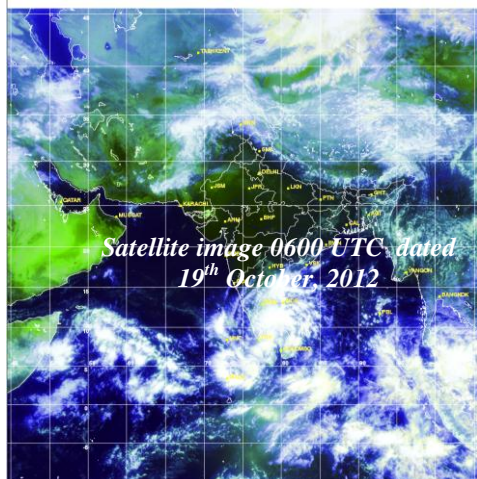


- The southwest monsoon has withdrawn from remaining parts of the country. Thus, it has withdrawn from the entire country today, the 18th October, 2012.
- Conditions continue to remain favourable for commencement of northeast monsoon rains over Tamilnadu, Kerala and adjoining areas of Andhra Pradesh & Karnataka during next 24 hours.



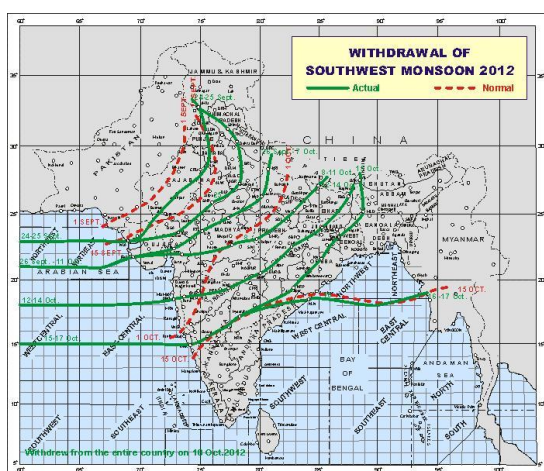
The southwest monsoon has withdrawn from the entire country on 18th October, 2012. Conditions continue to remain favourable for commencement of northeast monsoon rains over Tamil Nadu, Kerala and adjoining areas of Andhra Pradesh & Karnataka during next 24 hours.

Significant rainfall occurred over most of the districts in Tamil Nadu and at a few districts in Arunachal Pradesh, Assam, Bihar, Orissa, Gangetic West Bengal, South Interior Karnataka and Kerala during last week. Rainfall for the above mentioned regions during last week is given in Annexure – I.

Rainfall is likely to occur at most places over Tamil Nadu and Kerala during next three days along with heavy rainfall at one or two places during next 48 hours. Rainfall is also likely at a few places over Jammu & Kashmir after 24 hours and increase thereafter. Farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures in these regions. Farmers in Tamil Nadu and Kerala are also advised to arrange for adequate drainage to avoid stagnation of water in the standing crops. Weather forecast map is provided in Annexure – II.

Conditions are favourable for the commencement of northeast monsoon in the southern peninsula. Crop situation and advisories for the subdivisions in the southern peninsula are given below:

1. **Tamil Nadu:** Farmers are advised to continue transplanting of *samba* rice and nursery sowing of late sown short duration varieties of *samba* rice.
2. **Kerala:** Monitor *mundakan* rice for leaf folder incidence and undertake plant protection measures. Mulching may be undertaken to conserve soil moisture in coconut and arecanut fields.
3. **South Interior Karnataka:** Farmers in the Eastern dry zone are advised to take up intercultural operation and top dressing with urea in the standing crops like ragi.
4. **North Interior Karnataka:** In North Dry Zone, sowing of sunflower, safflower, *rabi* jowar, chickpea and wheat may be continued. In North East Dry Zone, farmers may undertake sowing of *rabi* sorghum. Sunflower can be sown upto the end of October under irrigated conditions.
5. **Coastal Andhra Pradesh:** Undertake sowing of *rabi* pulses like black gram, red gram and green gram. Infestation of brown plant hopper and sheath blight are noticed in rice in the North Coastal Zone of Andhra Pradesh. Farmers are advised to spray Acephate @ 1 g / litre at the base of the hill for brown plant hopper and Hexaconazole @ 2 ml / litre of water for sheath blight.
6. **Rayalaseema:** Continue sowing of Bengal gram. Leaf spot in groundnut in Cuddapah district of Southern zone of Andhra Pradesh is noticed. Farmers are advised to spray carbendazim 0.1% or mancozeb 0.2% to control the disease.



Executive Summary

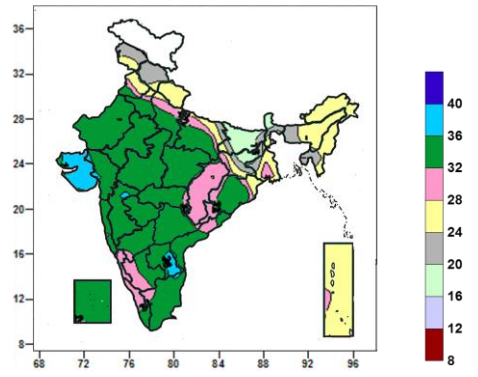
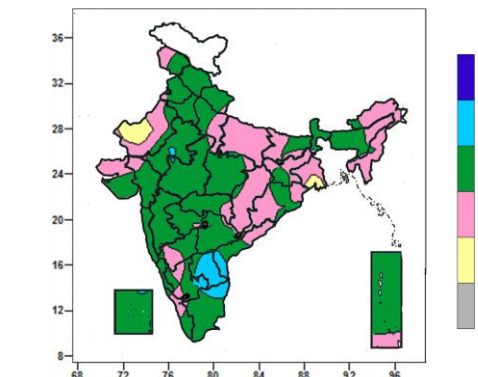
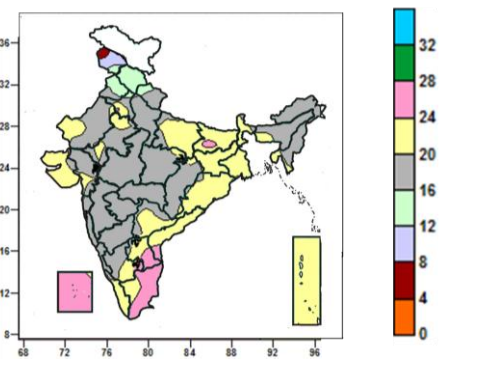
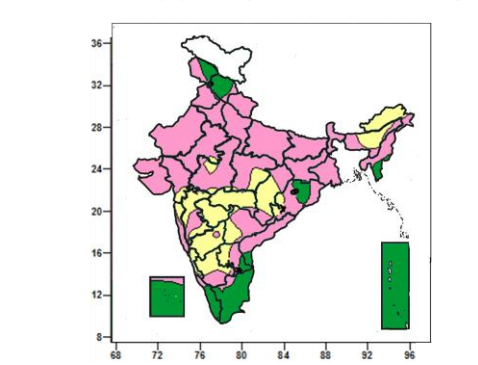
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In the remaining parts of the country, southwest monsoon has withdrawn and *kharif* crops are at grain formation to harvesting stages. Crop status and advisories for those subdivisions are given below:

1. **Saurashtra & Kutch:** In North Saurashtra Zone, carry out harvesting of early sown groundnut. Undertake sowing of gram and mustard, if facilities of 2-3 irrigations are available. Harvest already matured green gram and other pulses in North West Zone. Apply irrigation in groundnut, bajra and jowar.
2. **Gujarat region:** Under high temperature condition, apply irrigation to crops like castor, groundnut, fennel etc. Continue land preparation for sowing of rabi crops, make crop planning and procure farm inputs for rabi crops. Undertake nursery raising for rabi vegetables. Carry out sowing of castor. Select seedlings of cauliflower for transplanting.
3. **Madhya Maharashtra:** In North Madhya Maharashtra as mainly dry weather is expected during next 5 days, farmers are advised to continue picking of fully opened cotton boll. Farmers are advised to continue sowing of rabi jowar, safflower, maize and rainfed gram and wheat with the help of residual soil moisture in the field.
4. **Marathwada:** Farmers are advised to continue sowing of *rabi* jowar, safflower, maize and rainfed gram with the help of residual soil moisture in the field.
5. **Vidarbha:** Farmers are advised to complete harvesting of already matured *kharif* crops. Farmers are also advised to continue sowing of rabi safflower, maize and rainfed gram with the help of residual soil moisture in the field
6. **Konkan & Goa:** As early and mid-late varieties of *kharif* rice are at maturity stage in Konkan Division, farmers are advised to harvest the crops.
7. **East Madhya Pradesh:** Undertake sowing of rabi crops and rabi vegetables.
8. **West Madhya Pradesh:** Undertake sowing of irrigated and rainfed crops of wheat, gram, pea, potato, mustard etc.
9. **Chattisgarh:** Farmers are advised to undertake transplanting of vegetable crops. After the harvesting of rice crop, sow gram and lathyrus.
10. **Punjab:** In Western Zone of Punjab complete harvesting of rice, continue picking of cotton. Start sowing of raya, radish, turnip and carrot and complete sowing of autumn potato crop. In Undulating Plain Zone in Punjab, complete planting of sugarcane as early as possible. Undertake sowing of gram, peas, raya and gobi sarson. In Western Plain Zone of Punjab raise nursery for sowing of onion and garlic. Undertake planting of autumn sugarcane in this week. Start sowing of mid season pea for green pods as well as tomato from mid-October. Complete sowing of autumn potato crop.
11. **Haryana:** Farmers in Eastern Zone in Haryana are advised to prepare field and start sowing of mustard crop with certified seeds. Undertake picking of cotton when the dew is dried up. Start harvesting of matured bajra. There is mild attack of hopper and moderate to severe attack of leaf folder on basmati rice in Western Zone; spray the crop with 250 ml Monocrotophos, or dusting of Methyl parathion @ 10 kg / acre.
12. **Delhi:** Continue sowing of early mustard, pea, planting of early potato, sowing of carrot, sarson saag, spinach, radish, fenugreek, coriander, bathua, turnip etc. Transplant mature seedlings of cauliflower, cabbage, broccoli and tomato in raised bed. Nursery preparation of these crops should be started for late transplanting which mature in December or January. False smut may appear in rice due to present weather conditions. Spraying of Blitox 50 @ 500 grams per hectare at 10 days interval (2-3 times) is advised.
13. **Himachal Pradesh:** Undertake sowing of barley in the high altitudes and complete sowing of potato in the lower hill areas. Continue sowing of toria and early varieties of pea, raddish, turnip, coriander, cabbage, Knol-khol, broccoli, parsley, lettuce, fennel and cauliflower.
14. **Jammu & Kashmir:** Undertake sowing of toria intercropped with gobi sarson, berseem and harvesting of moong, vegetables, maize, *kharif* fodder and early sown rice crops. Farmers are advised to undertake sowing of vegetables and mustard.
15. **Uttarakhand:** Start harvesting and threshing of matured rice crop during this week. In the hilly region, farmers are advised to go for sowing of vegetable crops like vegetable pea, coriander, spinach, radish and mentha etc. and sowing of mustard. Supplemental irrigation should be given after earthing up and weeding in crops like brinjal, chilli, lady's finger etc.

16. **West Rajasthan:** Sowing of taramira may be carried out. Prepare field for sowing of the rabi crops like mustard, gram. Start the harvesting of guar.
17. **East Rajasthan:** Undertake harvesting of kharif crops. Start field preparation and sowing of rabi crops like mustard and other horticultural crops.
18. **East Uttar Pradesh:** Farmers are advised to harvest short and medium duration varieties of rice, apply irrigation in long duration varieties of rice, start sowing of early potato, onion, garlic, radish, Autumn sugarcane, maize, leafy vegetables / tuber crops, mustard, vegetable pea, lentil & gram, undertake thinning in toria, intercultural operation in pea, urd, mung and transplanting of cauliflower, brinjal etc. Farmers are also advised to prepare land for sowing of tomato, chilli, brinjal, cabbage, cauliflower. Sowing of barseem may be undertaken as fodder crop.
19. **West Uttar Pradesh:** Farmers are advised to undertake transplanting of brinjal, chilli and okra and start field preparation and sowing of maize, toria, lahi, leafy vegetables, tuber crops, mustard, pea, lentil and gram. Also start sowing of intercrops like rainfed wheat and rai in Bundelkhand Zone.
20. **Bihar:** Farmers are advised to apply life saving irrigation in rice crop, which is at flowering / grain formation stage. Farmers are also advised to prepare land for sowing of gram, peas, maize, mustard, sunflower and rabi vegetables. Farmers are advised to harvest the matured maize and early varieties of rice.
21. **Jharkhand:** Farmers are advised to undertake sowing of toria, *rabi* crops like gram, lentil, linseed, pea, mustard, kulthi, African marigold or French marigold and planting of potato and sowing of vegetables like turnip, spinach, carrot etc.
22. **Orissa:** Farmers are advised to sow mustard, sunflower, green pea and sesame. Undertake raising of nursery for rabi vegetables.
23. **Nagaland, Manipur, Mizoram & Tripura, Arunachal Pradesh and Assam & Meghalaya:** Undertake land preparation and nursery sowing of winter vegetables like cauliflower, radish, tomato, brinjal, Knolkhol, carrot and spinach. 4-6 weeks aged seedlings may be transplanted to the main field in Assam. Undertake land preparation and sowing of mustard and rabi maize in Meghalaya. Undertake sowing of rabi maize, toria, sesame and lentil in Truipura.
24. **Sub Himalayan West Bengal:** Start land preparation for sowing and transplanting of early cauliflower, radish, broccoli, cabbage and onion. Farmers are also advised to harvest maize.
25. **Sikkim:** Farmers are advised to maintain 3-5 cm standing water in flowering stage of rice.
26. **Gangetic West Bengal:** Undertake land preparation for sowing of mustard and onion and planting of pointed gourd and seasonal flower like gladiolus.
27. **Telangana:** Incidence of jassids and leaf spot is noticed on BT Cotton in the Southern Telangana zone of Andhra Pradesh. To prevent the flower, square drop and to control jassids, spray Planofix NAA @ 2.5 ml + Monocrotophos @ 16 ml per 10 litres of water, to control leaf spot, spray Copper-Oxy-Chloride @ 30 g and Plantomycin @ 2 g per 10 litres of water.
28. **Coastal Karnataka:** Harvest the already matured rice crops.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 17.10.2012

<p>Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 17.10.2012</p> 	<p>Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 17.10.2012</p> 
<p>Actual Mean Maximum temperature ranged 36°C and above over many parts of Saurashtra & Kutch, some parts of Raylaseema, Gujarat, Madhya Maharashtra, 28 to 32°C over many parts of Chattisgar, Coastal & south Interior Karnataka, some parts of Punjab, Haryana, Uttar Pradesh, Jharkhand, Orissa, Coastal Andhra Pradesh, Tamil Nadu, Kerla, South Interior Karnataka, Andaman & Nicobar Islands, 24 to 28°C over many parts of Uttarakhand, Punjab, Northeast India(except Tripura), Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Haryan, Delhi, Uttar Pradesh, Bihar, Jharkhand, West Bengal & Sikkim, 16 to 20°C over Bihar, Sikkim, some parts of Jharkhand, Sub-Himalayan West Bengal, 32 to 36°C over remaining parts of the country.</p>	<p>Actual Mean Maximum temperature anomaly ranged between 2 to 4°C over many parts of Raylaseema, some parts of East Rajasthan, Coastal Andhra Pradesh, Tamil Nadu, -2 to 0°C over many parts of East Uttar Pradesh, Gangetic West Bengal, North East India (except some parts of Assam), Chattisgarh, Orissa, some parts of Jammu & Kashmir, West Rajasthan, Saurashtra, West Uttar Pradesh, Vidarbha, Bihar, Jharkhand, Coastal Andhra Pradesh, Kerala, Interior Karnataka, Marathwda, Andaman & Nicobar Islands, -4 to -2°C over some parts of West Rajasthan, some parts of Gangetic West Bengal, 0 to 2°C over rest of the country.</p>
<p>Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 17.10.2012</p> 	<p>Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 17.10.2012</p> 
<p>Actual Mean Minimum Temperature ranged between 24°C and above over many parts of coastal Tamil Nadu, Lakshadweep Islands, some parts of Coastal Andhra Pradesh, Raylaseema, Bihar, 20 to 24°C over many parts of Coastal Tamil Nadu, Lakshadweep Islands, some parts of Bihar, Coastal Andhra Pradesh, Raylaseema, 12 to 16°C over many parts of Himachal Pradesh, Punjab, some parts of Jammu & Kashmir, Uttarakhand, Haryana, 4 to 8°C over Jammu & Kashmir and between 16 to 20°C over remaining parts of the country.</p>	<p>Minimum Temperature anomaly ranged above 0°C over many parts of Himachal Pradesh, Tripura, Tamil Nadu, Kerala, Lakshadweep, Andaman & Nicobar Islands, some parts of Orissa, Coastal Andhra Pradesh, Raylaseema, -4 to -2°C over many parts of Arunachal Pradesh, Assam & Maghalaya, Chattisgarh, Maharashtra, Karnataka, some parts of Madhya Pradesh, Telanaga, Raylaseema, Gujarat, -2 to 0°C over remaining parts of the country.</p>

Distribution of rainfall of the country during week ending on 17.10.2012

State/Districts	Actual (mm)	Dep. %
Arunachal Pradesh		
Anjaw	**	**
Changlang	17.7	-79
Dibang Valley	1.0	-98
East Kameng	18.3	-52
East Siang	62.6	87
Lohit	20.0	-29
Lower Subansari	20.0	34
Papumpara	47.1	-17
Tawang	2.0	-96
Tirap	42.6	21
Upper Siang	108.8	25
Upper Subansari	21.0	11
West Kameng	10.0	-82
West Siang	12.0	-66
Assam		
Baksa	17.1	-38
Barpeta	2.2	-92
Bongaigaon	13.1	-62
Cachar	34.3	-8
Chirang	42.6	22
Darrang	1.0	-95
Dhemaji	28.0	4
Dhubri	4.3	-85
Dibrugarh	26.8	-16
East Garo Hills	13.0	-13
East Khasi Hills	34.7	-22
Goalpara	1.6	-96
Golghat	13.7	-50
Hailakandi	56.6	47
Jaintia Hills	19.0	-85
Jorhat	14.0	-56
Kamrup(Rural)	0.5	-98
Kamrup(Metro)	4.8	-81
Karbi Anglong	14.1	-36
Karimganj	70.5	7
Kokrajhar	20.7	-51
Lakhimpur	45.0	66
Morigaon	4.0	-89
N.C.Hills	0.0	-100
Nowgong	6.2	-77
Nalbari	3.2	-84
Ribhoi	57.4	77
Sonitpur	20.7	-11
Sibsagar	2.0	-91
South Garo Hills	5.0	-83
Tinsukia	13.4	-44
Udalgiri	42.4	110
West Garo Hills	0.0	-100
Orissa		
Angul	21.8	-23
Balasore	22.2	-37
Bargarh	1.8	-84
Bhadrak	3.5	-93
Bolangir	6.6	-54
Boudh	7.0	-75
Cuttack	28.6	-9
Deogarh	41.5	235
Dhenkanal	5.0	-85
Gajapati	42.7	7
Ganjam	24.5	-43
Jagatsingpur	29.7	-25
Jajpur	9.1	-78
Jharsuguda	0.0	-100
Kalahandi	3.5	-74
Kandhamal	46.5	64
Kendrapara	4.8	-88
Keonjhar	27.0	-21
Khurda	4.3	-88
Koraput	11.0	-67

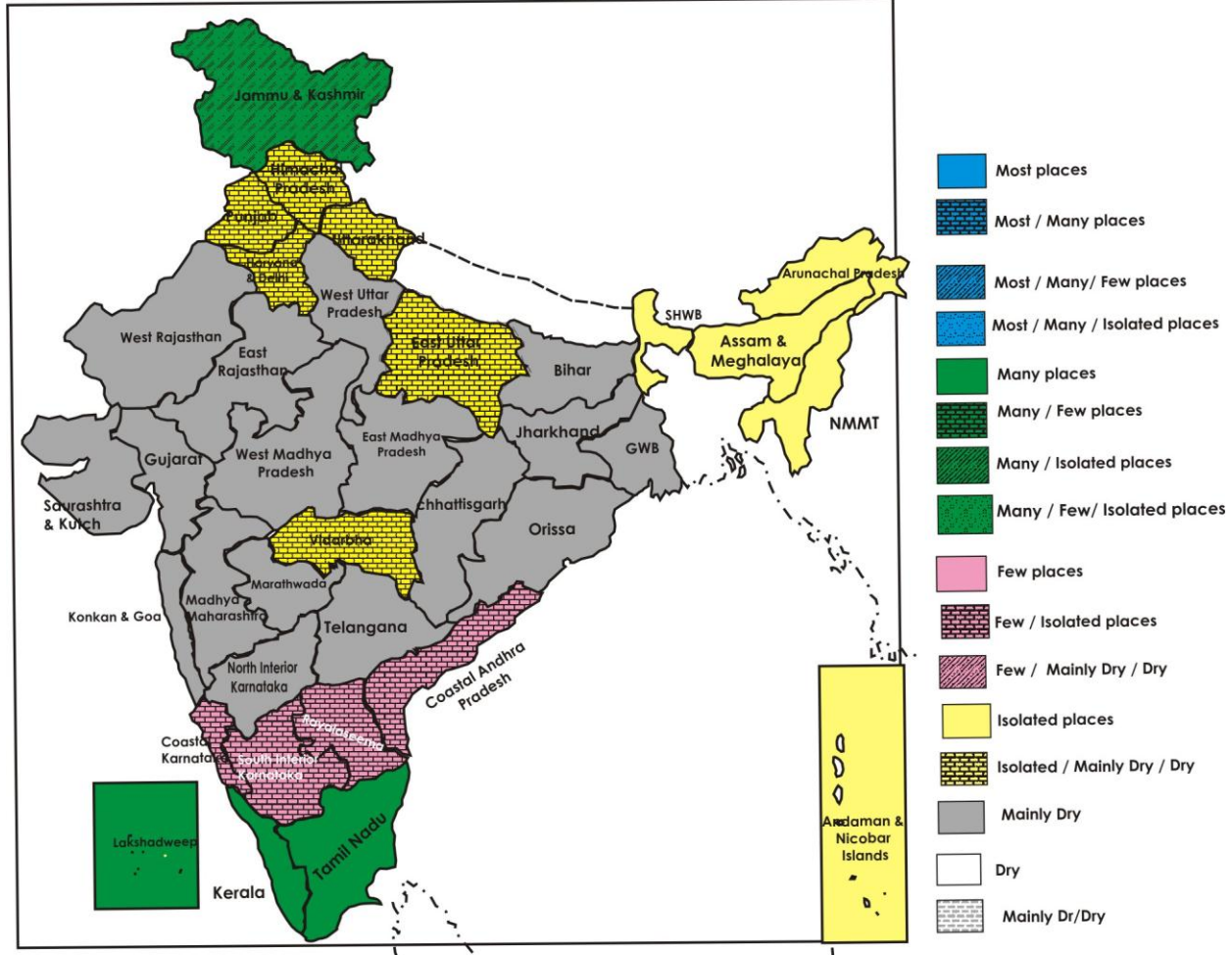
Malkangiri	77.0	150
Mayurbhanj	22.2	-25
Nawapara	4.1	-68
Nawarangpur	2.4	-90
Nayagarh	17.4	-54
Puri	21.8	-47
Rayagada	53.6	77
Sambalpur	16.6	34
Sonepur	8.2	10
Sundargarh	1.9	-87
West Bengal		
GWB		
Bankura	23.5	14
Birbhum	4.5	-80
Burdwan	6.2	-70
East Midnapore	32.3	-10
Hooghly	13.6	-32
Howrah	81.5	336
Kolkata	98.7	236
Murshidabad	25.2	-6
Nadia	10.7	-61
24 Pargana (N)	38.6	60
Purulia	16.7	-18
24 Pargana (S)	38.9	1
West Midnapore	19.4	2
Karnataka		
Coastal Karnataka		
Dakshin Kannada	28.6	-42
Udupi	2.0	-95
Uttar Kannada	0.2	-99
North Interior Karnataka		
Bagalkote	0.0	-100
Belgaum	0.0	-100
Bidar	0.0	-100
Bijapur	0.0	-100
Dharwad	0.0	-100
Gadag	0.0	-100
Gulbarga	0.0	-100
Haveri	0.0	-100
Koppal	0.0	-100
Raichur	0.0	-100
Yadgir	0.6	-97
South Interior Karnataka		
Bangalore Rural	33.6	-8
Bangalore Urban	24.0	-19
Bellary	0.0	-100
Chamarajnar	71.8	122
Chichballapur	24.6	-23
Chickmagalur	3.7	-89
Chitradurga	0.0	-100
Davangere	0.0	-100
Hassan	10.5	-68
Kodagu	39.5	-15
Kolar	42.5	26
Mandya	86.7	158
Mysore	48.6	31
Ramnagara	43.7	21
Shimoga	0.0	-100
Tumkur	7.7	-73
Kerala		
Alappuzha	6.6	-91
Kannur	63.0	-9
Ernakulam	20.8	-74
Idukki	11.0	-89
Kasaragod	38.5	-38
Kollam	0.5	-99
Kottayam	12.0	-85
Kozhikode	77.5	0
Malappuram	12.2	-82
Palakkad	5.0	-92
Pathanamthitta	0.0	-100
Thiruvananthapuram	1.1	-98
Thrissur	38.6	-53

Wyanad	22.1	-65
Tamil Nadu		
Ariyalur	9.3	-74
Chennai	35.4	-20
Coimbatore	116.9	261
Cuddalore	32.6	-24
Dharmapuri	83.9	131
Dindigul	94.3	116
Erode	79.3	140
Kanchipuram	7.2	-82
Kanyakumari	58.2	26
Karikal	15.2	-72
Karur	28.8	-13
Krishnagiri	112.9	209
Madurai	58.6	26
Nagapattinam	16.4	-64
Namakkal	60.7	79
Nilgiris	126.9	173
Perambalur	59.1	41
Puducherry	34.5	-22
Pudukottai	35.6	0
Ramanathapuram	52.7	32
Salem	81.4	95
Sivaganga	27.8	-38
Thanjavur	31.3	-12
Theni	111.0	170
Tirunelveli	51.5	61
Tirupur	51.5	67
Tiruvallur	16.6	-58
Tiruvannamalai	40.1	-1
Tiruvarur	23.2	-41
Toothukudi	54.3	67
Trichy	49.9	31
Vellore	33.5	-3
Villupuram	36.8	2
Virudhunagar	69.8	68
Andhra Pradesh		
Coastal Andhra Pradesh		
East Godavari	7.0	-83
Guntur	5.8	-79
Krishna	14.0	-63
Nellore	2.0	-95
Prakasam	0.1	-99
Sirkakulam	55.7	25
Visakhapatnam	18.6	-57
Vizianagram	56.4	34
West Godavari	20.1	-51
Telangana		
Adilabad	0.0	-100
Hyderabad	0.0	-100
Karimnagar	0.0	-100
Khammam	3.5	-84
Mehabubnagar	0.0	-100
Medak	0.0	-100
Nalgonda	0.0	-100
Nizamabad	0.0	-100
Rangareddy	0.0	-100
Warangal	0.0	-100
Rajalaseema		
Anantapur	0.5	-98
Chittoor	39.0	27
Cuddapah	0.0	-100
Kurnool	0.0	-100

Legends:

	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall	**	Data not available

Weather Forecast (Valid upto 0830 hours of 21st october , 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 21st October, 2012

- Rain/thundershowers would occur at many places over Tamilnadu, Kerala and Lakshadweep.
- Rain/thundershowers would occur at one or two places over coastal Andhra Pradesh, Rayalaseema and coastal & south interior Karnataka during next 24 hours and at a few places thereafter.
- Rain/snow would occur at one or two places over Jammu & Kashmir during next 24 hours and increase thereafter.
- Rain/snow would occur at one or two places over Himachal Pradesh and Uttarakhand from tomorrow onwards.
- Rain/thundershowers would occur at one or two places over northeastern states, Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar Islands.
- Rain/thundershowers would occur at one or two places over Punjab and Haryana form tomorrow.
- Weather would be mainly dry over rest of the country.
- Minimum temperatures would rise by 12°C over northwest India from tomorrow onwards.

Weather Warning during next 3 days

- Heavy rainfall would occur at one or two places over Tamilnadu and Kerala during next 48 hours.

Weather Outlook for subsequent 4 days up to 0830 hours IST of 25th October, 2012

- Rain/thundershowers would occur at many places over extreme south peninsular India with heavy falls at one or two places over coastal Tamilnadu.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** East Siang, Papumpara, Tirap, Upper Siang districts of Arunachal Pradesh and Cachar, Chirang, Hailakandi, Karimganj, Lakhimpur, Ribhoi, Udalgiri districts of Assam received rainfall during last week.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over the states.
- **Advisories:**
 - As many districts of Arunachal Pradesh and Assam received rainfall during earlier weeks, farmers are advised to postpone irrigation to the standing crops.
 - Farmers in Hill Zone of Assam are advised to undertake land preparation and nursery sowing of winter vegetables. 4-6 weeks aged seedlings may be transplanted to the main field. Planting of coconut can be done in this month in low lying areas with irrigation facilities.
 - Farmers in Lower Brahmaputra Valley Zone of Assam are advised for nursery sowing of cauliflower, cabbage, knol khol, winter brinjal and select well drained sandy loam soil for sowing of carrot. Farmers are also advised to prepare land for sowing of potato.
 - Farmers in Upper Brahmaputra Valley Zone and North Bank Plain Zone of Assam are advised to undertake sowing of brinjal, knolkhol, cauliflower and cabbage. Farmers are also advised to undertake land preparation for sowing of rapeseed and mustard.
 - Farmers in Central Brahmaputra Valley Zone are advised to undertake nursery bed preparation for cole crops and winter brinjal. The seedlings of cole crops may be transplanted when they become 30-35 days old.
 - Farmers in Barak Valley Zone of Assam are advised to start planting seedlings of brinjal in the main field and select sandy loam soil for cultivation of potato. Farmers are also advised to undertake field preparation for planting of sugarcane (*Autumn* planting). Select upland sandy loam soil for the cultivation of cauliflower.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to undertake nursery preparation for early cauliflower, cabbage, broccoli and knolkhol and raising seedling of tomato and radish. Farmers are also advised to prepare field for sowing of potato and maize and harvest pineapple on colour breaking stage.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to harvest okra, bean, cowpea and chow chow and undertake land preparation for nursery sowing of tomato and cole crops.
 - In Mild Tropical Hill Zone of Nagaland, farmers are advised to harvest *jhum* rice. Farmers are also advised for land preparation and transplanting of the seedlings of tomato and cabbage.
 - Farmers in Sub Tropical Plain Zone of Manipur are advised to undertake land preparation and sowing of potato and pea and nursery raising of cabbage, cauliflower, broccoli, onion and capsicum.
 - In Temperate Sub Alpine Zone of Meghalaya, farmers are advised to undertake nursery raising of cole crops and other winter vegetables. Farmers are also advised to undertake sowing of *rabi* maize in low and medium altitude region.
 - In Mild Tropical Plain Zone of Tripura, farmers are advised to prepare seedbed for sowing of winter vegetable in the harvested *aman* rice field. Farmers are also advised to undertake sowing of *rabi* maize, toria, sesame and lentil.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - In Hill Zone of Assam, infestation of rice blast and stem borer may occur in *sali* rice. To control rice blast, spraying of Hinosan @ 1 ml / litre of water and to control stem borer, spraying of Chloropyriphos (20%) @ 2 ml / litre of water may be carried out.
 - In Lower Brahmaputra Valley Zone of Assam, infestation of leaf folder, *Hipsa* and sheath blight is reported in *sali* rice; spray Chloropyriphos 20 EC or Monocrotophos 40 EC @ 1.5 ml per liter of water for *Hipsa* and Nuvacron @ 5 ml per litre of water for leaf folder. To control sheath blight, spray Carbendazim @ 1 g / litre of water twice, first at the appearance of the symptoms and the other at 10 days after the first spraying.
 - In Mid Tropical Hill zone of Mizoram, there is chance of attack of tikka disease in groundnut; spray Carbendazim @ 0.5 g / litre of water.
 - Stages of major crops are mentioned in Annexure I.

- **Animal Husbandry**

- In North Bank Plain Zone and Bramhaputra Valley Zone of Assam and Sub Tropical Plain Zone of Manipur and Mid Tropical Zone of Tripura, farmers are advised to vaccinate cattle, pigs and buffaloes against FMD, HS, BQ.
- In Mild Tropical Hill Zone of Mizoram and Sub Tropical Plain Zone of Manipur, farmers are advised to deworm cattle against Fascioliosis and Endoparasite, vaccinate poultry against Ranikhet and Coccidiosis, deworm pigs and vaccinate against swine fever.

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

- **Realised rainfall:** Significant rainfall occurred in East Midnapore, Howrah, Kolkata, North and South 24 Parganas districts of West Bengal, North Sikkim district of Sikkim and Deogarh, Gajapati, Kandhamal, Malkangiri and Rayagada districts of Orissa.
- **Rainfall Forecast:** Rain / thundershower would occur at one or two places over sub-Himalayan West Bengal and Sikkim during the period. Weather would be mainly dry over the remaining parts of the region.
- **Advisories:**
 - As rainfall occurred in East Midnapore, Howrah, Kolkata, North and South 24 Parganas districts of West Bengal, North Sikkim district of Sikkim and Deogarh, Gajapati, Kandhamal, Malkangiri and Rayagada districts of Orissa, farmers are advised to postpone irrigation to the standing crops in these districts.
 - In South Bihar Alluvial Zone farmers are advised to prepare field for sowing of gram, lentil, peas, sunflower and mustard.
 - Farmers in North East Alluvial Plain Zone of Bihar are advised for harvesting of early variety of rice. Prepare land for early pulses, oilseeds and *rabi* vegetables.
 - In North West Alluvial Plain Zone of Bihar, farmers are advised to harvest matured rice crop. Farmers are also advised to prepare land for sowing of yellow mustard. Undertake transplanting of cabbage and cauliflower and start field preparation for planting of potato. Undertake sowing of early varieties of carrot.
 - Farmers of East and South Eastern Coastal Plain Zone of Orissa are advised to undertake sowing of rainfed mustard, rainfed groundnut and sunflower.
 - The farmers of Mid Central Table Land Zone of Orissa are advised to undertake propping of sugarcane.
 - As no rainfall is expected, the farmers of North Eastern Coastal Plain Zone of Orissa are advised to apply irrigation in *kharif* rice field.
 - Farmers of North Eastern Plateau Zone of Orissa are advised to undertake sowing of toria and start transplanting of winter vegetables like cauliflower, cabbage, chilli tomato, brinjal etc. Spray bioinsecticides like Halt or Delfin @ 1 g per litre of water to control different insects in cauliflower and cabbage.
 - In Central and North Eastern Plateau Zone of Jharkhand, farmers are advised to undertake sowing of short duration varieties of arhar, groundnut, jowar, soybean, turmeric and okra for inter cropping. Farmers are also advised to sow kulthi, potato, green pea and African marigold or French marigold.
 - In Western Plateau Zone of Jharkhand, farmers are advised to sow kulthi, green pea and grow African marigold or French marigold. After harvesting of moong and urad, undertake sowing of toria immediately utilising residual soil moisture. Farmers are advised to sow *rabi* crops like gram, lentil, linseed, pea, mustard, potato etc. Farmers are also advised to raise the seedlings of winter vegetables like cauliflower, cabbage, chilli, tomato and brinjal etc. and sow directly the seeds of radish, turnip, spinach, carrot etc. As dry weather is likely to prevail, farmers are advised to dry the cobs of maize in the open sun before storage.
 - In Coastal Saline Zone of West Bengal, farmers are advised to start transplanting of brinjal and chili in the main field with light irrigation and also prepare land for sowing of mustard.
 - In New Alluvial Zone of West Bengal, farmers are advised to sow winter vegetables like capsicum, radish and broccoli etc. Farmers are also advised to start land preparation for sowing of onion, mustard, late varieties of cauliflower and cabbage and planting of pointed gourd. Maintain proper level of standing water in the field of *Aman* rice.

- Farmers in Laterite and Red Soil Zone of West Bengal are advised to prepare main field for transplanting of winter vegetables like radish, broccoli, cabbage and cauliflower etc. and sowing of onion. Undertake harvesting of matured *aman* rice.
- Farmers in Old Alluvial Zone of West Bengal are advised to start seedbed preparation for winter vegetables.
- Farmers in Terai Zone of West Bengal are advised to prepare main field for transplanting of cauliflower, cabbage, brinjal and tomato. Farmers are also advised for transplanting of gladiolus.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- There is incidence of BPH and sheath blight in some areas of Western Undulating Zone of Orissa. The farmers are advised basal spraying of Buprofezin @ 1.5 ml / litre of water or Imidacloprid @ 1 ml / 4 litre of water for control of BPH. To control sheath blight, spray Validamycin @ 1.5 ml / litre of Water.
- There is incidence of *Alternaria* blight and bacterial leaf spot in cotton crop at some places of Western Undulating Zone of Orissa. The farmers are advised to spray Mancozeb @ 2.5 g per one litre of water for *Alternaria* blight and Steptocycline @ 0.1 g with copper oxychloride 2.5 g per one litre water for bacterial leaf spot. Spray 500 litres of these solutions for one hectare area.
- Fruit and shoot borer in brinjal has been found in Mid Central Table Land Zone of Orissa. Farmers are advised to control it by installing Pheromone traps @ 12 nos / acre. Alternately, spray 4 g Sevin WP or 2 ml Malathion in 1 litre water. Root rot of pointed gourd is observed. Spray 10 g Plantomycine along with 20 g Blitox 50 in 10 litres of water. Thrips in chilli has been found; spray 300 ml Ethion or 400 ml Carbosulphan in 200 litres of water / acre.
- Due to humid and wet weather in Terai Zone and Old Alluvial Zone of West Bengal, neck blast, BPH, GLH and sheath blight may be found in rice. For management of neck blast, spray Bavistin 1 g / litre of water. Spray Clothianidin 50 WDG @ 0.1% or Thiomathoxam 25 WG @ 0.2 g / litre of water to protect BPH and GLH. To prevent sheath blight, spray Validamycine @ 2 ml / litre of water or Carbendazim @ 1 g / litre of water.
- Due to favourable weather condition in Hill Zone of West Bengal, fruit borer and shoot borer may attack in brinjal, Okra, tomato and chilli; for the management of fruit borer and shoot borer, Dichlorvos may be sprayed @ 0.75 ml / litre of water. Aphids, lemon butterflies and powdery mildew may infest orange. For their protection spraying should be done with Endosulfan @ 2 ml / litre of water. For protection against powdery mildew wettable sulphur should be sprayed @ 2 g / litre of water.
- Under present hot and humid situation in Laterite and Red soil Zone of West Bengal, sheath blight may attack *aman* rice. Spray Carbendazim @ 1.5 g / litre of water. In case of stem borer attack, spray Carbosulfan 25 EC @ 2 ml / litre or Profenphos 40% + Cypermethrin 4% @ 1 ml / litre of water.
- Stages of major crops are mentioned in Annexure I.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Mainly dry weather prevailed during the period over the States of the region.
- **Rainfall Forecast:** Weather would be mainly dry over the states of the region.
- **Advisories:**
 - As most of the *kharif* crops are at maturity stage and mainly dry weather is likely to prevail during the period, farmers in Maharashtra are advised to complete harvesting of already matured crops and prepare field for sowing of *rabi* crops.
 - As there was no significant rain in all the districts of the State during last week and dry weather is likely to prevail during the period, apply irrigation to sugarcane and vegetable crops.
 - As early maturing and mid late varieties of kharif rice are at maturity stage and mainly dry weather is likely in Konkan and Kolhapur division, complete harvesting of matured Kharif rice. Late varieties of rice are in grain formation stage, maintain 5-10 cm water level in the field.
 - Farmers in Madhya Maharashtra, Marathwada and Vidarbha are advised to complete sowing of *rabi* jowar, maize, rainfed gram and safflower with the help of residual soil moisture.
 - As mainly dry weather is prevailing and no rain is expected during next 5 days, grape growers are advised to undertake October pruning.
 - As early maturing rice variety is in grain maturity stage in Pune and Nashik region, farmers are advised to start harvesting of already matured crops. As mid late and late kharif rice is in grain formation stage in

Pune (Western parts), Nasik and East Vidarbha region and mainly dry weather is expected, maintain water level 5-10 cm in these fields.

- Prevailing cold and dry weather is favourable for sowing of *rabi* rainfed gram and wheat; farmers in Madhya Maharashtra are advised to undertake sowing of gram by selecting varieties like Vijay and Digvijay. Farmers in Pune region are advised to undertake sowing of rainfed wheat during second fortnight of October.
- As irrigated cotton is at boll maturity stage in North Madhya Maharashtra and Aurangabad division and mainly dry weather is likely to prevail, continue picking of fully opened cotton bolls.
- This is proper time for planting of pre-seasonal sugarcane in Madhya Maharashtra and Marathwada.
- As weather was mainly dry and no rain is likely to occur in North Gujarat Zone, apply irrigation at required interval to the crops like castor, fennel and groundnut under high temperature condition. Make crop planning and arrange farm inputs for *rabi* sowing according to availability of irrigation water. Carry out intercultural operation, weeding and earthing up in fennel. Carry out picking of matured cotton bolls. Apply regular irrigation at 8-10 days interval for development of new boll.
- Undertake sugarcane plantation with setts having 2-3 buds and with sett treatment with Emisan and Malathion solution as this is the best time for plantation in South Gujarat Zone.
- Taking advantage of dry weather in middle Gujarat Zone, carry out threshing of dried bajra during noon hours and keep in protected shed. Farmers are advised to sow rapeseed. Cross tillage is recommended at optimum soil moisture for land preparation for sowing of mustard crop. Drain out water from rice fields. Carry out harvesting of rice crop when it is yellow and at around 14% moisture in grains and undertake land preparation for the *rabi* crops like potato, onion, mustard etc. Undertake raising of onion nursery.
- Harvest green gram and pulses in North West Zone of Gujarat. Apply irrigation in groundnut, bajra and jowar. Carry out weeding and apply half dose of fertilizer in horticultural crops.
- Carry out hand weeding in vegetables in South Saurashtra Zone of Gujarat and apply irrigation in vegetables. Harvesting of groundnut and castor may be carried out.
- Spray 5 ml NAA in 10 litres of water in cotton to prevent dropping of squares and flowers in North Saurashtra Zone. Give supplementary irrigation to cotton crop, if irrigation facility is available. Undertake harvesting of early sown groundnut. Undertake sowing of gram and mustard, if 2-3 irrigation facilities are available. Hand picking of castor leaves having egg mass of *Prodenia* may be done for better control of *Prodenia* in castor crop. Carry out intercultural operation in lemon.
- Under high temperature condition in South Gujarat Heavy Rainfall Zone, apply irrigation in castor crop at regular interval. Carry out harvesting of *kharif* crops. Farmers are advised to continue sowing of mustard. Carry out picking of matured cotton bolls regularly and undertake intercultural operation and hand weeding in crops to conserve the soil moisture. Undertake field preparation and sowing of castor and transplanting of cauliflower.
- Taking advantage of mainly clear sky, carry out the harvesting of crops like pulses which attained full maturity in Bhal and Coastal Zone of Gujarat. Prepare land for sowing of *rabi* crops. Plough the harvested field to take advantage of solarization before sowing of winter crops. As mainly dry weather is likely to continue, apply irrigation in castor and cluster bean to avoid moisture stress. Apply regular irrigation at 8-10 days interval in cotton for development of new boll. Undertake picking of mature bolls of cotton regularly.
- Stages of the crops are mentioned in Annexure I.
- Prevailing weather is favourable for incidence of white fly in *kharif* cotton in Central Vidarbha Zone; spray Triazophos 25% @ 10 ml or Dimethoate 30 % @ 33 ml in 10 litres of water. For control of white fly in Marathwada region, spray Triazophos @ 20 ml or Acephate @ 20 g in 10 litres of water.
- Due to change in weather there may be incidence of hoppers on new flush in mango in South Konkan; spray 25 % Cypermethrin @ 3 ml or 2.8 % Deltamethrin @ 9 ml or 20 % Fenvelarate @ 5 ml per 10 litres of water on whole tree.
- Prevailing weather is congenial for infestation of downy mildew in grapes in Pune region; spray Metalaxil-Mancozeb (0.2 %) or Cymoxanil-Mancozeb (0.2%), five times at 12 days interval.
- Weather conditions are favourable for incidence of mealy bug; farmers are advised to spray Profenophos 50 EC @ 20 ml / 10 liters of water.
- Varieties of *kharif* crops are mentioned in Annexure II.

Animal Husbandry:

- Wash eyes by diluting a pinch of boric powder in warm water thrice daily in case of conjunctivitis in cattle in Middle Gujarat Zone.
- Give antibiotic dose to animals and poultry in North West Zone of Gujarat.

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

- **Realised Rainfall:** No significant rainfall occurred over the States of the region.
- **Rainfall Forecast:** Rain/snow would occur at one or two places over Jammu & Kashmir during next 24 hours and increase thereafter and over Punjab, Haryana Himachal Pradesh and Uttarakhand from tomorrow. Weather would be mainly dry over rest of the region.
- **Advisory:**
 - As no significant rainfall occurred over the States of the region and no significant rainfall is likely during next three days, farmers are advised to apply irrigation to the standing crops in the region.
 - Farmers in Flood Prone Eastern plain zone of East Rajasthan are advised to prepare field for sowing of *rabi* crops like wheat, mustard, potato and lentil and sow seeds in nursery for raising seedling of autumn vegetables.
 - Farmers in Semi-arid Eastern plain zone of Jaipur and Southern humid plain zone of East Rajasthan are advised to continue field preparation for the sowing of *rabi* crops like rainfed taramira, toria and mustard. Undertake sowing of early pea. Prepare field for sowing of wheat and also start the planting of sugarcane.
 - In Arid Western Plain Zone Bikaner & Jodhpur of West Rajasthan, farmers are advised to undertake the harvesting of matured late sown *kharif* crops, also undertake sowing of taramira, toria and mustard. Sowing of gram and mustard and transplanting of tomato may be started.
 - In Transitional plain zone of Inland Drainage, farmers are advised to start for sowing of taramira, toria, pea rainfed gram and mustard and vegetables like carrot, spinach and radish.
 - In Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan, farmers are advised to undertake sowing of toria, taramira, mustard and gram for *rabi* season and undertake picking of mature cobs and harvesting of green gram and pulses.
 - In Sub Humid Southern Plain and southern humid plain zone of Rajasthan, farmers are advised to start harvesting of *kharif* crops and prepare the field for sowing of *rabi* crops like mustard.
 - In southeastern humid plain zone of East Rajasthan, farmers are advised to start field preparation for sowing of mustard and give irrigation to field of green fertilizers.
 - In Intermediate zone of Jammu & Kashmir, farmers are advised to start sowing of wheat, gram, barley and continue the planting / sowing of potato, pole type beans, radish, carrot, turnip, garlic, methi and nursery sowing of cauliflower and cabbage, undertake sowing of toria with intercropped with gobi sarson, berseem crops and harvesting of moong, vegetables, maize, *kharif* fodder and early sown rice crops. Apply irrigation and hoeing and weeding may be done.
 - In east Uttar Pradesh, dry weather prevailed during this week. Farmers are advised to harvesting of short and medium duration varieties of rice, irrigation in long duration varieties of rice, start sowing of early potato, onion, garlic, radish, autumn sugarcane, maize, leafy vegetables/tuber crops, mustard, vegetable pea, lentil & gram, thinning in toria,
 - In west Uttar Pradesh, farmers are advised to stop irrigation before harvesting of rice. When plants turn yellow then start harvesting. Dry weather prevailed spraying insecticide and irrigation in long duration rice may be done;
 - In Sub-Montane & Low Hills Sub-Tropical Zone and Mild Hills Sub Humid Zone of Himachal Pradesh, farmers are advised to continue nursery sowing of early variety of pea, raddish, turnip, corriander, cabbage, Knol khol, broccoli, parsley, lettuce, fennel and cauliflower.
 - In the Mild Hills Sub Humid Zone of Himachal Pradesh, for the control of Scab, pre-mature leaf fall, sooty-blotch & Fly speck and Alternaria blight diseases in apple farmers are advised to spray 600 gm Propineb (antracol) or 700 ml Mancozeb Flowable per 200 liters of water. Spray Ziram @ 600 gram per 200 liters of water 20-25 days before fruit harvesting.
 - In Barbar & Tarai region of Uttarakhand, due to expected dry weather during this week, farmers are advised to go for harvesting & threshing of timely sown rice crop, soyabean, finger millets . After harvesting keep on laying for 2-3 days in the open field and also advised to do weeding operations in earlier sown toria crop. Also temperature conditions are favourable for sowing of Autumn sugarcane, mustard, yellow serson, karan Rai crop. They can also transplanting of rai seedlings grown earlier for vegetable purpose. In late planted rice at heading stage, it is the most sensitive stage of irrigation thus apply mild irrigation.
 - In Sub humid sub tropic of Uttarakhand, farmers are advised for sowing of vegetable pea and mustard . Supplemental irrigation should be done after earthen up and weed remove in crops like brinjal, chilli, lady's finger. Ploughing of early planted fruit crop and other plant and after ploughing apply recommended fertilizer as per age of the plant.

- In Hill zone, Uttarakand, farmers are advised to start sowing of vegetable pea. Farmers are advised for sowing of high yield variety of toria utilizing realized rainfall. Also advised to sow wheat, vegetables after harvesting of kharif crops.
- Present weather conditions in Delhi are suitable for planting of winter sugarcane. Potato, mustard, gram, pea, wheat etc. may be taken as intercrop. Keeping temperature in view sowing of mustard, pea, carrot, garlic and gram should be done in this week. Undertake planting of potato. This is suitable time for sowing of sarson saag, bathua, radish, spinach, fenugreek, coriander, turnip. Transplanting of mature seedlings of cauliflower, cabbage, broccoli and tomato may also be done in raised bed. Nursery preparation should be started for late crop which mature in December or January. In the areas where paddy crop is about to mature, irrigation should be stopped two weeks before harvesting. Marigold should be transplanted in raised bed as earliest. Sowing of gladiolus should be done in prepared fields.
- Farmers In Western Zone in Punjab are advised to complete harvesting of paddy crop as weather is expected to be dry in coming days. Continue picking of the cotton balls. Start sowing of raya. In order to get higher yields from first cutting, sow barseem or Lucerne in mixture with oats and sarson. This is the right time for transplanting of main season varieties of cauliflower and cabbage. Start sowing of radish, turnip and Carrot. Also complete sowing of autumn potato crop in particularly for seed production purpose and use healthy tubers.
- Farmers in Undulating Plain Zone in Punjab are advised to complete planting of sugarcane as early as possible. Undertake sowing of gram, peas. Raise nursery for sowing of onion and garlic. Undertake sowing of raya and gobhi sarson.
- Farmers in Western Plain Zone in Punjab are advised to planting of autumn sugarcane in this week. Complete harvesting of paddy. In basmati rice, stop irrigation 15 days before harvesting. Start sowing of mid-season pea for green pods as well as tomato from mid October. Complete the sowing of autumn potato crop in the first fortnight of October.
- Farmers in Eastern Zone in Haryana are advised to prepare field and start sowing of mustard crop with certified seeds. Do the Picking of cotton crop when the dew is dried up. Start harvest of matured Bajra and guar crop.
- Farmers in Western Zone in Punjab are advised to harvest matured non scented paddy crop. Give irrigation to fodder crops as per requirement. Undertake sowing of winter vegetables.
- In semi arid plain zone of east Rajasthan to control the blight in tomato spray Mencozeb @ 2 gm.
- In Arid Western Plain Zone of West Rajasthan, farmers are advised to prevent attack of termite in gram, apply Quinolphos 1.5% powder @ 25kg/ha at the time of last ploughing.
- In Transitional Plain Zone of Inland drainage of East Rajasthan, cauliflower is affected with leaf eating insects like sawfly, flea betel and lemon butterfly. Farmers are advised to spray Melathion 5% or Carboryl 5% dust @ 20-25 kg /ha.
- In present weather conditions in Delhi, rouging of viral infested crop should be done in chilli and tomato. Infected plants should be uprooted and buried in the soil. If infection is more than spray of imidacloprid @ 0.3 ml per litre of water is advised for control the vector.
- There is mild attack of hopper and moderate to severe attack of leaf folder on paddy crop in Western Zone of Haryana. Farmers are advised to spray the crop with 250 ml monocrotophos or dusting of methyl parathion (Folidol) @ 10 kg/acre.
- **Animal Husbandry**
 - In Uttarakhand, farmers are advised to maintain proper cleanliness in animal sheds for avoiding incidence of diseases. Farmers are advised to use Iron case in poultry house for birds. It will give more eggs & will increase feed efficiency of birds. Proper care should be taken for cattles because the chance of Foot Mouth disease is more during rainy season. Green forages is more available at this time but it should be mixed with wheat straw in 30: 70 ratio for feeding. Proper vaccination of all cattles and hens/bird should be during this period.
 - In Western plain Zone of Punjab, farmers are advised to provide dry bedding to young calves.
- **Horticulture :**
 - In intermediate zone (Pahalgam) of Jammu & Kashmir, farmers are advised to undertake planting of litchi.
 - In valley temperate zone of Jammu and Kashmir, continue harvesting of apple and walnut. Maintain orchard sanitation.
 - In Eastern plain zone of East Rajasthan, farmers are advised to sow seeds for raising nursery of autumn vegetables like tomato, brinjal, cauliflower, cabbage and radish.
 - In Transitional plain zone of Inland Drainage of east Rajasthan farmers are advised to control leaf curl & mosaic in Papaya uproot & burn the affected plants and spray. Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 ml per litre water.
 - In Arid Western Plain Zone Jodhpur farmers are advised to apply irrigation with urea to plum fruit.
 - In Irrigated North Western plain zone of Rajasthan, farmers are advised to give regular irrigation to kinnow fruit.

- In arid western plain and semi-arid eastern plain zone of Rajasthan, farmers are advised to spray Dimethoiate 30 EC / @ of lit water to control mosaic disease in papaya.
- **Apiculture**
 - In Intermediate zone of Jammu & Kashmir, provide ample space for queen bee by giving drawn comb. Week colonies may be provided sealed brood from strong one to equalize the strength of all the colonies. Stimulating feeding of sugar, syrup should be given for expansion of brood area, if needed at the start of the month. Queenless colonies should be united with strong ones. (Sulphur dusting should be avoided in temperate regions)
- **Floriculture**
 - Farmers in Flood prone Eastern plain zone in East Rajasthan are advised to transplant marigold, balsom and xenia. Plant cuttings of bougainvillea, mogra and chameli.
 - In valley temperate zone of Jammu and Kashmir, regular check out the stored bulbs of tulip and other planting material to avoid damage. Mowing of lawn should be followed regularly. Sow the seeds of spring annuals as early as possible if not sown till now. Collect the seeds of summer annuals. Stop irrigation in gladiolus and lilium field. Preparation of land for spring flowering annuals should be followed.

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

- **Realised Rainfall:** Most of the districts in Tamil Nadu except Ariyalur, Kancheepuram, Karaikal, Nagapattinam, Tiruvallur and Tiruvarur, Srikakulam and Vizianagaram in Coastal Andhra Pradesh, Chittoor in Rayalaseema, Bangalore Rural, Chamarajnar, Kodagu, Kolar, Mandya, Mysore and Ramanagara in South Interior Karnataka and Kannur, Kasaragod, Kozhikode and Thrissur in Kerala received good rainfall during last week. No significant rainfall occurred over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over Tamilnadu, Kerala and Lakshadweep and at one or two places over coastal Andhra Pradesh, Rayalaseema and coastal & south interior Karnataka during next 24 hours and at a few places thereafter. Weather would be mainly dry over rest of the region.
- **Warning:** Heavy rainfall would occur at one or two places over Tamil Nadu and Kerala during next 48 hours.
- **Advisories:**
 - As most of the districts in Tamil Nadu except Ariyalur, Kancheepuram, Karaikal, Nagapattinam, Tiruvallur and Tiruvarur, Srikakulam and Vizianagaram in Coastal Andhra Pradesh, Chittoor in Rayalaseema, Bangalore Rural, Chamarajnar, Kodagu, Kolar, Mandya, Mysore and Ramanagara in South Interior Karnataka and Kannur, Kasaragod, Kozhikode and Thrissur in Kerala received good rainfall during last week., postpone irrigation to the standing crops and drain out excess water from the fields. Apply irrigation to the crops in the remaining parts of the region, as no significant rainfall occurred.
 - Farmers in the Eastern Dry zone of Karnataka are advised to take up inter cultural operations in ragi and top dress with urea. Take up normal agricultural operations for the standing crops.
 - Farmers in the North East Transition zone of Karnataka are advised to take up sowing of rabi sorghum, wheat, Bengal gram and safflower. Before sowing sorghum, soak one kg seeds in 30g Calcium Chloride solution in 1.5 litres of water for 8 hours and then shade-dry to induce drought resistance and are also advised to go for planting of sugarcane by taking 9 months old sugarcane sets.
 - In North Dry Zone of Karnataka, farmers are advised to take up the sowing of sunflower, safflower, chickpea, wheat and *rabi* jowar. Sow the tall variety of Rabi jowar at the border of the chickpea field to control the pod borer pests. Also to treat the seeds of sunflower and sorghum with *Azospirillum* + PSB and Capton or Thiram or Carbandizeme at the rate of 2 gram per Kg of seeds or *Trichoderma* at the rate of 4 gram per Kg of seed before sowing for the better growth of crop and to avoid the diseases that may attack the crop. Harvesting of pearl millet (Bajra) may be taken up carefully since there is possibility of rain at some places. After harvest, sundry the grains and then store.
 - In the North Transition zone of Karnataka farmers are advised to take up the sowing of sorghum, chick pea, wheat and safflower as good soil moisture is available and immediately after sowing apply Herbicide of Atrazine @ 0.5 kg a.i. per ha to keep the field weed free for about 20-25 days.
 - In the Hill zone of Karnataka farmers are advised to take up the sowing of sunflower. Before sowing, soak every one kg of sunflower seeds in a solution prepared by dissolving 30 g of Calcium Chloride in 1.5 liter of water for 6 hours, shade dry and treat with Imidachloprid insecticide @ 5.0 g and *Azospirillum* at the rate of 40 g of per Kg of seed. This will improve the germination percentage, vigour of the seedlings and yield. In addition, it will induce drought resistance in the crop and also help to save 25 per cent Nitrogenrequirement of the crop.
 - In North East Dry zone of Karnataka, farmers may continue sowing of sorghum after treating the dry seeds with Sulphur 2 g/kg of seed before sowing to avoid black smut disease. Sowing of safflower, Bengal gram, horse gram can be done.

- Farmers in High altitude tribal zone of Andhra Pradesh are advised to maintain 5 cm of standing water in rice crop. Crop should not face water stress at panicle initiation, flowering and milk stages
- Farmers in the Scarce Rainfall of zone Andhra Pradesh are advised to continue sowing of Bengal gram by utilizing the recent rainfall occurred. Before sowing seed should be treated with Mancozeb @3 gm/kg.
- Farmers in the Northern Telangana zone are advised to harvest the matured sugarcane crop and
- Wrapping and propping of canes should be done sugarcane crop which are 6-7 months old.
- Farmers in the Central Zone of Kerala are advised to continue intercultural operation and weeding in coconut gardens and go for the application of second dose of fertilizer to coconut and pepper, since light rain is expected. Mulch the coconut basins with green/dry leaves. This help to add organic matter to the soil and to reduce the soil temperature. This is the best time for planting vegetables for seed production. Cultivate tomato varieties like Sakthi, Mukthi, Anagha and brinjal varieties like Swetha, Haritha for resistance in bacterial wilt prone areas.
- Farmers in the Problem Areas Zone are advised to spread a layer of dry paddy straw in the field and spread the silpolin sheet over the straw and put the paddy grains. In this way the absorption of moisture from the soil surface by paddy could be prevented. The heaped paddy have to be uncovered and spread during day time to expose the grains to air in order to remove the excess moisture and avoid the development of fungus. This is to maintain the quality of the grains till procurement.
- In the northern zone of Kerala farmers are advised to harvest the first crop of paddy quickly on days of clear sky. It is time to prepare nursery for the second crop. To get healthy seedlings apply dried and powdered farm yard manure @1Kg/sq. meter of the nursery at the time of final ploughing and incorporate thoroughly. To prevent diseases in early stages soak the seeds in Bavistin solution.
- Since moderate rain fall is expected in next five days, farmers in the Cauvery Delta Zone of Tamil Nadu are advised to take up harvesting of matured kuruvai paddy with precaution and take up nursery sowing with short duration varieties like ADT 36, ADT 37, ADT 42, ADT 45, ADT 47, Co 47 and ASD 16 for samba season to avoid terminal drought as well as timely sowing of rice fallow pulses.
- As good quantum of rainfall is expected in the forthcoming week, farmers in the Western Zone of Tamil Nadu are advised to take up land preparation for sowing of pulses and dew tolerant crops like Bengal gram and horse gram.
- Farmers in the Southern Zone of Tamil Nadu are advised to undertake necessary arrangements for draining the excess water in maize crop, to protect it from continuous rain.
- Farmers in the South Zone of Tamil Nadu are advised to undertake secondary tillage under rainfed conditions before sowing. Farmers are also advised to hasten sowing of rainfed crops like cotton, maize, sorghum and pulses and monitor for the germination of seeds in the fields where soaking rainfall was received much earlier. If gaps are present, then go in for re-sowing for maintaining the optimum population.
- Farmers in the North Western Zone of Tamil Nadu are advised to adopt integrated water harvesting measures to store maximum rainwater in community ponds, prevent rainwater being wasted in unwanted runoff areas and divert it to the nearby ponds, remove bushes and shrubs in the rain water runoff areas in field for maximum rainwater harvest to increase the yield of bore and open wells.
- Farmers in the High rainfall Zone of Tamil Nadu are advised undertake ploughing of fields and interspaces of perennial crops for effective harvesting of rain water, planting operation for banana, clove, nutmeg, black pepper and rubber, fertilizer application for banana and pepper, sow crops seeds between the interspaces of rubber and provide proper drainage facilities for vegetables and other horticultural crops should to avoid water stagnation.
- Farmers of Eastern Dry zone of Karnataka are advised to spray of fungicide & pesticide (need based) if the incidence of pest and diseases exceeds threshold level of crops. For leaf roller pest spray Monocrotophos @ 1.5ml/litre or Quinalphos @ 2ml/litre of water. In redgram spray of pesticide Methomil 40 S.P 2.0gm/litre for control of leaf Webber/ folders. For the control of wilt, drench with carbendiazime 2gm/litre.
- In the North East Transition zone of Karnataka incidence of paddy leaf folder, paddy hispa and case worm was noticed so the farmers are advised to take up spraying of Quinolphos or Chloropyriphos 2ml/litre of water.
- Farmers of Coastal zone of Karnataka are advised to go for dusting of Melathion @ 8-10 kg/ acre or spray the same @ 2 ml/lit of water for the problem of Gundhi bug on paddy crop.

- In the Hill zone of Karnataka, where ever shoot fly damage is noticed on maize and jowar, farmers are suggested to remove the affected plants completely and apply carbofuran granules in to the whorls @5kg /acre. , where ever incidence of aphid and leaf minor noticed, farmers are advised to go for spray of Dimethoate (1.75ml /lt).
 - Brown plant hopper, sheath blight and blight noticed on rice crop in the North Coastal Zone of Andhra Pradesh. Farmers are advised to drain out water from the field and.Drain out water and spray Acephate @ 1 g/l at the base of the base of the hill for brown plant hopper Hexacanzole@2ml/lt for sheath blight and Tricyclozole@ 0.6gm/lt for blight. Further Red rot was observed on sugarcane plantations. Farmers are advised to remove red rot infested plants with roots and destroy.
 - Incidence of jassids, leaf spot and grey mildew was noticed on BT Cotton in the Southern Telangana zone of Andhra Pradesh. To prevent the flower, square drop and to control jassids, spray Planofix NAA) @ 2.5 ml + Monocrotophos @ 16 ml per 10 litres of water, to control leafspot, spray Copper-Oxy-Chloride @ 30 g andPlantomycin @ 2 g per 10 litres of water and to control grey mildew spray Wetable sulphur @ 3 g per litre of water on the crop
 - Leaf spot and leaf fodder on the matured groundnut and leaf mite and panicle mite on rice is noticed in the Cuddapah district of Southern zone of Andhra Pradesh. Famers are advised to spray carbendazim 0.1% or mancozeb 0.2% or chlorothalonil 0.2%. on groundnut and prophanophos @2ml/lit on the crop
 - In the northern zone of Kerala, drying of inflorescence and dropping of immature nuts are wide spread in arecanut farms. Spray Contaf® (1ml dissolved in 1litre of water). Within a weak apply Bordeaux mixture also. Keep vigilance on appearance and spread of Mahali disease. Do not allow water stagnation anywhere in the fields, including drainage channels. Apply lime to the basins, not less than 500g per palm. To prevent disease onset, apply Bordeaux mixture on inflorescences. If disease appeared, spray Akomin® (3ml dissolved in one litre water).
 - Stem weevil infestation in rainfed cotton and Stem borer incidence in Samba paddy is noticed in the Cauvery Delta Zone of Tamil Nadu. Farmers are advised to apply carbofuron 3G at 12 kg/ac on 20 DAS to control stem weevil infestation and profenophos at 400 ml/acre.(or) Apply Cartarp hydrochloride 4 G @ 6 kg/ac for effective control of stemborer.
 - As moderate rainfall is expected in the forthcoming week, farmers in the western Zone of Tamil Nadu are advised to postpone spraying of plant protection chemicals against pest and disease, since sucking pests like thrips and aphids might get washed away and monitor for the incidence of early shoot borer in sugarcane and follow appropriate remedial measures.
- **Livestock**
 - Farmers in the Eastern Dry zone of Karnataka are advised to take up Silkworm and poultry raring houses to maintain optimum room temperature. Care should be taken against the rapid increase in afternoon air temperature and decrease in relative humidity.
 - Farmers in the Coastal zone of Karnataka are advised to sprinkle water on cattle and provide shade for maintaining temperature due to sudden rise in temperature.
 - Since there will be chance for spreading of foliar diseases due to sudden high humidity, farmers in the High Rainfall Zone of Tamil Nadu are advised to undertake prophylactic spray of fungicide.
 - Farmers in the Southern and Northern Telangana zone of Andhra Pradesh are advised to vaccinate against ET and Hemorrhagic Septicemia in Cattle, Buffaloes and Black Quarter in Cattle
 - Farmers in the Scarce rainfall zone of Andhra Pradesh are advised to treat the cattle for Foot and mouth disease by applying potassium permanganate on lesions in the mouth and sulphur treatment.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** No rainfall during last week in Madhya Pradesh and Chattisgarh.
- **Rainfall Forecast:** Weather would be mainly dry over this region.
- **Advisories:**
 - Farmers in Madhya Pradesh and Chhattisgarh are advised to provide irrigation to the standing crops as there was no rainfall during last week.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised that if cracks occurred in the rice field, give irrigation as there is no forecasting of rainfall. They are also advised to harvest soybean, mung, and urd crops at this stage. To avoid loss of soil moisture, field should be immediately prepared for the planting of chickpea, lentil, mustard, and linseed crops. Seeds should be treated with fungicides before sowing. In pulse crops, seeds should be inoculated with Rhizobium bacteria. Also use recommended amount of fertilizers at the time of sowing in these crops. As minimum

temperature decreasing this is proper time for sowing of pea, nursery preparation of cabbage, cauliflower and onion, planting of spinach, fenugreek, garlic and coriander.

- Farmers in Gird Zone of Madhya Pradesh are advised to prepare fields for *rabi* crops. Conserve moisture in the field. This is proper time for planting / sowing of potato and mustard, nursery preparation of vegetables and coriander. Harvest urad, moong, bajara and soybean crops.
 - Farmers in Bundelkhand region of Madhya Pradesh are advised in view of moisture availability in soil, farmers are advised to sow chickpea, lentil, linseed and mustard in already prepared field also treat the seed with fungicide Captan or thairum @ 2g/kg and there after use the rhizobium culture. They are also advised to use mulch to enhance germination after the sowing of coriander and garlic. They are also advise to complete the sowing of early reddish, fenugreek, spinach, turnip, corianders and mustard for vegetable purpose in this week.
 - Present weather conditions are suitable for sowing of nursery of early varieties of cabbage, tomato, brinjal, chilli etc. in a raised nursery of about 6 inch with proper drainage system in Chhattisgarh Plain Zone. Present weather conditions are suitable for sowing of niger, winter black gram and lobia, hence it is advised to complete the sowing at the earliest. Farmers are also advised for the preparation of the land where *rabi* crop is to be taken so that sowing of the crops can be done in the first fortnight of the October. After the harvesting of the rice crop sow gram and lathyrus. Farmers are advised to harvest the matured crop of soybean, groundnut.
 - Farmers are advised for land preparation in the upland sloping fields in Chhattisgarh Plain Zone for sowing of horse gram during second fortnight of this month and transplanting of vegetables crops with proper drainage system.
 - Farmers in Bastar Plateau Zone in Chhattisgarh are advised to prepare field and undertake sowing of cowpea and short duration beans, cabbage, cauliflower utilising the realised rainfall during last week. Farmers are also advised for planting of cassava, colocasia, ginger, elephant foot yam and diascoria and support may be given by bamboo sticks.
 - If the nursery of vegetables like chillies, brinjal and cucurbitaceous vegetables and other winter season vegetables is ready in Bastar Plateau Zone in Chhattisgarh, proper water drainage measures should be adopted from the beds and seedlings should be planted in the beds.
 - In North Hill Zone of Chhattisgarh farmers are advised to prepare the land for sowing of wheat and sugarcane.
 - Farmers in Malwa Plateau Zone of Madhya Pradesh are advised that there may be chances of attack of leaf minor on vegetable crops apply rogor or confidore @ 1ml/ lit.
 - In Jhabua hill zone of Madhya Pradesh, farmers are advised for control of sucking pest in cotton spray thiomethaxam 0.3 g/l (5.0g/pump) of water.
- **Animal Husbandry & Poultry**
 - Farmers in Jhabua Hills of Madhya Pradesh are advised to vaccinate their cattle for FM disease. For control of Ranikhet disease in bird vaccinate them by F-1 or Lasota vaccine.
 - Farmers in Bundelkhand region of Madhya Pradesh are advised that onset of winter is likely to be started due to which chances of spread of mouth and foot disease will be there. Hence, vaccinate against the disease.

Annexure I

Major Crops

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

- Sugarcane (vegetative), *sali* rice (panicle initiation / flowering / grain formation), *Capsularis* and *Olitorius* jute for seed (vegetative), arhar (vegetative / flowering / pod formation), *kharif* sesame (capsule formation / maturity), groundnut (pod formation / maturity), black gram, green gram (vegetative / flowering / pod formation), cauliflower (nursery raising / transplanting), winter vegetables (nursery sowing) in Assam.

- WRC rice (grain formation / maturity), okra, cucurbitaceous vegetables (fruiting / harvesting), soybean (pod formation / maturity), sesame (capsule formation / maturity), cauliflower, cabbage (nursery raising) in Arunachal Pradesh.
- *Kharif* rice (flowering / grain formation), soybean, groundnut (pod formation / maturity / harvesting), cucurbits, chilli and okra (fruiting / harvesting), potato, pea (planting / land preparation), tomato (seedling / transplanting), cauliflower (nursery preparation / transplanting) in Manipur.
- *Kharif* rice (flowering / grain formation), maize (cob maturity / harvesting), groundnut (pod formation), tomato (flowering / fruiting / harvesting), cole crops (transplanting / vegetative), soybean (pod formation), turmeric, ginger (vegetative / rhizome formation) and *rabi* maize (sowing) in Meghalaya.
- Rice (flowering / grain formation), soybean (pod formation), groundnut (pod formation), *kharif* maize (maturity / harvesting), cauliflower, tomato (nursery preparation) and ginger / turmeric (vegetative / rhizome formation), okra, bean and cow pea (harvesting) in Mizoram.
- *Jhum* rice (harvesting), wet land rice (maturity stage), maize (maturity / harvesting), tomato, cabbage (nursery preparation), soybean (pod formation) in Nagaland.
- Upland rice (harvesting), *aman* rice (flowering / grain formation), groundnut (pod formation), *rabi* maize (sowing), *rabi* legumes (toria, sesame, lentil etc.), bitter gourd and pointed gourd (harvesting) in Tripura.

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

- Mustard, gram, peas, sunflower, maize (land preparation / sowing), sugarcane (vegetative), fodder crops like sorghum, bajra, meth, kalai, boda and dinanath grass (vegetative), *kharif* rice (grain formation / grain maturity), urad, arhar, bajra etc. (vegetative), mango, litchi, guava (early vegetative / vegetative), winter vegetables (sowing), in Bihar.
- Upland rice (grain formation / grain maturity), maize (harvesting), pigeon pea (flowering / pod formation), groundnut (pod formation / maturity), rice (grain formation / maturity), urad, jowar and soybean, til (pod formation / maturity), *kharif* vegetables like okra, beans, French bean, tomato (flowering / fruiting / harvesting), kulthi, African marigold, French marigold (sowing), urad, potato, green pea, toria, tomato, cauliflower, cabbage and bell pepper (land preparation / sowing), gram (land preparation / sowing), rapeseed, linseed and mustard (sowing) radish, turnip, spinach, carrot (sowing) in Jharkhand.
- Sugarcane (grand growth), banana (vegetative), maize (cob formation / maturity), sunflower (head formation), rice (flowering / grain formation / maturity), mustard, groundnut, cow pea (sowing) and fruit crops (planting / seedling) in Orissa.
- *Aman* rice (grain filling / maturity), *kharif* maize (cob formation / cob maturity), cauliflower (sowing / seedling / transplanting), marigold, Gladiolus (planting), bitter gourd and pointed gourd, cucurbits (fruiting / harvesting), betel vine (vegetative), winter vegetables (sowing), *kharif* vegetables (flowering / fruiting / harvesting), onion (sowing) in West Bengal.
- Ginger (germination / early vegetative), orange (transplanting / seedling), large cardamom (vegetative / primary flowering / secondary flowering), vegetables (vegetative), rice (grain formation) in Sikkim.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane (*adsali*) (elongation), sugarcane (new pre-seasonal) (elongation), sugarcane (new *suru*) (active tillering in Madhya Maharashtra and Marathwada), sugarcane (new *adsali*) (early tillering), sugarcane (new pre seasonal) (planting), *kharif* rice (grain maturity / harvesting in early maturing and mid late variety, grain formation in late variety in Konkan, Kolhapur division and flowering / grain formation in Nashik, Pune and East Vidarbha Division), cotton (flowering / boll formation / maturity), soybean (pod maturity / harvesting), groundnut (pod maturity / harvesting), bajra (grain maturity / harvesting in Madhya Maharashtra and Marathwada), red gram (secondary branching / flowering), *rabi* jowar (sowing / germination in Madhya Maharashtra and Marathwada), safflower (sowing / germination in Madhya Maharashtra and Marathwada), gram and maize (sowing in Madhya Maharashtra and Marathwada) in Maharashtra.
- Cotton (boll formation / maturity / picking), groundnut (maturity / harvesting), *kharif* rice (grain filling / maturity), sugarcane (vegetative / elongation), new sugarcane (planting), sesamum, castor (early)

(flowering / pod formation), castor (vegetative), new castor (sowing), winter vegetables (sowing / transplanting), mustard (sowing), tobacco (nursery / transplanting) in Gujarat.

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

- Vegetables [bhindi, cucurbits], mirch, brinjal (maturity/harvesting), Shimla mirch, and tomato (maturity/harvesting), apple(harvesting/new planting), radish, arbi, amaranthus, turmeric, dhaincha, chari, bajra, barley, red and white clover, bell pepper, garlic, ginger, coriander, knol khol, cabbage, cauliflower, lettuce (vegetative/maturity), maize(harvesting), pea, raddish, turnip, coriander, cabbage, Knol khol, broccoli, parsley, lettuce, fennel and cauliflower (sowing) in Himachal Pradesh.
- Rice (grain filling stage), cauliflower, cabbage, broccoli and tomato (Transplanting), coriander, spinach and radish (vegetative), carrot, pea & garlic (sowing), gram, mustard (sowing) maize (cob formation), sugarcane (vegetative), cotton (boll formation), sugarcane (vegetative) in Delhi.
- Chilli, capsicum, cauliflower, broccoli (vegetative/fruitletting/harvesting), sugarcane (planting), papaya (planting), sunflower (early vegetative / vegetative), maize (Normal sown -reproductive stage, maize (cob maturity/harvesting), early sown- cob maturity/harvesting stage, very late sown- silking stage), lobia, sunhemp, cowpea, jowar for green fodder (vegetative/1st cutting), garlic, cucurbits, okra(seedling), French bean, rice (flowering), rice: reproductive, rice: (Irrigated- maturity/harvesting), *kharif* pulses reproductive, potato (sowing), radish (sowing), cabbage, cauliflower (nursery sowing), carrot, turnip (sowing), knol-khol, cole crops (transplanting), toria (sowing/emergence), vegetables {Methi early bunching and kasuri methi, spinach}(sowing), *rabi* oilseeds (sowing/emergence), moong/mash: (Harvesting) in Jammu & Kashmir.
- Rice (maturity/harvesting), finger millets (grain maturity/harvesting), groundnut, sorghum, urad, moong, rajma(pod / grain maturity/ harvesting), arhar and ginger (vegetative), soybean (pod maturity/harvesting), maize(cob maturity/harvesting), autumn sugarcane, mustard, yellow serson, karan Rai, brinjal, chilli, lady's finger (sowing) in Uttarakhand.
- Rice (grain maturity/harvesting), sugarcane (vegetative growth/ripening), summer sugarcane (tillering/grand growth), cotton(flowering), soybean (pod maturity/ harvesting), urd (maturity/harvesting), sunflower, jowar, bajra, (maturity/ harvesting), arhar(flowering), ,maize(cob maturity/harvesting), vegetables [cucumber, pumpkin, tomato, brinjal, cabbage, lady's finger, chilly, cucurbits] (vegetative/ fruitletting/ picking), groundnut (vegetative/ pegging), wheat, chana, pea, masoor, alsi, barseem, jai(sowing), onion, garlic, radish, carrot, coriander (sowing), in Uttar Pradesh.
- Rice (grain formation / maturity), spring sugarcane (sprouting/tillering), radish, carrot, turnip, (sowing / germination/vegetative), cauliflower (transplanting/vegetative), tomato, sunflower (early vegetative), cotton (fruitletting), okra, chilli, brinjal (transplanting/early vegetative), maize, mung, mash, tur (early vegetative), toria (sowing), maize (cob formation) in Punjab.
- Rice (grain formation / maturity), sugarcane (grand growth) (early vegetative/vegetative), barseem (vegetative / last cut), fodder (maize + cowpeas) (vegetative/ 1st cutting)), moong, mash, pigeon pea (vegetative), cauliflower, cabbage, carrot, potato (transplanting), radish, cotton (flowering), turnip (sowing/seedling) in Haryana.
- Cauliflower, cabbage, onion (transplanting / germination), sugarcane (new planting), cotton (Desi kapas, B.T. kapas, soft kapas, American Cotton) (boll formation/maturity), pearl millet, jowar and bajra mixed with guar, Sudan grass, oats, sorghum etc. for green fodder (vegetative/fruitletting/1st cutting), maize (tasseling/cob formation), mirch, simla mirch, guar, vegetable (tinda, water melon, pumpkin, cucumber, coriander, bhendi, ridge gourd) (sowing/seedling), green gram, cowpea (pod formation/pod maturity) and groundnut (pod formation/pod maturity), short duration moth and guar (pod formation/pod maturity), moong (vegetative), kinnow (fruitletting), Rice (reproductive), Oilseeds (Sowing/emergence) wheat, mustard, gram potato (sowing) in Rajasthan.

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

- Sugarcane (grand growth), rice (grain filling), Early planted Paddy (Harvesting), late planted paddy (grain filling stage to maturity), sunflower (vegetative), groundnut (Pod development), cowpea (vegetative), pigeon pea (vegetative/flowering), bajra (maturity/harvesting), soybean (harvesting) maize (grain filling), desi cotton (vegetative), cotton (flowering/boll formation) and chilli (fruitletting), Rabi crops- sorghum (sowing), Wheat (sowing), Bengal gram(sowing), safflower (sowing) in Karnataka.
- Sugarcane (June planted) (formative/grand growth), banana (vegetative), vegetables (all stages), rice (panicle initiation/flowering), ragi (pod formation/pod maturity/ harvesting), castor (spike formation/capsule

maturation), early sown groundnut (Pod maturity/harvesting), late sown groundnut (Pod formation/pod filing), maize (tasselling/ cob development/ maturity), red gram (vegetative), Bt. cotton (vegetative /flowering/boll development) in Andhra Pradesh.

- Pepper (Berry development/new planting), coconut (flowering/nut development), irrigated banana (harvesting/ planting), cardamom (planting/harvesting), rubber (tapping), vegetables (harvesting/planting), virippu paddy (harvesting), mundakan paddy (transplanting/early vegetative), sugarcane (grand growth) in Kerala.
- Kuruvai rice (harvesting), Late Samba rice (nursery sowing), Samba rice (transplanting), rainfed maize (vegetative/flowering), cotton (vegetative), rainfed groundnut (flowering), pulses (vegetative), cotton (vegetative) , new maize crop (seedling), vegetables (sowing/vegetative) in Tamil Nadu.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Rice (harvesting), maize (harvesting), jowar, and soybean (harvesting) arhar (harvesting), *kharif* vegetables i.e. tomato, brinjal, chilli etc. (flowering/fruitletting/harvesting), ladies finger, cucurbits (vegetative/flowering), pea (sowing), *rabi* vegetables (nursery preparation), *rabi* maize (sowing), fodder crops (sowing) in Madhya Pradesh.
- Rice (flowering / grain formation / harvesting), sugarcane (planting/vegetative), groundnut (pod filling), sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative), onion (planting), vegetables (transplanting / vegetative), millet (vegetative), tapioca, ginger, colocasia, diascorea, elephant foot yam and cassava (planting), wheat, sugarcane (land preparation) in Chhattisgarh.

Annexure II

List of Varieties

Assam

Cauliflower: Early Kunwari, Pusa Katki, Pusa Deepali.

Cabbage: Golden Acre, Pride of India, Pusa Mukta (Sel – 8), Japanese, Pusa Synthetic, Pusa Snowball and for late maturing varieties- Snowball-16, Pusa Snowball, K-1 and Hissar 1 etc.

Tomato: Punjab Chhuhara, S-12, Punjab Kesri, Pusa Early Dwarf, Sioux, Pusa Ruby, VC- 48-1, Arka Abha (BWR-1).

Radish: Pusa Desi, Pusa Himani, Pusa Chetki.

Carrot: Nantes, Pusa Kesar and Chantenay.

Spinach beet: Jobner Green, All Green, S-23, Pusa Jyoti.

Onion: Pusa Red, Pusa Ratnar, Pusa white (Round), Pusa white (Flat), N-53, Agrifound Light Red, Punjab Red Round, Pusa Madhuri, Arka Niketan etc.

Winter brinjal: Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samrat etc.

Rapeseed and Mustard: M-27, TS- 36, TS-38.

Potato: Kufri Chandramukhi, Kufri Jyoti, Kufri Megha, Kufri Badshah, Kufri Sindhuri, Pukhraj.

Manipur

Cauliflower: White Shot.

Pea: Arkel, Azad Pea.

Meghalaya:

French bean: Arka Suvridha, Arka Anoop (bush type) and Naga local, RCMFB-1 (pole type).

Cabbage: H-139 and Pride of India.

Cauliflower: Pusa Meghna, Pusa Sharad and Meghalaya Local.

Broccoli: Puspa, Aiswarya and Fiesta.

Tripura:

Tomato: Trishul, Allrounder, T- 1408, T- 1458, Anup.

Cauliflower: CFL- 4048, Pusa Early Synthetic, Kamaya, Suhasi.

Cabbage: BC- 76, Pusa Drum Head, Pusa Synthetic.

Broccoli: Everest, Ayeshwaria.

Pea: Arkel, Arka Ajit, TRC P- 8, 9.

Cowpea: Kashi Kanchan.

Rabi maize: HQPM- 1.

Sesame: T – 12, 4.

Lentil: WBL – 58.

Toria: TRC-T-1-1-5-1.

Orissa

Cowpea: SEB-2, Pusa Barsati.

Brinjal: Utkala Tarini, Utkala Madhuri, Blue Star, Green Star, Pusa Purple Cluster.

Green chilli: Pant C-1, Kala Suryamukhi, Utkala Ava, Utkala Ragini etc.

Tomato: BT-2, BT-10, BT-12, Niladri, Sadabahar, Madhuri, Maharathi, Rasmi, Naveen, etc.

Mustard: Parbhathi, Anuradha, TS-29 & M-27.

Groundnut: Smruti and JL-24.

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

West Bengal:

Cauliflower: Kanwari, Jowhar, Moti, Early Patna.

Tomato: Pusa Rubi, Pusa Early, S-2, Roma Super.

Onion: Agrani(B-54), Panchali (T.W.C.-3), B-9, Rai-5 and Bhagiroti (R.W.-351) etc.

Mustard: Agrani (B-54), Panchali (T.W.C.-3), B-9, Rai-5 and Bhagiroti (R.W.-351) etc.

Jharkhand:

Okra: Pusa A-4, Prabhani Kranti, Arka Anamika, Versha Uphar & Hybrid varieties like Sonal and Sarika.

Potato: Kufri Ashoka, Kufri Puhkraj, Kufri Pushkar and Kufri Surya.

Toria: T-9, Panchali, Bhawani, PT-303.

Tomato: Pusa Ruby, Swarna Sampda, Swarn Lalima.

Cabbage: Golden Acre, Pride Of India, Early Drum Head.

Cauliflower: Pusa Depali, Patna Early, Hazipur Extra Early, Pusa Ketki.

Mustard: Shivani, Pusa Jaikisan, Pusa Bold, Vardan.

Rapeseed: Panchali, Bhawani, P.T.-303.

Linseed: Sweta, Shubhra, T-397.

Gram: Pusa-372, K.P.G.-59, K.W.R.-108 and for Kabuli gram are H.K.-94134 and Kak-2.

Pea: Arkel, Kashi Nandini, PE - 6 and Birsa Matar.

Bihar

Gram: Rajendra Chana, Uday, Pusa 256, RAU 52, SG2.

Peas: Ratna, Aparna, Harbhajan, Malbai.

Lentil: BR 25, Pant L406, 639, Malika, Arun.

Cauliflower: Aghani, Early Snowball, Patna Main and Pusa Shuvra.

Rai: Baruna, Pusa Bold and Kranti.

Carrot: Pusa Keser, Pusa Meghali, Pusa Yamdagini, Desi Lal, Desi Kali, American beauty and Kalyanpur Yellow.

Sarson: Rajendra Sarson-1, Swarna etc.

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

Maize: DHM117, Saktiman 1, 2, 3, 4; Laxmi, Rajendra Shankar Makka 1 and 2.

Gujarat:

Gram: Gujarat Gram-2 or Gujarat Gram-3.

Mustard: Varuna or Gujarat Mustard-1, 2, 3.

Castor: GCH-7, GCH-6, GCH-4.

Chick pea: Gujarat Chick Pea-1 or 2, Dahod Pila, ICC-4.

Cauliflower: Pusa Early, Pusa Dipali, Pusa Kartiki, Early Kuvvari for early maturity and Pusa synthetic, Early Snowball, Snowball for medium duration.

Carrot: Patan Local, Pusa Kesar and Pusa Chamdagni.

Onion: Talaja Red, Nashik Red, Pusa Red, Pusa White.

Maharashtra

Rabi safflower: Bhima, Phule Kusuma, Sharda, Girna or DSH-129.

Rabi jowar: Phule Mauli, Phule Anuradha in light soil, Phule Chitra, Phule Mauli, Maldandi-35-1 in medium soil and Phule Vasuda, Phule Yashoda, CSV-22 in black soil.

Rainfed rabi jowar: Maldandi (M 35-1), Swati (SPV-504), Parbhani Moti (SPV-1411) for Marathwada region.

Rainfed rabi gram: Vijay and Digvijay for Ahmednagar, Dhule and Nandurbar districts.

Rainfed wheat: Panchvati, N-5439 or N-8223.

Pre-seasonal sugarcane: CO-740, CO-7219, CO-88121, Co-8014, Co-86032, COM-0265 (Phule 265), CO-94012 and COC-671.

➤ **Madhya Pradesh**

Wheat: Sujata, HW- 2004, HI-1500, HI- 1531, HD-2004, JWS- 17, HD-4672

Gram: JG-130, JG-11, JG-315, JG-16, Jaki – 9218, Kabuli kak-2

Lentil: RVL-31, JL-2

Maize: JVM -421, JM-16

Pea: Pusa pragati, Jawahar Pea 1, Jawahar Pea 2, Jawahar Pea 5 and Bonvile
Chattisgarh

Maize: Proagro-4640, 4212, Pusa Hybrid -42, MH-10, MH-11, Navjyot, HM-9.

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

Kulthi: AK-21, Ak-42, Bastar Kulthi, Birsa Kulthi and VLG-9

Karnataka- Rabi

Sorghum– DSV-4, M 35-1 and Muguthi, DSH-4, M-35-1(rainfed and irrigated), Moguti(5-4-1), DSV-5 (rainfed and 1 or 2 protective irrigation)

Wheat– DWR-162, DWR-225, DWR-185, DWR-2006, DDK-1001 and DDK-1009.

Chick pea – Annigeri-1, ICCV-2,ICCV-10,BG-1105 and BGD-103

Safflower – A-1 , A-2 , A-300, NARI-6 (spineless variety)

Bengal gram- JG -11, Annegeri -1, ICCV-10

Kerala:

Banana: Robusta, Poovan, Njalipoovan, Palayankodan.

Tamilnadu:

Samba Paddy: ADT 36, ADT 37, ADT 42, ADT 45, ADT 47, Co 47 and ASD 16.

Andhra Pradesh:

Greengram- LGG 460,LGG 407, LGG-410, TM96-2, MGG 295, ML 267, LGG 450

Blackgram-LBG 752,PU 31,T9,LBG 20, LBG 645, LBG 685, LBG 709, LBG 623

Himachal Pradesh :

Cauliflower: Pride of India, Shweta, Madhuri, Himrani.

Cucumber : Kiyani seedless/243, Matgaura, Maliniseeded

Pea: Ageta – 6 or Arkal pea

Raddish :Japani white and early mino white

Turnip : PTWG-1,

Cabbage :Snow ball K-1 Palam uphar, golden acre,

Knol khol : White Bina,

Broccoli : Palm kanchan, Palam vichitra and palam samridhi.

Jammu & Kashmir

Potato : Kufri Badshah, K. Jyoti

Radish: P.Reshmi, Japanese White, Minowase

Carrot: Pusa Kesar,P.Yamdagani, Nantes, Chaman

Turnip: PTWG,

Garlic: Yamuna safed agrifound parvati,

Methi : Pusa early bunching and kasuri methi

Gobi sarson: GSS-1, GSL-2 & DGS –1.

Mustard: KOS-1, KS-101

Peas: Bonnevillea, AP-1, AP-3

Onion var. Pusa Red, Punjab Selection

Punjab & Haryana

Punjab :

Radish: Punjab Safed, Punjab Pasand and Japanese White .

Turnip: L-1

Carrot: Selection 21 and PC-34

Gram: PBG 5 and PBG-1

Peas: Punjab 87, Punjab 88, Punjab 89 and Mithi Phali.

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

Gobhi sarson : GSC-5, GSL-1, GSL-2, PGSH-51, Hyola (PAC-401) should be sown from 10th of October to **end** of October.

Delhi

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

Carrot: Pusa Rudhira and Pusa Kesar.

Sarson Saag: Pusa Saag-1;

Bathua: Pusa Bathua-1

Radish: Japani White, Hill queen, French Radish;

Spinach: All Green, Pusa Bharti;

Coriander: Pant Haritama, Hybrids;

Turnip: Pusa Swati, Local Red variety.

Potato: Kufri Badshah, Kufri Bahar, Kufri Anand, Chipsona-1, Chipsona-2, Chipsona-3.

Pea : Pusa Pragati, Arkel.

Fenugreek: Pusa Kasuri

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

Gram: Kabuli type - Pusa 267, Pusa 1003, Pusa Chamatkar; local type – C235, Pusa 246, P.B.G. 1, Pusa 372.

Rajasthan

Vegetables : Tomato: Pusa Ruby, Pusa Early and Vihar, Brinjal: Pusa long, Meghdoot, Arka Bahar, Pusa summer and prolific round, Cucumber: Balam, Pusa Sahyog, Radish: Japanese White and Hill Queen, Early cauliflower : Pusa hybrid-2, Improved Japanese and Pusa Himjyoti, Cabbage: Pusa Drum Head and Hybrid 10, Cauliflower: Pusa Snowball 1 and Hissar 1, - Taramira: Karan Tara, Narendra Tara, Mustard Early sown: NPJ112, EJ17, Pusa Mahak and Kanti Early Pea: Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6

Normal sown (irrigated)-Maya, Rohini, Pusa Jai kisan, Varuna, RGN13, RGN73, like Bharat Sarson-1 (NRCDR-2), Bharat Sarson-2 (NRCHB 101), Bharat Sarson-3 (NRCHB506), Laxmi and Pusa bold. Normal sown (rainfed) - Arawali, RGN48, Geeta and PBR 97, Saline sodic soils - CS52, CS54, CS56, Narendra Rai 1. Yellow Sarson - NRCYS-05-02, YSH401

Potato- Kufri-Ashok and Kufri-Chandramukhi, Kufri-Anand, Chipsona-1, 2, Jyoti and Pukhraj.

Mustard: Jay Kisan (Bio-902), Rajat- P. C. R. -7 R.H. – 30, R.H.-819, G.M.-2, Uravashi, Pusa bold, Aravali- I.N. 393, R.N.505, Ashirwad – 48, R.G.N.- 145, R.G.N.-73, R.G.N.-13 Gobi sarson (GSL-1, DGS-1) Gram: G.N.G. 663 (Vardhan), G.N.G 469 (Samrat), G.N.G 1581 (Gangaur), Gram (Rainfed area): C-235, RSG-44, RSG-888, C-235, H-208 and GNG-146, K-468, Gourav and PBG-1 . Early pea: Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6., Pea: T-163, PG-2, Rachna, HFP-3

Kabuli Chana: G.N.G 1499 (Gauri) and G.N.G 1292

Uttar Pradesh

Rai : Narebdra rai 8301, Rohini

Potato: kupri, ashok, kupri chandramuki, kupri jawahar.,

Non-irrigated wheat :lok-1, sujata, gomati, Indira.

Wheat: VL616, 829, 802, 804, 738, 719 and HS277.

Chana : KWR-108, JG-16, JGK-1(kabuli)

Pea: Indira, JP-850.

Masoor: Bokar-2, 3, K-75, IPL-81

Alsi: bokar, Lakshmi-27, padmini, parvati

Uttarakhand

Pea: VL Ageti Mater-7, Vivek Mater-10, Pant Subjee Mater-3, Azad Mater-3

Tomato: Pant Bahar, Pusa Rubi, Navin

Toria: PT-303, PT-507.

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

Potato : Kufri Jyoti, Kufri Ashok or Kufri Anand.

Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 17.10.2012

