

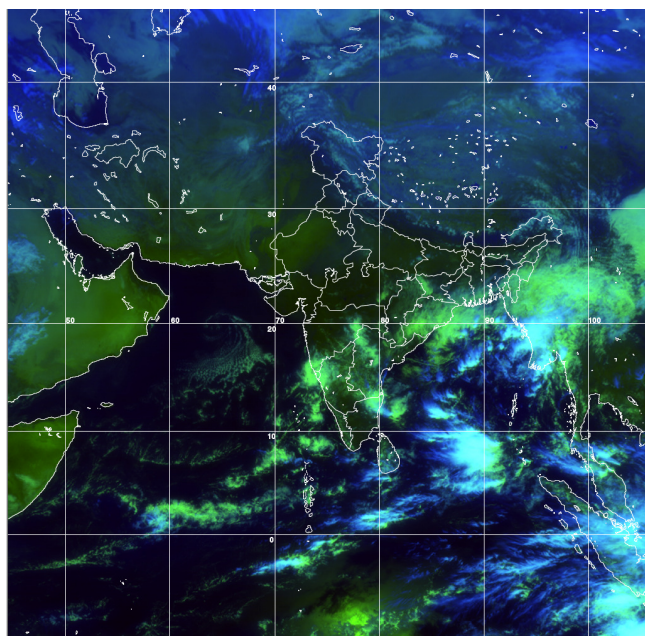


National Agromet Advisory Bulletin

Thursday, 9th December, 2010

(For the period 9th to 13th December, 2010)

Satellite image 0600 UTC Dated
10th December, 2010



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National Agrometeorological Advisory Service Centre
Agricultural Meteorology Division
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Executive Summary

Due to heavy rainfall, rice crop have been extensively damaged in Cauvery Delta districts mainly in Thanjavur, Nagapattinam, Thiruvarur and Cuddalore districts in Tamil Nadu. Other than rice, onion in Perambalur and chillies in Ramanathapuram districts have suffered extensive damage. Farmers are advised to undertake foliar spraying of $ZnSO_4$ in flood affected areas to save the crops from nutrient deficiency. In areas where immediate drainage is not possible in late samba / thaladi rice, foliar application of 0.5% $ZnSO_4$ + 1% urea may be done if yellowing symptoms are observed. Heavy rains have also been reported from Coastal Andhra Pradesh and Orissa. Farmers are advised to arrange for drainage facilities. Intercultural operations may be resorted after draining out of water.

Rabi onion crop has been completely damaged due to unseasonal rains in parts of Western Maharashtra Plateau Zone in Maharashtra. Farmers are advised to undertake retransplanting of *rabi* onion before second fortnight of December.

Continuous rains caused physiological wilting of chickpea in Anantapur and Kurnool districts in Andhra Pradesh. Farmers are advised not to resow the chickpea crop and recommended to take up sowing of coriander and fodder jowar as alternate crops upto 15th December. Farmers are advised to undertake sowing of *rabi* rice in nursery in coastal Andhra Pradesh and Telangana, green gram, black gram, horse gram and cowpea in Coastal Karnataka, nursery preparation of ragi and sowing of *rabi* jowar & Bengal gram in South Interior Karnataka and *puncha* rice crop in Kerala.

Favourable temperature during last couple of weeks helped in sowing of *rabi* crops like wheat, mustard, gram etc in North and adjoining Central India. Farmers are advised to complete sowing of late sown wheat in Punjab, Haryana, Himachal Pradesh, Rajasthan, Delhi and Madhya Pradesh and Chhattisgarh.

Due to favourable weather conditions incidence of powdery mildew on pea, tomato, rose and papaya crops in Madhya Maharashtra is reported. Farmers are advised to spray 80% Sulphur powder @ 3 gm per lit of water or Encozol @ 1 ml or Denocap @ 1 ml per lit of water.

Due to high humidity, low temperature, cloudy weather and rainfall, paddy crop is severely affected by neck blast in Southern Dry zone of Karnataka. Hence, spray Tricyclozole (Beam) 0.6 gm/ litre of water at 50% flowering stage.

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

State / Districts	10.11.10	17.11.10	24.11.10	01.12.10	08.12.10
Orissa					
Angul	31	-56	-100	-100	17114
Balasore	-87	-99	-100	85	2288
Bargarh	315	2433	-100	-100	200
Bhadrak	17	-35	-100	-100	1144
Bolangir	-7	386	-81	-100	1764
Boudh	104	-100	-100	-100	8467
Cuttack	91	-99	-100	-2	1196
Deogarh	-100	-100	-100	-100	3727
Dhenkanal	32	42	-100	-100	10160
Gajapati	133	-93	-100	-100	2820
Ganjam	329	-41	-88	-8	2752
Jagatsingpur	188	-96	-98	-84	818
Jajpur	-16	292	-100	-100	958
Jharsuguda	-80	-100	-100	-100	8775
Kalahandi	172	275	-100	-100	5775
Kandhamal	428	500	-100	-100	16008
Keonjhar	0	-100	-100	-100	928
Keonjhar	-58	122	-100	-100	1043
Khurda	108	-100	-100	-100	15900
Koraput	1	504	-100	-100	16400
Malkangiri	42	874	-100	-100	200
Mayurbhanj	-95	15	122	-95	200
Nawapara	-100	-100	166	-100	200
Nawarangpur	125	-88	-100	-100	200
Nayagarh	139	-100	-100	-100	200
Puri	271	-79	-97	-100	4936
Rayagada	18	-72	-100	-100	38040
Sambalpur	-31	3825	-100	-100	4151
Sonepur	-100	-100	-100	-100	1567
Sundargarh	-23	107	-100	-100	1696
Karnataka					
Coastal Karnataka					
Dakshin Kannada	108	778	245	-66	-65
Udupi	158	275	155	-51	13
Uttar Kannada	536	337	43	-95	-92
North Interior Karnataka					
Bagalkote	316	340	315	-100	-100
Belgaum	377	247	76	-82	-100
Bidar	60	1046	300	-100	-100
Bijapur	127	233	217	-100	-100
Dharwad	439	40	122	-100	-100
Gadag	639	169	639	-100	-100
Gulbarga	147	347	24	-100	-100
Haveri	569	200	114	-100	-68
Koppal	431	414	1015	-100	-100
Raichur	180	97	-14	-100	-80
South Interior Karnataka					
Bangalore Rural	275	312	-9	-99	-72
Bangalore Urban	329	343	2	-82	-68
Bellary	465	721	77	-100	-90
Chamarajnagar	340	354	115	-33	-36
Chickmagalur	384	645	127	-99	-59
Chitradurga	636	228	250	-100	-100
Davangere	509	499	573	-100	-100
Hassan	306	444	120	-99	-89
Kodagu	271	184	289	22	-41
Kolar	379	210	-44	-99	-67
Mandya	479	189	-25	-19	-93

State / Districts	10.11.10	17.11.10	24.11.10	01.12.10	08.12.10
Mysore	630	228	71	13	-62
Shimoga	428	453	335	-75	-88
Tumkur	327	203	-47	-98	-97
Kerala					
Alappuzha	20	104	192	2	30
Kannur	69	350	406	453	-80
Ernakulam	88	272	348	-29	-83
Idukki	50	65	277	23	-38
Kasaragod	15	530	241	26	-30
Kollam	30	43	405	225	138
Kottayam	40	84	521	-55	58
Kozhikode	-36	90	265	220	-96
Malappuram	7	90	156	151	-20
Palakkad	53	117	275	47	-35
Pathanamthitta	65	254	503	56	117
Thiruvananthapuram	-22	65	287	294	443
Thrissur	98	169	287	-55	-80
Wyanad	166	111	97	-49	-98
Tamil Nadu					
Chennai	-13	-47	5	-63	216
Coimbatore	78	4	228	9	47
Cuddalore	-16	-48	51	403	94
Dharmapuri	198	168	142	175	-6
Dindigul	147	-3	386	357	124
Erode	171	105	252	50	-13
Kanchipuram	4	-1	-27	-16	295
Kanyakumari	-7	143	409	470	534
Karur	206	31	357	537	17
Krishnagiri	265	56	172	89	-65
Madurai	186	305	383	166	70
Nagapattinam	-38	-84	2	332	77
Namakkal	131	103	259	160	62
Nilgiris	47	138	321	138	-3
Perambalur	41	-1	38	553	42
Pondicherry	107	-34	1	34	158
Pudukottai	-34	-12	110	371	154
Ramanathapuram	-57	75	233	424	48
Salem	129	179	196	126	69
Sivaganga	-41	155	118	258	57
Thanjavur	-12	-6	35	449	107
Theni	43	7	504	154	10
Tirunelveli	-45	14	253	261	236
Tiruvallur	-11	-14	-51	-30	124
Tiruvannamalai	151	-26	65	112	149
Tiruvarur	-21	-28	10	524	203
Tuticorin	-60	13	270	307	161
Trichy	23	-28	70	633	69
Vellore	163	19	19	-2	107
Villupuram	121	45	39	304	136
Virudhunagar	60	-32	252	157	19
Andhra Pradesh					
Coastal Andhra Pradesh					
East Godavari	227	595	-80	-100	5485
Guntur	62	-22	-36	-99	4090
Krishna	13	172	14	-75	4566
Nellore	51	59	-8	-82	220
Prakasam	138	6	60	-90	1360
Sirkakulam	397	-46	-90	-100	11891
Visakhapatnam	185	407	-4	-100	13747

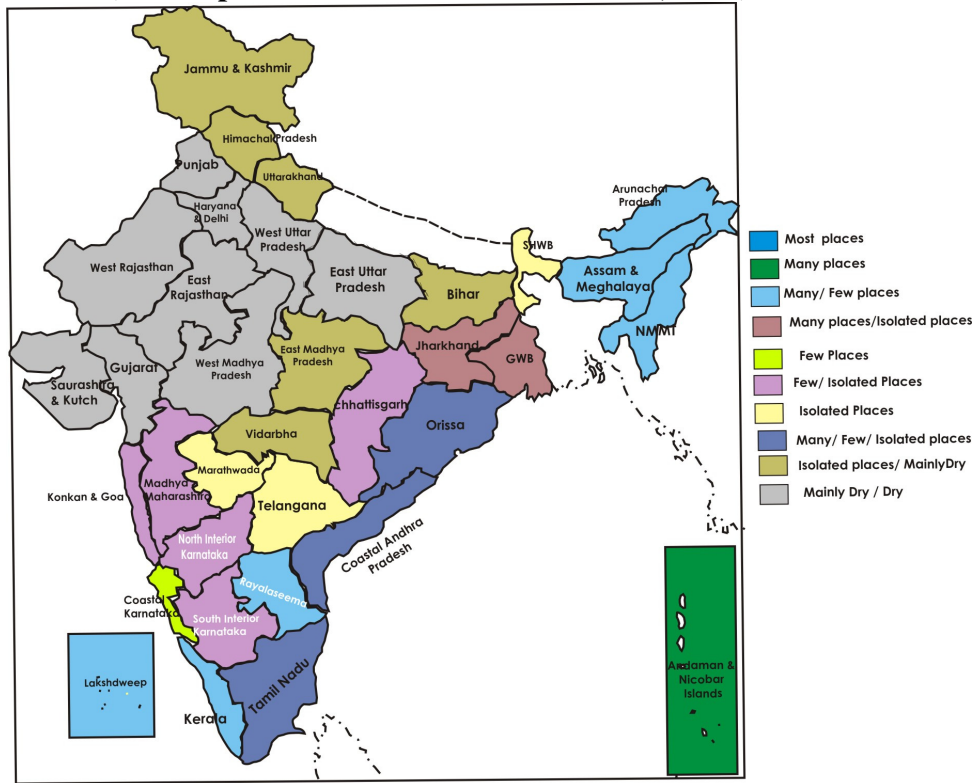
Vizianagram	145	323	-49	-100	9704
State / Districts	10.11.10	17.11.10	24.11.10	01.12.10	08.12.10
West Godavari	88	754	-72	-25	7077
Telangana					
Adilabad	297	1348	125	-100	1
Hyderabad	167	48	-93	-100	298
Karimnagar	235	303	-30	-100	457
Khammam	118	129	117	-100	4290
Mehabubnagar	110	19	115	-100	313
Medak	42	3	-80	-100	-69
Nalgonda	212	13	1	-100	2829

State / Districts	10.11.10	17.11.10	24.11.10	01.12.10	08.12.10
Nizamabad	340	1016	-86	-100	-63
Rangareddy	99	176	-99	-100	99
Warangal	102	147	-30	-100	1123
Rayalaseema					
Anantapur	529	208	-13	-88	-27
Chittoor	185	88	-14	-80	84
Cuddapah	144	230	-2	-83	142
Kurnool	112	504	-17	-100	299

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 12th December, 2010)



Major Feature of Weather Forecast (upto 0830 hours IST of 12th December, 2010)

- Fairly widespread rain/thundershowers would occur over north coastal Andhra Pradesh, Orissa, Jharkhand, Gangetic West Bengal, Kerala, northeastern states and Andaman & Nicobar Islands during next 24 hours and decrease thereafter. However, it may continue over Andaman & Nicobar Islands.
- Scattered rain/thundershowers would occur over Madhya Maharashtra, south interior Karnataka, Tamilnadu and Lakshadweep.
- No significant change in minimum temperatures over parts of northwest and adjoining central India during next 2-3 days.
- Fog/shallow fog conditions may occur over parts of plains of northwest India mainly during morning hours.

Weather Outlook (upto 0830 hours IST of 14th December, 2010)

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

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Most of the districts in Orissa, Jharkhand and Gangetic West Bengal received rainfall during the past week. Weather remained dry over Bihar and Sub Himalayan West Bengal.
- **Rainfall Forecast:** Fairly widespread rain/thundershowers would occur over Orissa, Jharkhand, Gangetic West Bengal during next 24 hours and decrease thereafter. Isolated rainfall or mainly dry weather would occur over Sub Himalayan West Bengal and Sikkim, Bihar during next two to three days.
- **Major Crops:**
 - Gram (sowing / early vegetative), mustard and sarson (sowing / 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 (pod formation stage), arhar, pigeon pea and green pea (flowering/ pod formation), wheat (sowing/ crown root initiation), potato (planting/tuber formation/ vegetative), toria, mustard (flowering / pod formation stage), tomato, cabbage and cauliflower (nursery sowing / transplanting / early vegetative), chilli and brinjal (nursery sowing / transplanting) other *rabi* crops (emergence /tillering stage) in Jharkhand.
 - Cotton (maturity/harvesting), *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) 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 (sowing / 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 mustard, sarson, 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.
 - Farmers in Jharkhand are advised to complete sowing of late sown wheat utilizing rain during the last week.
 - Fairly widespread rainfall would occur over Jharkhand, Orissa and West Bengal in the coming two to three days farmers in these region are advised postpone irrigation to the wheat crop and other standing crops.
 - 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
 - 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.
 - Due to light shower accompanied with cloudy weather and high RH is congenial condition for 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). Farmers are advised to take plant protection measures after current spells of rain.

- Due to slight temperature rise (due to western disturbance), the attack of mustard aphid may be high in new alluvial zone of West Bengal. If attack is more, apply 1.5 to 2 ml metasystox per lt of water or 1 ml confidor per 1.5 lt of water.

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

- **Realised Rainfall:** No significant rainfall occurred during last week over the region.
- **Rainfall Forecast:** Scattered rain/thundershowers would occur 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), Khasi mandarin (harvesting) in Assam.
 - *Rabi* vegetables like cauliflower, cabbage, tomato etc. (transplanting / early vegetative), pea, potato, tomato, mustard, maize (sowing/ vegetative), orange (fruiting/ picking), ginger, turmeric (vegetative) and potato (planting / seedling) 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 / early vegetative), field pea (sowing / 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 Bramhaputra Valley Zone, sowing of rapeseed and mustard and *boro* rice in Upper Bramhaputra 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 Central Bramhaputra 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.
 - Due to favourable weather conditions, farmers in Karbi Anglong district are advised to keep vigilance against attack of aphids in rapeseed and mustard and spray pesticide (Chloropyriphos / Malathion 50 EC @ 2.5 ml/lit of water if aphid infestation is observed. Apply Rogor against Aphids and saw fly. As preventive measure against probable infestation of late blight, Potato and Tomato should be sprayed alternately with Indofil –M-45 @ 2.5 g/ lit and Ridomil-Z-78 @ 2g/lit of water at 15 days interval.

- 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 Monocrotophos @ 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.
- Decrease in sunshine hours with chances of occasional rainfall is congenial for attack of aphids in cole crops and late blight in potato in Mizoram; farmers are advised to monitor the crops and undertake plant protection measures.
- In Nagaland, due to high humidity conditions there are chances of incidences of powdery mildew in pea. In mustard, incidences of white rust increases when the maximum temperature ranges from 28-29, min temp from 15-16 and relative humidity is more than 65%. Farmers are advised to monitor the crops and undertake plant protection measures

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), early sown crops (early vegetative / vegetative stage) in Himachal Pradesh.
 - 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, cotton (boll maturity / picking), 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 (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.
- 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. Undertake sowing of wheat and barley in Intermediate zone (Rajouri, Doda and Udhampur districts). 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 continue 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.
- 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.
- 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.

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

- **Realised Rainfall:** All the districts in Tamil Nadu except Karur and Krishnagiri districts, all the districts of Coastal Andhra Pradesh, Nalgonda in Telangana and Chittoor and Cuddappah districts in Rayalaseema and Kottayam, Pathanamthitta and Thiruvananthapuram districts in Kerala received rainfall.
- **Rainfall Forecast:** Rain is likely to occur over Kerala, Tamil Nadu and Coastal Andhra Pradesh at many places during next 24 hours and at a few places thereafter and at few/isolated places over the remaining region.
- **Major Crops:**
 - Pepper is at maturity stage and arecanut is at maturity / harvesting stage in Kerala. In cashew, flowering has initiated in some areas. New planting is continued for coconut, black pepper, cocoa, cashew, nutmeg etc. Sowing of *puncha* paddy has started.
 - *Late samba / thaladi* rice (active tillering), groundnut (harvesting), sugarcane (cane development), banana (fruit bearing stage), pulses (flowering) in Tamil Nadu. This is proper time for sowing or rainfed crops.
 - Red gram (pod formation), cotton (boll formation); early sown *rabi* crops are at early vegetative / vegetative stage in Andhra Pradesh.
 - Sugarcane (cane development), cotton (boll development/picking), pigeon-pea (pod filling), *rabi* jowar (vegetative); early sown gram, safflower, *rabi* sorghum and sunflower crops are at early vegetative stage in Karnataka.

- **Advisories:**

- Excess rainfall occurred over most of the districts in Tamil Nadu; farmers are advised to postpone harvesting operations of matured rice and other kharif crops.
- 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, Thiruvavur, 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.
- Heavy rainfall also occurred in most of the districts of Coastal Andhra Pradesh. Rice, sugarcane, banana, pulses and vegetable crops have been damaged significantly. Farmers are advised to arrange for drainage facilities for draining out excess water from the fields.
- Farmers in Central Dry Zone of Karnataka are advised to sow Bengal gram and *rabi* jowar and harvest paddy and red gram and also sowing of pulse crops where paddy is already harvested.
- 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.
- 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 in Andhra Pradesh. Farmers are advised to monitor the crop for the disease and undertake plant protection measures.
- Due to high humidity, low temperature, cloudy weather and rainfall, paddy crop is severely affected by neck blast in Southern Dry zone (Chamarajnagar, Mandya, Mysore) of Karnataka. Hence, spray Tricyclozole (Beam) 0.6 gm/ litre of water at 50% flowering stage. Late blight of tomato disease is reported in Mysore, spray Mancozeb @ 2 gm/litre of water.
- 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.
- Due to favourable weather conditions, there are incidences of blast in paddy, bollworm in hybrid cotton, sucking pest in cotton (jayadhar) in the north transition zone (Dharwad). 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, Coastal Andhra Pradesh and Kerala and on a non rainy day in the remaining parts of the region.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall :** Dry /mainly dry weather prevailed in the region during last week..
- **Rainfall forecast:** Rainfall is likely at a few places over Konkan and Madhya Maharashtra during next 24 hours and at isolated places thereafter. Rain at isolated places/ mainly dry weather is likely in Marathwada, Vidarbha and dry weather is likely over Gujarat region, Saurashtra & Kutch during next three days.
- **Major Crops:**
 - **Kharif crops:** red gram (pod formation/ pod development), *kharif* & irrigated cotton (boll maturity/picking), **Rabi crops:** jowar and safflower (early vegetative/vegetative), gram (germination/branching), maize, sunflower (sowing/germination/early vegetative), irrigated wheat (sowing/ germination/ CRI), mustard, groundnut (sowing/germination) in Maharashtra.
 - Castor (harvesting), cotton (picking), mustard (germination/early vegetative), pigeon pea (pod development), gram (branching/flowering), potato (vegetative growth), *rabi* fennel (growth & flowering), *kharif* fennel (flowering & grain formation), cumin (germination), wheat (CRI Stage in early sowing), isabgol (sowing), Sugarcane (emergence/early vegetative) in Gujarat.
- **Advisories:**

- Farmers in Maharashtra are advised to undertake late sowing of irrigated wheat, Farmers in south Konkan region are advised to start preparation of field for *rabi* rice. Short duration crops like cowpea, wal, kulthi on residual moisture in the harvested rice field may be sown at vapsa condition.
- Farmers in Madhya Maharashtra are advised to undertake sowing of irrigated wheat, mustard, sunflower, groundnut, maize etc. and complete the picking of fully opened cotton boll in Vidarbha taking advantage of dry weather likely to prevail during the next three days.
- Farmers in Madhya Maharashtra are advised to complete preparatory tillage operation for *suru* sugarcane
- Farmers in Madhya Maharashtra are advised to complete the transplanting of onion before second fortnight of December.
- Due to favourable weather conditions in Gujarat, farmers are advised to complete sowing of wheat, Isabgol etc. Continue the harvesting of matured crops like cotton and castor. Picking of cotton may be done in morning hours after drying up of dew fall.
- Farmers in Gujarat and Saurashtra & Kutch region are advised to apply protective irrigation to standing crops as there was mainly dry weather during last week and same likely to prevail during next three days.
- Farmers are advised to apply irrigation to gram at branching/flowering, pigeon pea at seed development and wheat at CRI Stage.
- Due to cloudy weather there is possibility of attack of thrips and leaf blight disease in onion in Madhya Maharashtra. Spray Chlorothalonil @25g or Mancozeb @25 g +Carbosulfan@10 ml or Deltamethrin @ 5 ml + Sticker 10ml in 10 liters of water.
- Weather is congenial for attack of green thrips on vegetable crops like brinjal and tomato in Madhya Maharashtra. For control, spray 80% Sulphur powder 3 gm per lit of water or Pencoazol 1 ml or Denocap 1 ml per lit of water.
- Due to cold there may be attack of powdery mildew disease on various standing crops in Madhya Maharashtra. For control dust 400 mesh Sulphur powder or water soluble 80% Sulphur 3 gm per lit of water or Panconazol 1 ml or Denocap 1 ml per lit of water.
- Due to formation of dew there is a possibility of out break of Ramullaria blight in the fennel crop (*kharif*) in North Gujarat Zone. For the control of this disease spray Mencozeb 0.2% @25 gram plus 25 ml of concentrated *desi* soap solution in 10 litre of water.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** No significant rain occurred during last week in most of the districts of this region.
- **Rainfall Forecast:** Either mainly dry weather or isolated rain is likely to prevail / occur over the region.
- **Major Crops:**
 - In Madhya Pradesh, wheat (emergence / tillering), Chickpea (emergence/pre branching), pigeon pea (flowering/pod formation), gram, garlic and sugarcane (sowing / planting), cotton (boll formation) and also this is proper time for sowing of *rabi* crops like wheat, gram, lentil, linseed etc.
 - Pigeon pea (flowering/pod formation stage and also this is proper time for sowing of *rabi* crops, wheat, sugarcane in Chattisgarh.
 - **Advisory:**
 - Farmers in Satpura Plateau Zone, Malwa Plateau Zone and Nimar Valley Zone in Madhya Pradesh are advised to sow wheat, sowing/transplanting of cabbage, cauliflower, tomato, chilly, brinjal and sowing / planting of coriander, garlic, onion.
 - Farmers are advised to complete sowing of late varieties of wheat and transplant mature seedlings of tomato, cauliflower, onion, cabbage in Bundekhand 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 start sowing of 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 Zone.

- 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, wheat, sugarcane.
- Due to overcast sky during the next three-four days in Bundekhand Zone of Madhya Pradesh, there is possibility of increase of painted bug in mustard, pod borer in chickpea and aphid in *rabi* crops. 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. @ 2ml/L of water for aphids.
- 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.

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.

Orissa

Groundnut: Smruti, TAG-27, TAG – 24 AK-12-24, TMV-2 and JL-24 etc.

Green pea: Rachana, Arkel and T -163 etc.

Mustard: TS-29, PT-303, PT-507, M-27, Anuradha, Parvati

Onion: Nasik Red, Patna Red, Pune Red, Bellary Red, Pusa Ratnar, Pusa Madhavi, Arka Niketan, Arka Pragati, Agrifound Light Red, Agrifound Dark, Punjab Selection, Patna White, Bombay White, Pusa White Round etc.

Sesamum - Prachi, Uma, Vinayak. Kanak, Kalika, Nirmala, and Usha.

Sunflower –Morden, Sunrise, Surya and Hybrid varieties like KBSH-1, KBSH-3 and MSFH

Wheat: Sonalika, UP-262.

Lentil- Asha, Pant-L-4, Pant-L-6

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

Green gram- TARM-1, Samrat, OUM-11-5, PDM-54.

Black gram- Pant-U-19, Pant-U-30, T-9, B-3-8-8.

Coriander: CO-1, CO-2, CO-3, Swati, Sadhana, Ram Selection and Udi.

Bush bean- Contender and Arka Kamal and for Runner bean- Kentucky Wonder

Assam

Cauliflower: Improved Japanese, Pusa Synthetic, Pusa Snowhall etc.

Cabbage: Golden Acar, Pride of India, Pusa Mukta etc.

Raddish: Pusa Desi, Pusa Chetki and Pusa Himani.

Brinjal: Pusa Kranti, Cluster, JC-1, Kuchia, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, JC-2, BWR-12 etc.

Knolkhol: White Vienna.

Toria: TS -27, TS- 29 etc.

Potato: Kufri Jyoti, Kufri Chandramukhi, Kufri Sindhuri, Kufri Megha etc.

Rapeseed: TS-38, M-27, TS-29, TS-36, TS-46 etc.

Mustard: TM-2, TM-4, Varuna etc.

Tomato: Punjab Chhuhara, Arka Alok, Pusa Rubi, Sioux, Punjab Keshri, Arka Abhijit, BT-1, VC-48-1 etc.

Lentil: B-77, L-9-12, PL406 and PL81-4.

Pea: T-163, Boneville, HUP-2, Rachna and Pant 14.

Carrot: Nuntez.

Boro rice: Culture1, Banglami, Jyotiprasad, Jaymoti, Boro-1, Boro-2, Masuri, Dinanath, Kanaklata, Swarnabh etc. Mahsuri, IR-50, Bishnuprasad, 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

Wheat-Sonalika, UP-262, DBW-14, HUUW-468, K7416, K7410, WH-291, HDR-77 etc.

Onion-Pusa Red, Pusa White, Pusa Ratnar, N- 53.

Garlic-Eknalio, and 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.

Meghalaya

Cauliflower: Pusa Snowball, Pusa Synthetic etc.

Cabbage: Pusa Mukta, Pride of India etc.

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-343Raj-3765, HI-1077,

Irrigated wheat: Improved varieties: K-307(Shatabdi), Ujjiyar (K-9006), HUUW-468, U.P.-2382, HD-2888, DVW-17, HUUW-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

Haryana

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

Gram: PDG 3, PDG 4 and GPF 2

Maharashtra

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

Mustard: Pusa bold and Varuna

Groundnut: Konkan Gaurav, Konkan Trombay, Tapora, Phule Pragati, TG-24 in Konkan.

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, C0-C-671, C0-92005

Gujarat

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

Isabgol: Gujarat Isabgol – 2 or 3

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, Vshal, 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 08.12.10

