vegetative), pea (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.
 - Farmers in Assam are advised to undertake sowing of lentil, planting of potato in Hills Zone, sowing of *boro* rice in Lower Bramhaputra Valley Zone, transplanting of boro rice in Upper Bramhaputra Valley Zone, sowing of *boro* rice in North Bank Plain Zone (List of varieties mentioned in Annexure I).
 - 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.
 - 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 is congenial for thrips in boro rice, aphids/saw fly in rapeseed and mustard in Upper and Central Brahmaputra Valley Zone, spray Chloropyriphos @ 2 ml/litre of water to control thrips and Chloropyriphos / Malathion @ 2ml per litre of water during evening hours to control aphids/saw fly. Also bacterial wilt attack on Solanacious vegetables in Central Narmada Valley Zone viz. potato, tomato, brinjal etc. causing severe damage, burn the infected plants and also apply 1g Asafetida and 5g turmeric diluted in 10 liters of water in the root zone to control.
 - 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.
 - Because of increase in relative humidity and decrease in sunshine hours in Kolasib(Mizoram), there is attack of diamond back moth, aphids, thrips and cut worm in vegetables, use 5% neem extract or spray endosulphan (35%) 12 ml or dimethoate (30%) 10 ml in 10 lit. water. And also dew at night with low night temperatures are favorable for the incidence of early blight in tomato and chilli crops, spray Mancozeb @ 1 gm per litre of water at 10-15 days intervals 8-10.
 - Due to long periods of dew at night and low night temperatures are favorable for the incidence of early blight in tomato and chilli crops. Farmers are advised to spray of Mencozeb @ 1 gm per litre of water at 10-15 days intervals 8-10 when disease appeared.
- Animal Husbandry:**
- Protect poultry birds from cold by using electric bulb (300Watt for 100 sq.feet) to prevent Coryza disease in Central Narmada Valley Zone. In case of lacrimation and swelling of the head, treat the fowl with Sulpher drugs.

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

- **Realised Rainfall:** Dry weather prevailed during last week in this region.
- **Rainfall Forecast:** Mainly dry / dry weather is likely to prevail during next 3 days over the region.
- **Major Crops:**
 - Wheat (Crown root initiation), broccoli, cauliflower, cabbage, onion (transplanting), pea and gram crop (vegetative stage), Lentil (early vegetative), garlic (planting) in Delhi.
 - Wheat, potato (sowing) and vegetables (transplanting/vegetative), tea (raising nursery in Chamba, Kanga), garlic (planting in Seobagh), Early sown crops are at early vegetative / vegetative stage. in Himachal Pradesh
 - Gram, berseem /oats (vegetative), wheat, barley(crown root initiation), brown sarson, potato, radish, carrot, garlic, spinach and peas (sowing/germination), toria (pod formation / maturity/harvesting), mustard (vegetative/ early flowering), 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 (germination/tillering), potato, lentil, gram, radish, raya, African sarson (sowing), pulses, vegetables (transplanting/vegetative), ghobi sarson (vegetative), oilseeds (flowering), papaya (transplanting, early sown crops are at early vegetative / vegetative stage) in Punjab.
 - Sugarcane (maturity/harvesting), wheat (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/germination) in Rajasthan.
- **Advisory:**
 - Farmers in the region are advised apply irrigation to the standing wheat, mustard, barley, gram, potato and other *rabi* crops in the region as dry weather prevailed during last week and likely to continue during next three days.
 - In view of the low temperature and no rainfall occurred during the previous weeks and with no chance of getting the rain during coming week, farmers in Delhi, Punjab, Haryana, Himachal Pradesh are advised to apply light & frequent irrigation to standing crop etc. to save the crops from possible cold/frost injury.
 - Farmers in Delhi region are advised to undertake intercultural operations in vegetables to remove the weeds and application of optimum dose of fertilizers in vegetables, potato crops.
 - As there was no rain for the next five days, apply irrigation to timely sown wheat crop, which are about 21-23 days old and are in the CRI stage. 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 transplanting of onion. Undertake sowing/transplanting of radish, peas in Sub Montane & Low Hills Sub-Tropical Zone (Hamirpur, Kangra and Una Chamba districts).
 - Farmers in Sub Tropical Zone (Jammu, Kathua and Reasi district) are advised to continue sowing of late varieties of wheat. Due to presence of dry spell irrigate the normal sown wheat crop if crop is 21-25 days old followed by application of 2nd dose of urea (25%) as top dressing in irrigated areas.
 - Farmers in Punjab are advised to undertake sowing of sunflower and complete sowing of potato, lentil, radish, turnip, ghobi sarson, raya and African sarson. Apply need based irrigation for sugarcane crop. The harvesting of toria should be completed to avoid losses due to shattering.
 - Due to low night temperatures 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 harvest the mature crop and apply irrigation for late maturing sugarcane crop.
 - Farmers in Uttar Pradesh are advised to complete sowing of potato, 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 complete sowing of ajwain, fenugreek, cumin, Bengal gram, oats, taramira and isabgol. Raise nursery for autumn vegetable crops like tomato, brinjal, cauliflower, cabbage and raddish.
 - Weather is congenial for saw fly or flea beetle in mustard crop in Jammu & Kashmir, under such situations farmers are advised to spray the crop with Malathion 50EC @ 0.05%

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

- **Realised Rainfall:** The districts of Ernakulam and Kottayam districts in Kerala, the districts of Chennai, Dindigul, Kancheepuram, Nagapattinam, Nilgiris, Pondicherry, Thanjavur, Tiruvarur, Villupuram in Tamilnadu received rainfall.
- **Rainfall Forecast:** Rain is likely at many places for the next 24 hours followed by isolated places in Tamil Nadu and at isolated places in Kerala. Mainly dry / dry weather is likely to prevail over remaining parts of the region.

- **Major Crops:**

- Pepper and arecanut are at harvesting stage in **Kerala**. In cashew, flowering has initiated. Vegetables (sowing).
- *Late samba / thaladi* rice (flowering), 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 development), cotton (boll development); early sown *rabi* crops are at late vegetative/flowering stage, groundnut (pegging/ pod development), rice (early vegetative /v egetative) in Andhra Pradesh.
- Sugarcane (cane development), cotton (boll development/picking), pigeon-pea (pod filling), red gram (vegetative), rabi jowar (vegetative); early sown gram, safflower, *rabi* sorghum and sunflower crops are at vegetative stage in Karnataka.

- **Advisories:**

- As there was no significant rainfall in the region except in Ernakulam and Kottayam districts in Kerala, the districts of Chennai, Dindigul, Kancheepuram, Nagapattinam, Nilgiris, Pondicherry, Thanjavur, Tiruvarur, Villupuram in Tamilnadu, farmers are advised to apply irrigation to the standing crops. Postpone irrigation in the above districts as there was sufficient rainfall during last week.
- In the northeastern zone of Tamilnadu (Kancheepuram, Thiruvallur, Vellore) farmers are advised to spray Propiconazole (Tilt) 2ml in one litre of water as blast disease is observed in paddy field. Also farmers are advised to drain the excess water to improve the soil plant water relationship.
- 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 undertake sowing of rice fallow black gram and green gram. Farmers in hill Zone are advised to undertake nursery bed preparation for ragi.
- To avoid frost injury, sprinkler irrigation for a short period of time in the early morning is recommended in the tea gardens of Nilgiris.
- Rice crop in Western Zone (Coimbatore, Erode, Thiruppur) is affected by stem borer and blast. For controlling stem borer set up light traps to monitor the adults. For controlling blast incidence spray Tricyclazole @ 1g/litre of water the rice crop in southern zone (Dindigul, Madurai, Pudukottai, Ramanathpuram, Sivaganga, Theni) in Tamil Nadu is affected by leaf folder. For controlling the same spray Quinalphos @ 1000ml/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 chlorpyriphos 800 spray 320 ml/acre.
- Prevailing fog and dew fall conditions are 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.
- Farmers are advised to adopt following IPM measures to manage Helicoverpa in redgram and bengalgram.
 - Arrange birdperches @ 20 per acre to promote bird activity.
 - Arrange pheromone traps @4 per acre.
 - Spray NSKE 5% to control eggs and early in star larvae.
 - Spray Chlorpyriphos @ 2.5 ml during flowering stage or Quinolphos @ 2ml or Acephate @1.5g per litre of water during podformation stage. If the pest is not controlled by these chemicals, spray Indoxacarb @1ml or Spinosad @0.3ml perlitre of water.

- To control Fusarium wilt in Bengalgram, drench the soil around the infested area with Carbendazim @ 1g per litre of water and to control yellow vein mosaic in early sown ricefallow blackgram in Krishna district. To prevent, further spread to late sown crop remove and destroy virus affected plants and to control the whitefly vector, spray Acephate@1 g or Dimethoate@2ml or Triazophos@1.25ml per litre of water.
- Plant protection measures may be undertaken after spells of rain in Tamil Nadu.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall:** Dry weather prevailed in the region during last week.
- **Rainfall forecast:** 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 (vegetative growth / flag leaf initiation), Safflower (vegetative growth / floral bud initiation), gram (secondary branching / flowering), maize (vegetative growth), sunflower (vegetative growth / floral bud formation), irrigated wheat (germination / crown root initiation/ early tillering), mustard, groundnut (sowing/ germination) in Maharashtra.
 - Castor (harvesting), cotton (picking), mustard (branching /flowering), pigeon pea (flowering / pod development), gram (flowering / pod development), potato (vegetative growth), brinjal, tomato (productive), chilli (flowering), *rabi* fennel (growth & flowering), *kharif* fennel (flowering & grain formation), cumin (growth), early sown wheat crop (Booting stage), timely sown wheat (tillering), late sown wheat (crown root initiation), Isabgol (sowing), sugarcane (emergence / early vegetative) in Gujarat.

Advisory:

- As dry weather prevailed over the region during last week and same will prevail during next 3 days, farmers are advised to apply protective irrigation to standing crops.
- As cold wave conditions are prevailing over Vidarbha & parts of North Madhya Maharashtra since last week & likely to continue, farmers are advised to apply light irrigation and make smoke around the field to protect wheat, mustard, groundnut and orchard crops from cold.
- 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.
- As weather conditions are favorable, farmers in Maharashtra are advised to complete late sowing of irrigated wheat, mustard, sunflower, groundnut, maize etc.
- Farmers in south Konkan region are advised to complete sowing of *rabi* rice.
- Complete picking of fully opened cotton boll in Vidarbha taking advantage of dry weather likely to prevail during the next three days.
- Farmers in bhal and coastal region of Gujarat are advised to irrigate cotton, early sown mustard and cumin crop as per requirement as dry weather conditions will prevail during next three days. Before irrigation carry out interculturing and weeding operations in mustard and cumin.
- Farmers in South Saurashtra Zone are advised to irrigate sugarcane crop at an interval of 6 to 7 days according to soil texture as dry weather conditions will prevail during next three days.
- Farmers in North Saurashtra Zone are advised to apply irrigation to Pigeonpea and gram at critical stage of pod development and mustard crop at branching and flowering stage as dry weather conditions will prevail during next three days.
- As dry weather conditions will prevail during next three days, farmers in North West region of Gujarat are advised to apply third irrigation in early sown wheat crop at BT (booting) stage. In timely sown wheat crop apply second irrigation at tillering stage along with the topdressing of first split dose of

nitrogen fertilizer. Apply first irrigation in late sown wheat at CRI (Crown Root Initiation) stage. Carry out intercultural operations in vegetables like Brinjal, Chilli, Tomato, Cabbage, and Cauliflower.

- 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.
- Weather is favourable for attack of *Helicoverpa* in gram in Madhya Maharashtra. For control, spray Endosulfan 35 EC @ 1000 ml or Fenvalerate @ 20 EC @ 250 ml in 500 liters of water per ha or HANPV virus @ 250 l.e. in 500 lit of water per ha. Undertake spraying of HANPV at 50% flowering stage and repeat after one week.
- Prevailing weather is favourable for attack of rust and wilt disease and aphids and thrips in early sown wheat in Madhya Maharashtra, spray Mancozeb or Copper oxychloride @ 1250 g + Dimethoate 500 ml or Endosulfan 700 ml in 500 lit of water.
- Prevailing weather is favourable for hopper, aphids and thrips in *rabi* brinjal, tomato, cabbage, chilli, knol knol etc. nursery in Konkan, spray Malathion @ 2 ml or Dimethoate @ 1.25 ml per liter of water.
- Prevailing weather is favourable for attack of thrips and blight disease in onion and downey mildew in grape in Madhya Maharashtra. Farmers are advised to undertake plant protection measures to control the pests.
- Present weather conditions are favourable for the incidences of sucking pests in castor crop, brown hopper in wheat crop and powdery mildew in cumin and coriander crop in South Saurashtra region of Gujarat state. Farmers are advised to undertake plant protection measures to control the pests.
- Present weather conditions are favourable for the incidences of *Heliothis* and pod fly in Pigeon Pea at the stage of initiation of flowering and 50% of pod formation., sucking pests in cotton and powdery mildew in mango in South Gujarat region. Farmers are advised to undertake plant protection measures to control the pests.
- During next three days sky will remain clear and there may be dew formation which is favorable for incidence of early blight in early sown tomato (before 35- 40 Days) in North West region of Gujarat State. Farmers are advised to spray Mancozeb @ 30 gm adding in 10 litre water for the control of early blight.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** No significant rainfall occurred during last week in this region.
- **Rinfall Forecast:** Dry weather is likely to prevail over the region.
- **Major Crops:**
 - In Madhya Pradesh, wheat (tillering), chickpea (vegetative), pigeon pea (flowering/pod formation), gram, garlic and sugarcane (sowing / planting), cotton (boll formation).
 - Pigeon pea (flowering/pod formation stage. Early sown *rabi* crops like wheat, gram etc., are at vegetative stage in Chattisgarh.
 - **Advisory:**
 - As there was no significant rainfall in the region, farmers are advised to apply irrigation to the standing crops. Due to fall in temperature, there are chances of cold injury in the standing crops. Apply light and frequent irrigation to safeguard the crops from cold injury.
 - Farmers are advised to undertake intercultural operations in the early sown crops to keep the fields weed free.
 - Farmers in Bundelkhand Zone are advised to continue sowing of sugarcane in Madhya Pradesh as weather is congenial.
 - Weather is congenial for the incidences of leaf eating caterpillar in gram in Nimar Valley Zone in Madhya Pradesh, spray Quinolphos 25 EC or Methomyl 12.5. %.

- Weather is congenial for the incidences of painted bug in mustard, pod borer in chickpea, and aphid in *rabi* crops and purple blotch in onion crops in Bundekhand 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. Also attack of caterpillar in gram, spray Quinolphos 25 EC or Methomyl (12.5%)
- Weather (cloudy) is congenial for the incidences of pod borer in pigeon pea, Chick 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.
- Save calves from cold (night temperature) use heater, curtains to save them.
- Humid weather condition is prevailed hence keep cattle's in dry and clean place. Create neem leaves smoke in night to save them from mosquitoes and bees.
- 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.

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

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

Jharkhand

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

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

Potato: Kufri Alankar and Kufri Chandramukhi

Lathyrus : Nirmal and Ratan.

Masur: Masur like, Asha, Ranjan.

Bengal-gram: Mahamaya1 and 2, Anuradha.

Himachal Pradesh

Peas: linkan, Azad P-1

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

Radish: Early Meno white, Japanese white , Chinese pink and Palm p Hriday.

Uttar Pradesh

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

Rajasthan

Wheat: for late sowing : Lok-1, Raj-3765, Raj-3777, HI-8498, 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

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.**Maharashtra****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:****Isabgol:** Gujarat Isabgol – 1,2 or 3**Cumin:** GC 4**Madhya Pradesh****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.

Annexure II Contour maps for the week ending 22.12.10

