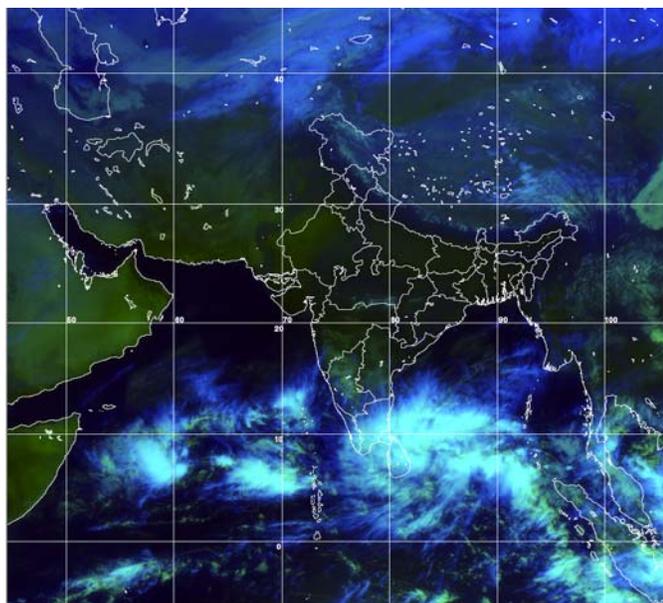




# National Agromet Advisory Bulletin

Thursday, 2<sup>nd</sup> December, 2010

(For the period 2<sup>nd</sup> to 6<sup>th</sup> December, 2010)



Satellite image 0600 UTC Dated  
3<sup>rd</sup> December, 2010



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National Agrometeorological Advisory Service Centre  
Agricultural Meteorology Division  
India Meteorological Department  
Shivajinagar  
Pune.

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

## Executive Summary

Excess rainfall occurred over most of the districts in Tamil Nadu and waterlogging is reported in Cauvery Delta Zone. Farmers are advised to arrange drainage facilities to prevent standing rice crop from damage.

Due to unseasonal rainfall, crops like onion, vegetables, soybean, grapes and sugarcane have been affected in Maharashtra. Due to untimely rains since last three weeks in some parts of Western Maharashtra Plateau Zone, sowing of sorghum, wheat, gram crops have been affected. Farmers are advised to undertake resowing of wheat, vegetable crops, gram and sunflower etc. Rice transplanting has been delayed in the State.

Unseasonal rainfall in some of the districts in Rajasthan affected the sowing of barley and wheat. Delay in sowing is likely to affect the yield of the two crops as the crop duration will be shortened. The early sown mustard and gram are likely to be benefited due to availability of adequate soil moisture.

Favourable temperature helped in sowing of *rabi* crops like wheat, mustard, gram etc in north India. Farmers are advised to undertake sowing of wheat, wheat intercrop with pea in Punjab, wheat, barley in Haryana, wheat, vegetables (radish, pea) in Himachal Pradesh, wheat (late sown), barley, cumin, fenugreek, radish, summer brinjal, tomato & chilli in Rajasthan, potato, lentil, berseem, pea, lentil and horsegram in Uttarakhand, transplanting of onion, sowing of late sown wheat, mustard, transplanting of onion in Delhi. Undertake sowing of potato and cumin in Gujarat, maize, wheat, rai, sarson, gram, pea and transplanting of late maturity cabbage, chilies, onion tomato, palak, carrot, radish, knoll-khol, turnip, beet and garlic and other vegetable crops, coriander, fenugreek and fodder crops like barseem, oat and lucerne in Bihar, wheat, potato, chickpea, faba bean, linseed, field pea and mustard in Jharkhand, groundnut, mustard, sesamum, green gram, black gram, beans, potato and pea in Orissa, masur, gram, wheat, lentil, potato, mustard and winter vegetables in West Bengal and wheat in Madhya Pradesh.

Due to receipt of rainfall, farmers are advised to undertake nursery sowing of rice, groundnut, maize, wheat, gram, sunflower and mustard in Madhya Maharashtra and sowing of green gram, black gram, cowpea, horse gram, *rabi* jowar, gram, nursery preparation of *rabi* ragi and *rabi* rice in Karnataka.

Farmers are advised to undertake harvesting rice in Maharashtra, castor in Gujarat, sugarcane in Punjab, toria, sweet orange in Jammu & Kashmir, rice in Bihar and Jharkhand, rice, cotton and sugarcane in Orissa, rice, kodo millet in West Bengal as dry weather is likely during next three days.

Due to high humidity with decrease in temperature in flood prone eastern plain zone in Rajasthan, incidence of white rust in rapeseed mustard crop is reported. Farmers are advised to monitor the crop for white rust appearance Spray Mancozeb or Ridomil MZ 72 WP @ 2.0 Kg in 800 litre water/ha.

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

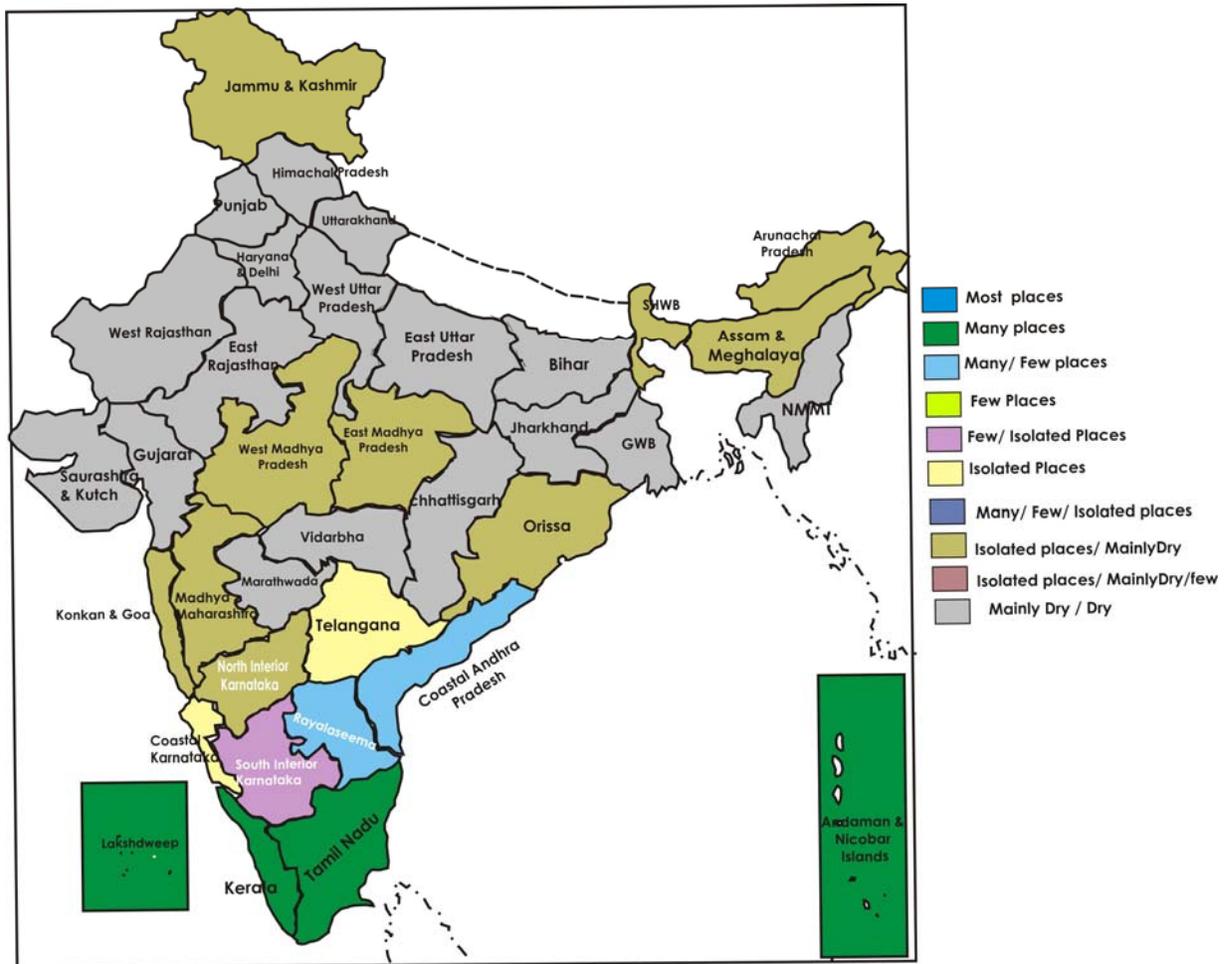
State / Districts	03.11.10	10.11.10	17.11.10	24.11.10	01.12.10
<b>Karnataka</b>					
<b>Coastal Karnataka</b>					
Dakshin Kannada	75	108	778	245	-66
Udupi	48	158	275	155	-51
Uttar Kannada	36	536	337	43	-95
<b>North Interior Karnataka</b>					
Bagalkote	-42	316	340	315	-100
Belgaum	-34	377	247	76	-82
Bidar	-90	60	1046	300	-100
Bijapur	-38	127	233	217	-100
Dharwad	-11	439	40	122	-100
Gadag	17	639	169	639	-100
Gulbarga	-15	147	347	24	-100
Haveri	46	569	200	114	-100
Koppal	4	431	414	1015	-100
Raichur	17	180	97	-14	-100
<b>South Interior Karnataka</b>					
Bangalore Rural	85	275	312	-9	-99
Bangalore Urban	135	329	343	2	-82
Bellary	90	465	721	77	-100
Chamarajnagar	267	340	354	115	-33
Chickmagalur	6	384	645	127	-99
Chitradurga	393	636	228	250	-100
Davangere	108	509	499	573	-100
Hassan	138	306	444	120	-99
Kodagu	270	271	184	289	22
Kolar	232	379	210	-44	-99
Mandya	228	479	189	-25	-19
Mysore	443	630	228	71	13
Shimoga	43	428	453	335	-75
Tumkur	332	327	203	-47	-98
<b>Kerala</b>					
Alappuzha	-56	20	104	192	2
Kannur	66	69	350	406	453
Ernakulam	0	88	272	348	-29
Idukki	24	50	65	277	23
Kasaragod	-85	15	530	241	26
Kollam	-49	30	43	405	225
Kottayam	-35	40	84	521	-55
Kozhikode	8	-36	90	265	220
Malappuram	89	7	90	156	151
Palakkad	68	53	117	275	47
Pathanamthitta	-22	65	254	503	56
Thiruvananthapuram	-65	-22	65	287	294
Thrissur	140	98	169	287	-55
Wyanad	93	166	111	97	-49
<b>Tamil Nadu</b>					
Chennai	41	-13	-47	5	-63
Coimbatore	202	78	4	228	9
Cuddalore	167	-16	-48	51	403
Dharmapuri	264	198	168	142	175
Dindigul	143	147	-3	386	357

State / Districts	03.11.10	10.11.10	17.11.10	24.11.10	01.12.10
Erode	164	171	105	252	50
Kanchipuram	51	4	-1	-27	-16
Kanyakumari	-46	-7	143	409	470
Karur	128	206	31	357	537
Krishnagiri	322	265	56	172	89
Madurai	110	186	305	383	166
Nagapattinam	58	-38	-84	2	332
Namakkal	298	131	103	259	160
Nilgiris	139	47	138	321	138
Perambalur	209	41	-1	38	553
Pondicherry	54	107	-34	1	34
Pudukottai	-27	-34	-12	110	371
Ramanathapuram	76	-57	75	233	424
Salem	325	129	179	196	126
Sivaganga	88	-41	155	118	258
Thanjavur	102	-12	-6	35	449
Theni	70	43	7	504	154
Tirunelveli	-13	-45	14	253	261
Tiruvallur	124	-11	-14	-51	-30
Tiruvannamalai	280	151	-26	65	112
Tiruvarur	122	-21	-28	10	524
Tuticorin	18	-60	13	270	307
Trichy	70	23	-28	70	633
Vellore	184	163	19	19	-2
Villupuram	203	121	45	39	304
Virudhunagar	205	60	-32	252	157
<b>Andhra Pradesh</b>					
<b>Coastal Andhra Pradesh</b>					
East Godavari	1113	227	595	-80	-100
Guntur	172	62	-22	-36	-99
Krishna	460	13	172	14	-75
Nellore	264	51	59	-8	-82
Prakasam	179	138	6	60	-90
Sirkakulam	203	397	-46	-90	-100
Visakhapatnam	751	185	407	-4	-100
Vizianagram	396	145	323	-49	-100
West Godavari	661	88	754	-72	-25
<b>Telangana</b>					
Adilabad	-52	297	1348	125	-100
Hyderabad	-19	167	48	-93	-100
Karimnagar	21	235	303	-30	-100
Khammam	301	118	129	117	-100
Mehabubnagar	0	110	19	115	-100
Medak	45	42	3	-80	-100
Nalgonda	112	212	13	1	-100
Nizamabad	-100	340	1016	-86	-100
Rangareddy	50	99	176	-99	-100
Warangal	2	102	147	-30	-100
<b>Rayalaseema</b>					
Anantapur	494	529	208	-13	-88
Chittoor	235	185	88	-14	-80
Cuddapah	161	144	230	-2	-83
Kurnool	-12	112	504	-17	-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 7<sup>th</sup> December, 2010)



### Major Feature of Weather Forecast (upto 0830 hours IST of 5<sup>th</sup> December, 2010)

- Fairly widespread rain/thundershowers would occur over Tamilnadu, Kerala, Lakshadweep and Andaman & Nicobar Islands.
- Scattered rain/thundershowers would occur over south interior Karnataka during next 48 hours and decrease thereafter.
- Scattered rain/thundershowers would occur over coastal Andhra Pradesh and Rayalaseema during next 48 hours and increase thereafter.
- No significant change in day and night temperatures over Gangetic plains during next 48 hours.

### Weather Warnings

- Heavy rainfall at a few places would occur over coastal Tamilnadu and Isolated over interior Tamilnadu, Kerala and Lakshadweep during next 48 hours.

### Weather Outlook (upto 0830 hours IST of 7<sup>th</sup> December, 2010)

- Fairly widespread rainfall activity may occur along east coast.
- Mainly dry weather would prevail over plains of northwest and central India.
- A feeble western disturbance may affect western Himalayan region.

## Zonewise Agromet Advisories

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

- **Realised Rainfall:** Dry weather occurred in most of the districts of this region.
- **Rainfall Forecast:** Isolated rain in Sikkim and Orissa, mainly dry / dry weather is likely to occur over rest of the region.
- **Major Crops:**
  - Kulthi (pod formation), gram, lentil and peas (sowing / early vegetative), mustard, sarson and sunflower (sowing / early vegetative), maize and wheat (sowing), potato (planting), vegetables like cauliflower, cabbage, chillies, tomato, Palak, carrot, radish, knolkhol, turnip, beet, garlic etc. (sowing / early vegetative / vegetative), barsim, lucern, oat (sowing), coriander, phenogreek, menthe, and Mangraila (sowing) in Bihar.
  - *Kharif* rice (maturity / harvesting), sesamum (maturity / harvesting), groundnut (maturity / harvesting), urd, green gram (maturity / harvesting), kulthi and niger (post flowering/pod formation stage), pigeon pea (preflowering/ flowering/ pod formation) and potato (planting/tuber formation), Onion, toria, mustard, pea, gram, lentil, wheat, barley, linseed etc. (sowing / vegetative/ pre flowering/ post flowering), tomato, cabbage and cauliflower (nursery sowing / transplanting / early vegetative), chilli and brinjal (nursery sowing / transplanting) in Jharkhand.
  - Rice (harvesting), cotton (boll formation / maturity), *rabi* vegetable crops (sowing / germination / early vegetative / vegetative), *rabi* oilseeds groundnut, mustard, sesamum (sowing), arhar (flowering/ pre flowering stage), wheat (sowing/ crown root initiation), sugarcane (Internode elongation- harvesting) in Orissa.
  - Sugarcane (cane development), *rabi* vegetable crops (sowing / germination / early vegetative / vegetative), *aman* rice (early maturity / maturity/ harvesting), pulses (maturity / harvesting), wheat (sowing/ emergence stage), arhar (flowering / pod formation), sesame (maturity / harvesting) and groundnut (maturity / harvesting), potato (sowing), masur (sowing), black gram (maturity stage), ginger (harvesting), cabbage and cauliflower (nursery sowing / transplanting) in West Bengal.
  - Large cardamom (harvesting / post harvesting), orange (maturity / harvesting), wheat (sowing / germination / seedling / crown root initiation/ tillering), *rabi* potato (sowing / germination / vegetative), ginger (maturity / harvesting), rice (grain maturity/ harvesting), *rabi* vegetable (vegetative / late vegetative) and mustard (vegetative) in Sikkim.
- **Advisories:**
  - As no significant rainfall occurred in the region during last week and no significant rainfall is likely for the next three days, apply irrigation to the standing crops in the region.
  - Taking the advantage of dry weather, farmers in West Bengal are advised to undertake harvesting of *aman* rice, sesame and groundnut.
  - In West Bengal, farmers are advised to undertake planting of potato and sowing of mustard, wheat, *boro* paddy, pulses like gram, lentil etc. and lathyrus as piara crop in standing rice crop and transplanting of vegetables like cabbage, cauliflower, chilli, tomato, garlic etc.
  - In New Alluvial Zone in the last week due to slight temperature rise (due to western disturbance), the attack of mustard aphid may be high in West Bengal. Farmers are advised to monitor the crop and undertake plant protection measures to control the disease.
  - Farmers in Bihar are advised to harvest the matured paddy crop and undertake sowing of maize, wheat, pulses like gram, lentil and peas, oilseed crops like mustard, sarson and sunflower, , spices crop coriander, phenogreek, menthe, and mangraila. Transplant as soon as possible late maturity vegetables like cauliflower, cabbage, chillies, tomato, palak, carrot, radish, knoll-khol, turnip, beet, garlic etc.
  - Farmers in Sikkim are advised to undertake sowing of wheat as soon the temperature becomes less than 22-23 degree Celsius and sowing mustard and planting of *rabi* potato.
  - Farmers in Jharkhand are advised to undertake land preparation and sowing of onion, toria, wheat, barley, peas, mustard, gram, lentil and linseed and planting of potato and sowing for raising seedlings and transplanting of vegetables like tomato, cauliflower, cabbage and also transplanting of chilli and brinjal during this period.

- Farmers in Orissa are advised to undertake sowing of *rabi* green gram, black gram, bengal gram, groundnut, mustard, sunflower, green pea, nursery sowing of onion and vegetables like garden pea, carrot, radish etc. and nursery sowing and transplanting of vegetables like tomato, brinjal, cabbage, cauliflower, knoll-khol, broccoli, radish, etc.
- Farmers in East and South Eastern Coastal Plain Zone in Orissa are advised to undertake land preparation for sowing of wheat as temperature is favourable and planting of potato, sowing of pea, Bengal gram and *rabi* pulses like green gram, black gram and latyrus as decrease in temperature will favour the sowing of these crops and arhar found to be affected by pod borer. Spray 400 ml. Endosulphan or 800 ml neem based pesticides or 250 LE NPV in 200 litre wate per acre.
- Recommended varieties of crops for the States in the region are mentioned in Annexure I.
- Farmers in South Eastern Plateau zone in Jharkhand, aphid attack becoming devastating and likely to be more in next days. Hence, spraying of Methyle demitone @ 1ml per liter mixed with teepol @ 5 ml per liter is recommended.

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

- **Realised Rainfall:** East Siang, Papumpara, Upper Siang, Upper Subansiri districts in Arunachal Pradesh received good rainfall during last week. No significant rainfall occurred in Assam.
- **Rainfall Forecast:** Mainly dry / isolated rain is likely over the region during next three days.
- **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 (maturity), potato (vegetative), Rapeseed & Mustard (seedling/vegetative) jute and boro rice (sowing) in Assam.
  - Rabi vegetables like cauliflower, cabbage, tomato etc. (transplanting / early vegetative), pea, carrot (sowing), orange (fruiting), 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.
- **Advisory:**
  - As there was no significant rainfall in the region except East Siang, Papumpara, Upper Siang and Upper Subansiri districts, farmers are advised to apply irrigation in Assam and Arunachal Pradesh. Postpone irrigation in the above mentioned districts as there was rainfall during last week.
  - In view of clear weather conditions prevailing in the region, late transplanting should be completed without delay. One light irrigation should be provided to wheat crop with more than 25 days old and rapeseed 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 crops like carrot, raddish, peas, rabi onion, lentil etc. and transplanting of other vegetables crops like cauliflower, cabbage, capsicum and tomato.
  - Recommended varieties of major crops for different States of the region are mentioned in Annexure I.

- In case of Rapeseed and mustard, farmers in Karbi Anglong District should keep vigilance against attack of aphids and spray pesticide (Malathion 50EC @ 2.5ml/lit of water if aphid infestation is observed. Apply Rogor against Aphids and saw fly
- 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, there is a chance to attack Aphids on Toria, apply Rogor or Monocrotopos @ 2 ml per litre of water.
- Due to congenial weather condition in Tripura, there may be 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 in Mizoram, capsicum and tomato and late blight in potato, 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:** No significant rainfall occurred over the region during last week.
- **Rainfall Forecast:** Mainly dry / dry weather is likely to prevail during next 3 days over the region except in Jammu & Kashmir where isolated rain is likely to occur after 48 hours.
- **Major Crops:**
  - Wheat (sowing / Crown root initiation), broccoli, cauliflower, cabbage, onion (transplanting) in Delhi. Early sown gram, lentil, etc are at early vegetative stage.
  - Wheat, potato (sowing) and vegetables (sowing/transplanting), Tea (raising nursery in Chamba, Kanga) in Himachal Pradesh.
  - Rice (harvesting), gram, berseem /oats (vegetative), wheat, barley, brown sarson, potato, radish, carrot, garlic, spinach and peas (sowing/germination), toria (flower bud initiation), mustard (early vegetative/vegetative), vegetable crops like tomato, chilli, brinjal, cucurbits, onion (sowing/transplanting) in Jammu & Kashmir.
  - Sugarcane, barseem (harvesting), toria, mustard (early vegetative), wheat, barley, lentil, mustard, gram, potato, 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, potato, lentil, gram, radish, raya, African sarson (sowing), pulses, vegetables (sowing / transplanting), ghobi sarson, oilseeds (sowing/ transplanting), Papaya (transplanting) in Punjab.
  - Sugarcane (cane development / near maturity / maturity), wheat (sowing/CRI), barley (sowing), gram, rapeseed, mustard and berseem (vegetative) in Haryana.
  - Wheat (sowing / crown root initiation), gram, barley, lentil, barseem, pea, rajmah, potato, linseed, safflower, oats, onion, maize (sowing), rai, mustard, toria (early vegetative), bajra (flowering / milking stage), sugarcane (grand growth), vegetables (vegetative growth / fruiting / flowering / maturity) in Varanasi (Central plain zone) in Uttar Pradesh.
  - Sugarcane (grand growth), wheat (sowing / crown root initiation), barley, gram, lentil, mustard, Bengal gram, oats, taramira, ajwain, fenugreek, cumin and isabgol (sowing) in Rajasthan.
- **Advisory:**
  - Apply light irrigation to the standing crops as there was no significant rainfall during last week and mainly dry/ dry weather is likely to occur over the region except Jammu & Kashmir where isolated rain is likely to occur after 48 hours.
  - Farmers in Delhi region are advised to undertake sowing of late wheat, and also sowing/transplanting of carrot, tomato, chilli, brinjal, cauliflower, peas, carrot, onion, garlic, broccoli and cabbage etc. (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.

- Irrigation of timely sown wheat crop, which are about 21-23 days old and are at CRI stage is advised as there are no chances for rain for the next five days.
- Farmers in Mid Hills Sub-Humid (Solan, Shimla, Sirmaur) of Himachal Pradesh are advised to undertake sowing of wheat, barley, oat, onion and peas. Complete sowing of peas 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) and planting of leafy vegetables, spinach, fenugreek and brown sarson in poly houses, bulbs of flowers, apples and sowing of kala zeera bulbs (Kinnur dist.) in high hill temperate dry zone (Lahul and Spiti district). Planting of late sown wheat in the mid hills of H.P should be completed.
- 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 undertake sowing 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, arhar, onion, garlic (in hilly areas), barley, mustard, gram, lentil, pea, potato and seasonal vegetables. Temperature conditions are also favourable for sowing of onion seeds during this week.
- Farmers in Punjab are advised to undertake 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.
- Slight fall in night temperatures expected. Provide sarkanda / khahi / rice straw to save the plants from frost. Dwarf tomato varieties can be saved from frost injury with 100 gauge thick white plastic bags. 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, barley, barseem and gram. Apply first irrigation after 21 days of sowing in early sown wheat.
- Farmers in Uttar Pradesh are advised to undertake 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 undertake land preparation and sowing of wheat, barley, gram and mustard, ajwain, fenugreek, cumin, Bengal gram, oats, taramira and isabgol utilizing the residual soil moisture. Raise nursery for autumn vegetable crops like tomato, brinjal, cauliflower, cabbage and raddish. Due to possibility of decrease in minimum temperature, sowing of wheat should be done immediately. Farmers are advised to select varieties for late sown conditions. Also undertake sowing of unirrigated wheat (varieties mentioned in Annexure I).
- Due to high relative humidity, infection of early blight may occur in potato and tomato in Delhi. Farmers are advised to monitor the crop and undertake spraying of Mencozeb @ 1 gm per litre of water at 8-10 days interval. Constant monitoring for aphid is also advised in *rabi* crops in present weather condition. Spray Endosulfan 0.07 % or Malathion 0.05% if insect population is above ETL.
- Present weather conditions in High Hills Zone of Himachal Pradesh are congenial for the incidences of downy mildew in cruciferous vegetables; spray Redomil M-Z @ 25 g per litre of water at 15 days interval to control. For control of powdery mildew in peas spray Celfex @ 25 g per 10 litre of water or Karathane @5 ml per 10 litre of water.
- Due to humid and cloudy weather in Haryana, there is possibility of white rust and Alternaria blight in the mustard crop than Farmers are advised to spray the recommended fungicide.

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

- **Realised Rainfall:** Most of the districts in Tamil Nadu and some of the districts in Kerala received rainfall.
- **Rainfall Forecast:** Rain is likely to occur over Kerala and Tamil Nadu at many places during next three days. Rain is likely to occur at a few places over Coastal Andhra Pradesh and Rayalaseema during next 48

hours and at many places thereafter. Rain is likely to occur at a few places over South Interior Karnataka during next 48 hours and decrease thereafter. Isolated rain / mainly dry weather is likely over rest part of the region. Heavy rainfall at a few places would occur over coastal Tamil Nadu and isolated over interior Tamil Nadu, Kerala and Lakshadweep during next 48 hours.

- **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.
- *Late samba / thaladi* rice (active tillering), groundnut (harvesting), sugarcane (cane development), banana (fruit bearing stage) in Tamil Nadu. This is proper time for sowing or rainfed crops.
- Red gram (flowering/pod formation), cotton (boll formation), Rabi groundnut (sowing) in Andhra Pradesh.
- Paddy (grain development/maturity), Sugarcane (cane development), Cotton (flowering/square formation stage), Pigeon-pea (pod-filling), Rabi Jowar (vegetative). Early sown gram, safflower, *rabi* sorghum and sunflower crops are at early vegetative stage.

- **Advisories:**

- Excess rainfall occurred over most of the districts in Tamil Nadu; farmers are advised to postpone the harvesting operations of matured rice and other kharif crops. Arrange for drainage facilities over Tamil Nadu and Kerala as heavy to very heavy rainfall would occur at a few places over coastal Tamil Nadu and isolated heavy rainfall over interior Tamil Nadu and Kerala
- In flood affected areas in Cauvery Delta Zone of Tamil Nadu, undertake foliar spraying of ZnSO<sub>4</sub> to prevent from nutrient deficiency.
- Sowing of Bengal gram and Rabi Jowar, harvest of paddy, maize and jowar may be done wherever crops reach maturity stage in Central Dry Zone of Karnataka. Farmers are advised to continue the harvesting of paddy in Central dry zone.
- Farmers who have already harvested paddy may proceed to sow superior varieties of pulse crops in the coastal zone of Karnataka.
- Farmers in Problem Areas Zone of Kerala are advised to undertake sowing of bitter gourd, snake gourd, ash gourd, pumpkin and planting of banana. Since heavy rainfall occurred at different part of Kottayam district farmers are advised to postpone sowing of paddy. Adopt proper drainage measure for already sown rice.
- Farmers in coastal areas of Krishna District in Andhra Pradesh are advised to undertake sowing of rice fallow blackgram.
- Farmers 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% ZnSo<sub>4</sub> + 1% urea can be followed. In water drained paddy 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.
- Prevailing weather is conducive for blast incidence of leaf spot incidence bacterial leaf blight brown leaf spot in paddy in Western Zone and Southern Zone in Tamil Nadu. Undertake plant protection measures to control the pests and diseases. Farmers of the Southern Zone are advised to drag a rope on the foliage and remove the cases by draining the water for controlling case worm in paddy.
- Prevailing fog and dew fall conditions were favourable for the incidence of anthracnose in pomegranate crop in Scarce Rainfall Zone in Andhra Pradesh. Farmers are advised to monitor the crop for the disease and undertake plant protection measures
- Due to low temperature during night followed by morning dew the pod borer incidence was noticed in the pigeon pea crop through out the Bidar district.
- Due to high humidity, low temperature, cloudy weather and rainfall, paddy crop is severely affected by neck blast in Southern Dry zone (Chamarajnar, Mandya, Mysore) of Karnataka. Hence, farmers are advised to take up spraying of 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/lit of water

- Present weather conditions are favourable for the incidence and spread of panicle mite and neck blast in Andhra Pradesh. To control panicle mite spray Profenophos @ 2ml per litre of water and to control neck blast spray Tricyclazole @ 0.6 g or Edifenphos @ 1ml per litre of water.
- Plant protection measures may be undertaken after spells of rain in Tamil Nadu, Coastal Andhra Pradesh, Rayalaseema and Kerala and on a non rainy day in the remaining parts of the region.
- **Animal husbandry:**
  - Care should be taken against the decrease in day temperature in Karnataka for silk worm and poultry and dairy rearing houses by maintaining optimum room temperature and hygiene condition. Vaccination for cattle's to be taken up against the out break foot and mouth and rinder pest
  - Prevailing weather conditions are congenial for the occurrence of Hemorrhagic Septicemia and Black Quarter in cattle and ET and sheep pox in sheep in Andhra Pradesh. Undertake vaccination to prevent from infection.

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

- **Realised Rainfall:** No Significant rain occurred in most districts of the region.
- **Rainfall Forecast:** Dry/mainly dry weather is likely over the region.
- **Major Crops:**
  - **Kharif crops:** *Kharif* rice (harvesting of late variety in final stage), red gram (pod formation/ pod development), *kharif* & irrigated cotton (boll maturity/picking), sunflower, green gram (pod development) and bajra(maturity), **Rabi crops:** Jowar and safflower (early vegetative), gram (germination/branching), maize, sunflower (sowing/germination), irrigated wheat (sowing/germination), mustard, groundnut (sowing/germination) in Maharashtra.
  - Castor (harvesting), cotton (picking), mustard (germination/early vegetative), pigeon pea (initiation of flowering), brinjal (flowering/reproductive), Potato(sowing/vegetative growth), onion (transplanting), fennel (early vegetative growth), chilli (flowering), cumin, wheat, Isabgol (sowing) in Gujarat.
- **Advisory**
  - Farmers in the region are advised to apply protective irrigation to standing crops as there was mainly dry weather during last week and to be remained during next three days.
  - Farmers in Maharashtra State are advised to undertake sowing of wheat, mustard, sunflower, groundnut, maize etc. and complete the harvesting of late paddy and picking of fully opened cotton boll taking advantage of dry weather likely to prevail during the next three days.
  - Taking the advantage of dry and favourable weather conditions, farmers in Gujarat State are advised to harvest the matured *kharif* crops like cotton and castor and continue sowing of *rabi* crops like wheat, cumin, Isabgol etc.
  - Farmers in North West and South Gujarat heavy rainfall zone are advised to apply first irrigation in early sown wheat crop at CRI (Crown Root Initiation) stage.
  - Weather conditions are congenial for attack of thrips and leaf blight 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 conditions are congenial for incidence of anthracnose on inflorescence of mango in Konkan, spray Carbendazim@ 10 g or Thiophenate methyl @10 g or Propineb@ 20 g per 10 litres of water.
  - Weather conditions are congenial for attack of aphids and jassids in early sown *rabi* jowar which causes sugary disease, spray Dimethoate 30 EC or Dimeton 25 EC or Endosulfan 35 EC per liter of water.
  - Due to prevailing weather condition, there is attack of Pod borer in tur, spray Heliokil 200ml + Sticker 200 ml per 200 lit of water per acre.
  - Weather conditions are congenial for sucking pests in cotton. Farmers in Bharuch, Narmada and Surat districts of South Gujarat region are advised to spray Acetamiprid 20Sp @ 0.004% (2gm/10 liter water) and for spotted boll worm , spray Fenvalerate 20% SC (5ml/10liter 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:** Dry/mainly dry weather conditions is likely to prevail over the region.
- **Major Crops:**
  - In Madhya Pradesh, wheat (crown root initiation/tillering), Chickpea (field emergence/Pre branching growth stage), pigeon pea (flowering/seed setting stage), gram, garlic and sugarcane (sowing / planting) and also this is proper time for sowing of *rabi* crops like wheat, gram, lentil, linseed etc. In Chattisgarh, Pigeon pea (flowering/pod formation stage and also this is proper time for sowing of *rabi* crops, wheat, sugarcane
  - **Advisory:**
    - Farmers in Satpura Plateau Zone in Madhya Pradesh are advised to sow wheat and transplanting cabbage, cauliflower, tomato, chilly and brinjal.
    - Farmers are advised to undertake sowing of wheat, sowing / planting of coriander, garlic, onion and transplanting of winter season brinjal in Malwa Plateau Zone in Madhya Pradesh and complete transplanting of winter vegetables in Gird Zone of Madhya Pradesh.
    - Farmers are advised to undertake sowing of brinjal, tomato and wheat in Bundekhand Zone of Madhya Pradesh and wheat, coriander, pea potato and sugarcane in Central Narmada Valley Zone as congenial weather condition prevails during these days.
    - Farmers in Kymore Plateau and Satpura Hill Zones are advised to start sowing of wheat crop in irrigated conditions as temperature is favorable. Also undertake transplanting of cauliflower and sowing of potato, coriander and fenugreek. chickpea, lentil, linseed and field pea. Farmers in Jhabua Hills Zone (Jhabua, Dhar, Alirajpur) are advised to undertake sowing of wheat, gram and maize.
    - Farmers in Nimar Valley Zone are advised to sow wheat, gram, prepare nursery for onion and garlic and undertake transplanting of cabbage and cauliflower.
    - Farmers in Chattisgarh Plain Zone are advised to prepare the field for sowing of wheat, gram and other *rabi* crops and also harvest rice. Farmers in Bastar Plateau Zone are advised for sowing of *rabi* crops, wheat, sugarcane.
    - Warm and humid weather conditions are favourable for potato blight in Malwa Plateau Zone, undertake plant protection measures to control the disease.
    - Weather is congenial for pest attack in pigeon pea and fruit borer in brinjal in Budelkhand Zone and Kymore Plateau Zone (at flowering to pod formation stage); spray Indosulphan or Quinalphas @ 2.0 ml. per liter and also use pheromone or light traps to control the pest in pigeon pea and destroy the fruit borer-infected brinjal fruits or spray the Melathion 50 E.C. @ 2ml/litre of water to control the pests.
    - Due to cloudiness and high humidity in Vindya Plateau Zone (Bhopal, Damoh, Sagar, Raisen, Sehore and Vidisha) there is outbreak of blight in chickpea, spray Carbindazim 0.1 % (1 g./litre) or 1.5 kg. / ha. with sticker.
    - Due to the cloudy weather conditions during the past few days, infestation of aphids, fruit and shoot borer in brinjal, diamond back moth in cole crops, etc is expected in vegetable crops in Bastar Plateau and Chattisgarh Plain Zone, farmers are advised for continuous monitoring of the crop and if needed spray Endosulfan @ 1.5 ml per liter water solution.
    - Present weather conditions are favourable for the infestation of gram caterpillar in Chattisgarh Plain Zone. Use of Integrated Pest Management like setting of light traps as well as installation of pheromone traps and bird perches will be helpful in controlling the insects at this stage.

## Animal Husbandry & Poultry

- Humid weather condition prevails during these days hence keep cattle in dry and clean place. Create neem leaves smoke in night to save them from mosquitoes and bees.
- Undertake vaccination of cattles for the control of Anthrax, Galghotoo, foot and mouth diseases and deworming of animals.

## 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.

### 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:** Mahamaya 1 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:** Parbhathi, Varun Kranti., Pusa Bold, Pusa Bahar, Pusa Jai Kissan, Pusa Agrani, PT 303, PT 507, M-27.

**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-** Gourav, Annegiri, Radhey.

**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 Selction and Udi.

**Bush bean-** Contender and Arka Kamal and for Runner bean- Kentuky 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

**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.**New Delhi****Wheat:** For late sowing wheat P.B.W.373, WR-544, U.P.2338, U.P.2425.**Himachal Pradesh****Wheat:** HPW-89,147 VL-738 and HS-240 and for late sowing of wheat in mid hills: H.S- 295,HPW -42**Barley:** HBL-316 and Dolma and oat (Palampur-1)**Raddish:** Japani White, Early Mino White, Chinese pink and Palm p(Hriday)**Cabbage** Snow ball K-1 Palam Uphar, Golden Acre,**Knol khol** White Bina,**Broccoli** Palm Kanchan, Palam Vichtrta, Palam Samridhi,**Cauliflower** Pride of India,**Peas:** Lincoln or Palm Priya**Jammu & Kashmir****Mustard:** In areas up to 800 m altitude, varieties RSPR-01, Kranti, RLM-514, RLM-619, Pusa-Basant, Pusa Bahar, RH-30 and RL 1359. In areas between 800 to 1500 m in altitude, RLM-514, RLM-619, Kranti, Varuna and RH-30. In areas more than 1500 m in altitude, KOS-1 and KS-101 (Gulcheen) (Udhampur dist.).

Radish (Japanese white, Minowase)

**Onion : Pusa Red, Pb. Selection****Gram:** C-235, K-468, Gourav and PBG-1**Field pea:** T-163, PG-2, Rachna, HFP-3

**Wheat:** HD2329, PBW-154, PBW-343, Raj-3077, RSP-303 and WH 542 for irrigated areas and VL\_738, PBW 175, PBW 396 and IWP 72 for rainfed areas in cold arid zone, L-738 and PBW-175 under the rainfed conditions, VL-804 and HS-240 under irrigated and rainfed areas in intermediate zone.

**Lentil:** L-9/12, PL-406 and L-4147

### Uttarakhand

**Wheat:** UP-2382, UP-2338, UP-2584, UP-2572, UP-2554, UP-1109, hd-2687, PBW-550, PBW-343, PBW-502, PBW-154, WH-542, PBW-502, PD-373 UP-2382, WH-542, UP-2338, UP-2554, UP-2584, UP-2425, Raj-3077, Raj-3765. Varieties for late sowing – UP-2565, UP-2435

**Mustard:** Rohini, Kranti, Krashna, Vardan

**Gram:** Avrodhi, K.W.R.-108, K-850, K-85, D.C.P.-92-3, R.S.G.-936 (Adhar), K.G.D.-1168, Pusa-256. Varieties for late sowing: Uday, Pant G-114, Pant G-186. Kabuli Chana : B.G.-1003, B.G.-1053.

**Pea:** Malwiya Matur, Rachna, Sapna K.P.M.R.- 144-1, Pant P-5, Type-163

**Lentil:** VL masoor-1, masoor-4, masoor-103, pant masoor-4, pant masoor-5, pant masoor-6, DPL-15, DPL-62, PL-639, PL-406, PL-234.

### Uttar Pradesh

**Wheat :** K-9107, PBW 343, PBW 502, WH-147, K-9006, HD-2888, HD-2932, H.D.-2428, H.D.-2189, H.D.-2733, U.P.-2425, H.H.-2428, Raj.-3765, H.I.-1077, U.P.-2425, P.B.W.-435, Lok-1, Raj-3077.

Non Irrigated wheat : K-8962, K-9465, Malwiya-533, K-9351, HD-2888

Irrigated wheat : PBW-343, UP-2338, WH-542, K-5107, K-9006, HP-1731, NW-1012, UP-2382, HUW-468, PBW-443, HD-2733, HD-2824, K-307, K-9423, D.L. – 784-3 (Vaishali), K-88, Malwiya – 206, UP-2003, Deva, Rajlakshmi, Ujijar, N.W.-1012,

Improved varieties: D.L. – 803, H.D. 2236, Raj – 1555, K-88, Deva (K-9107), U.P.-2382, H.I-784, Maldeep-234, Sonali, D.L.-7882

Narendra Wheat-1012, Ujijar, HD-2888, Mandakini, Gomati PVW-443, 343, HUW-468, 510, UP-2382, KRL-19, K-8434, NW-1067, 1076

**Barley:** Jyoti, Preeti, Manjula, Jagriti and N.D.V.-940, RD-2552, Pragati, Kedar, Harithama, Githajali.

**Potato :** Ku. Bahar, Ku. Sada Bahar, Ku. Badshah, Ku. Satluz, Ku. Lalima, Ku. Chandramukhi, Ku. Ashoka and Ku. Chipsona-1, 2

**Gram:** Avrodhi, C-214, B.G.-244, Pusa-362, J.G.-315, K.W.R.-108, K-850, K-85, D.C.P.-92-3, R.S.G.-936 (Adhar), K.G.D.-1168, Pusa-256, For late sowing : Ajay, Pantji-186, P.D.G.

**Lentil :** Pant Masoor – 639, 406, 234, 05, 04, Malika, I.P.L.-81, Narendra Masoor – 01, D.P.L. – 62, L-4076.

Rajmah : P.D.R. – 14 (Uday), Aruba.

**Peas :** Azad – P-3, Azad P-1, Arkil, Rachna, Pant Matar 5, Malwiya Matar-15

**Onion :** Agrifound Light red, Kalyanpur Red, Pusa Red, Nasik Red

**Garlic :** G-1, G-50, G-282, G-41

**Mustard :** Shekhar, Rohini, Krushna, Kranti, Varuna, Vardan, Narendra-Rai 8501, Kiran, Haiyola-401, Urvashi

**Cabbage :** early sown varieties : Pride of India, Golden Acre, Late sown varieties : Late Drumhead, Mukta, Pusa Drumhead, Read Cabbage

**Raddish :** Asian varieties like Japani Hawaii, Pusa Chetki, Hisar Muli No. 1, Kalyanpur-1

**Cauliflower :** Middle class Var. like Improved Japani, Pusa, Pusa Deepali, Pusa Kartiki.

### Rajasthan

**Potato:** Kufri-Ashok and Chandramukhi for early sowing, Kufri-Anand, Chipsona-1, 2, Jyoti and Pukhraj, for mid sowing and Kufri-Lalima, Sinduri and Satluj for late sown conditions.

**Gram:** GNG-469, GNG-663, RSG-44, RSG-888 and for rainfed C-235, H 208, Dahat, BG256, Phuleji -5, Samrat, Kak-2.

**Mustard:** Pusa Kalyani, T – 59, Varuna, Pusa Bold, RH – 30, APR – 15, Kranti Bio – 902, Pusa Jaikisan

**Tomato:** Pusa Rubi, Pusa Earli and Vihar

**Brinjal:** Pusa Summer Prolific Round, Pusa Summer Prolific Long, Meghdoot, Navin and Arka Bahar

**Cauliflower:** Pusa Snowball 1 and Hissar 1

**Cabbage:** Pusa Drum Head and Hybrid 10

**Radish:** Japanese White and Hill Queen

**Lentil:** T36, BL406, Sihore 74-7 and K75

**Barley:** RD-2052, RD-2508, RD-2035, RD-2592, RD-2624, RD-2660 & RD-2552, RL-6, RDB 1, RD 31, RD 103, BL 2, RD 387,

**Fenugreek:** RMT-1, RMT-143 & Pusa early bunch

**Cumin:** RS-1, RZ-19, RZ-209, Gujarat Jira-1, Gujarat jira-2 & Gujarat jira-3

**Wheat:** Raj-1482, Raj 3077, , WH-147, BW-502, PBW 550, Raj 4037, Raj-1555, W-190, GW-322 and GW-273. varieties sown under late sown conditions :Lok-1, WH-147, Raj-3765, Raj-3777, Raj-8498, G The suitable varieties for unirrigated wheat are HI-1500 and HI-1531

### Haryana

**Wheat:** WH-157, WH-147, WH 282, WH 542, WH 711, PBW 550, DBW 17, WH 1025 and C-306, for late sowing - UP 2338, RAJ 3765, Sonalika, WH 1021 and PBW 373.

**Barseem:** Mescavi.

**Raya:** PBR-210 and PBR 91

**Gram:** PDG 3 and PDG 4

### Punjab

**Wheat:** long duration varieties -DBW-17, PBW-502, PBW-343, WH-542, durum wheat PDW 291, PDW-274 and PDW-233 under irrigated conditions and PBW-527, PBW-175 under rainfed conditions.

**Raya:** PBR-210, RLM-619, PBR-91 under irrigated conditions and PBR-97 under rainfed conditions.

**Vegetables:** Radish (Japanese White, white Icicle), Turnip (Golden Ball)

### Gujarat:

**Potato:** Kufri Badshah, Kufri Bahar, Laukar in middle Gujarat Zone.

**Cumun:** GC-4

**Wheat:** Arnej – 206, GW-1 & 2, GW- 496, GW- 273 GW- 503 , GW- 322 , GW- 503, GW-366 ,GW-173, Lok-1,

### Maharashtra

**Wheat:** AKW-1071(Purna), AKW-381, HD-2501 for West Vidarbha, NIAW-34 for Pune division, HD-2189, NIAW-301(Trimbak), NIDW-295(Godavari), NIAW-917 (Tapovan), NIAW-34 for Maharashtra Plateau region.

**Gram:** Vishwas, Phule G-12, Vijay, Vishal, Dig Vijay, Rajas

**Sugarcane:** Pre seasonal varieties CO-C-671, CO-8014, CO-86032

**Groundnut:** Konkan Gaurav, Konkan Trombe Tapora ,Phule Pragati, TG-24 for Konkan region.

**Sunflower:** Modern, S.S.56, B.S.H-1 for Konkan region.

**Maize:** Deccan 103,105; Ganga-11; Bio- 9637, 9681 or local improved varieties like Panchaganga or Karvir in Pune division.

**Mustard :** Pusa bold and Varuna

### 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

**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 01.12.10

