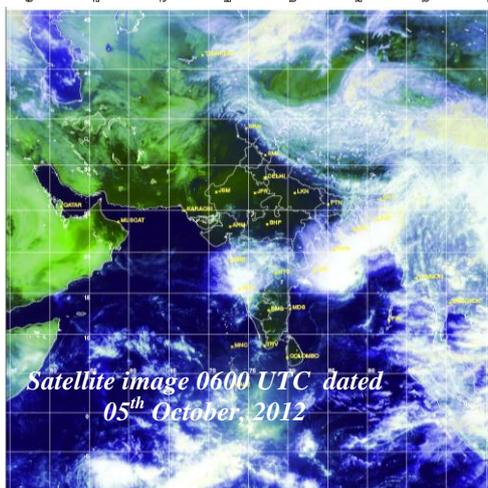
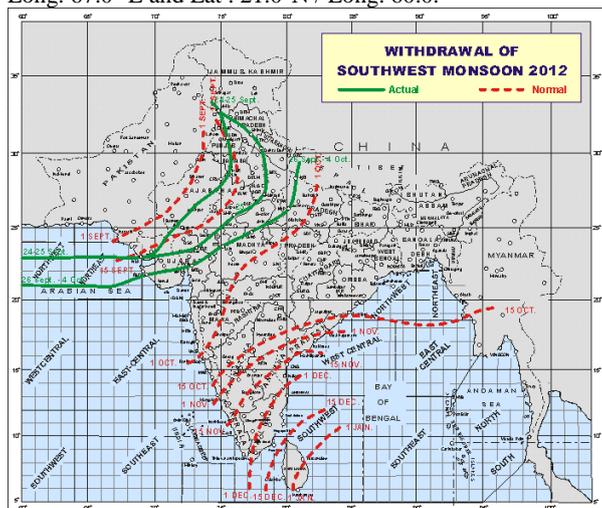


- Due to high moisture contents monsoon is not likely to withdraw from central and adjoining east India during next 3 days.
- The withdrawal line of southwest monsoon continues to pass through Lat. 29.0° N / Long. 81.0°E, Kheri, Kanpur, Guna, Ratlam, Vallabh Vidyanagar, Porbandar, Lat. 21.0° N / Long. 67.0° E and Lat . 21.0°N / Long. 60.0.



Southwest monsoon has withdrawn from Jammu & Kashmir, Punjab, Haryana, Delhi, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Rajasthan, most parts of Gujarat, some parts of West Uttar Pradesh and West Madhya Pradesh. Due to high moisture contents monsoon is not likely to withdraw from central and adjoining East India during next 3 days.

Significant rainfall occurred over all the districts in Konkan, Coastal Karnataka, Coastal Andhra Pradesh and Telangana most of the districts in Assam, North Interior Karnataka, South Interior Karnataka and Rayalaseema, many districts in Arunachal Pradesh, Madhya Maharashtra, Marathwada and Sub Himalayan West Bengal and over a few districts in Kerala. Rainfall for the above mentioned States during last week is given in Annexure – I.

Rainfall is likely to occur at many places over North Eastern states and Konkan during next three days and over Gangetic West Bengal, Orissa, Telangana and Coastal Andhra Pradesh during next 48 hours. Farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures in these regions. Heavy to very heavy rainfall would occur at one or two places over Assam, Meghalaya and Arunachal Pradesh during next 72 hours and heavy rainfall would occur at one or two places over Konkan Nagaland, Manipur, Mizoram and Tripura during next 48 hours. Farmers in these regions are advised to arrange for adequate drainage in standing crops. Weather forecast map is provided in Annexure – II.

In the following sub-divisions moisture stress condition prevailed during earlier weeks due to deficient rainfall and as a result, contingent planning has been adopted in the agromet advisory. Rainfall situation is improved during last few weeks:

- 1. Saurashtra & Kutch:** Carry out intercultural operation and hand weeding in castor and vegetables in South Saurashtra Zone of Gujarat. In groundnut there is incidence of rust and leaf spot diseases. Farmers are advised to apply plant protection measures. Harvest the fully matured green gram and bajra crops. Spray 5 ml NAA in 10 litre of water in cotton to prevent dropping of squares and flowers in North Saurashtra Zone. Carry out harvesting of early sown groundnut. Undertake sowing of gram (Gujarat gram-2 or Gujarat gram-3) and mustard (Varuna or Gujarat mustard-1), if 2-3 irrigation facility available. Carry out intercultural operations in lemon.
- 2. Gujarat region:** In Middle Gujarat Zone harvest maize and bajra crops and put the cobs in proper place for drying. As paddy is in grain filling stage in Middle Gujarat Zone, keep 5 to 7 cm standing water in paddy field. Taking advantage of dry weather carry out harvesting of matured cluster bean, green gram, Indian bean and maize, threshing of bajra during noon hours and picking of cotton in late morning hours. Apply irrigation to okra, brinjal, tomato, chilli and other vegetables and raise nursery for winter vegetables, if facility of shade net is available. As sky will remain mainly clear and no rain would occur in North Gujarat Zone, carry out harvesting of crops like pulses and pear millet/sorghum at physiological maturity.
- 3. South Interior Karnataka:** Farmers in the Eastern dry zone are advised to complete transplanting of finger millet within this month and undertake gap filling, intercultural operations and top dressing with Nitrogen in already sown crop. Take up earthing up in groundnut crop and red gram in 6 to 7 weeks stage.
- 4. North Interior Karnataka:** In North Dry Zone, Farmers are advised to keep the land and inputs ready for sowing of chickpea, safflower and wheat. In North East Dry zone, farmers may undertake sowing of jowar, maize and bajra for fodder purpose. Sunflower can be sown upto end of October under irrigated conditions.

- 5. Madhya Maharashtra:** Due to recent rain matured crops like bajra, soybean and rice are likely to be damaged, farmers are advised to complete harvesting after current spells of rain. As cotton is at flowering / boll formation stage, farmers of North Madhya Maharashtra are advised to spray 2 % DAP as preventive measures against red leaf. As there was sufficient during last week, farmers are advised for sowing of *rabi* jowar, safflower, maize and rainfed gram with the help of realized rainfall.
- 6. Marathwada:** Due to recent rain matured crops like bajra and soybean are likely to be damaged, farmers are advised to complete harvesting after current spells of rain. As there was rain in most of districts of Marathwada region during last week, farmers are advised to undertake sowing of *rabi* jowar and safflower in the fields where green gram or black gram is already harvested.
- 7. Haryana:** Rice is at flowering / grain formation stage. Harvest early varieties (non scented) of paddy and picking of cotton bolls. Mild attack of sheath blight, hopper and severe attack of leaf folder on rice are reported in Western Zone. Spray the crops with 250 ml Monocrotophos or dusting of Methyl parathion @ 10 kg / acre.
- 8. Delhi:** Undertake planting of early potato, and sowing of sarson saag, spinach radish, fenugreek, coriander, bathua and turnip. Marigold plantation should also be done. Present weather conditions are favourable for infestation of false smut in rice. Take appropriate plant protection measures.
- 9. West Rajasthan:** As per contingent plan, sowing of carrot, planting of tomato, brinjal, onion, cabbage and chillies continued. Sowing of *taramira* may be done upto 15th October and undertake weeding in standing crops. Prepare field for sowing of the *rabi* crops like mustard.
- 10. Bihar:** Farmers are advised to apply life saving irrigation to rice crop, which is in flowering stage. Farmers are also advised to prepare the land for sowing of rapeseed in the upland area. Farmers are advised to harvest the matured maize and rice crops.

- Agromet advisories for remaining met subdivisions are mentioned in page no 2.

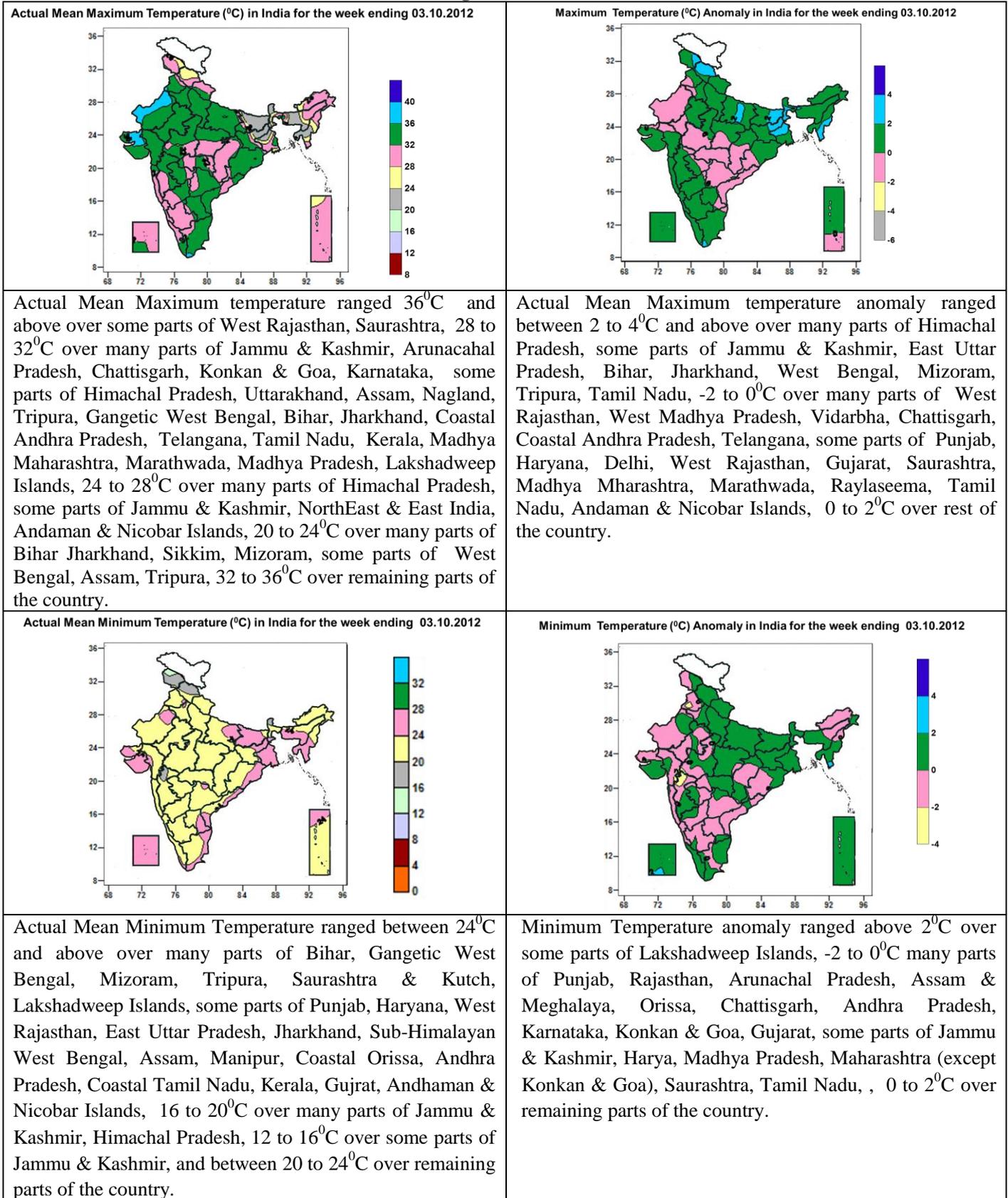


Executive Summary

In remaining parts of the country, due to receipt of adequate rainfall in terms of quantity and distribution during the season in relation to agricultural operations as well as water requirements of the crops, sowing of *kharif* crops and state of the crops are normal, which is stated below:

11. **Royalaseema:** Sowing of Bengal gram utilising realised rainfall is advised.
12. **East Uttar Pradesh:** Undertake sowing of toria, onion, garlic, radish, potato, carrot and pea. Undertake intercultural operation in already sown pea, urd and mung. Also undertake transplanting of cauliflower, brinjal, chilli, tomato and sugarcane.
13. **West Uttar Pradesh:** Prepare bund around the field, also undertake transplanting of brinjal, chilli and tomato, cauliflower, cabbage. Undertake harvesting of urd, moong. Land preparation and sowing of toria / lahi.
14. **Nagaland, Manipur, Mizoram & Tripura, Arunachal Pradesh and Assam & Meghalaya:** Undertake land preparation and nursery sowing of winter vegetables like early cauliflower, radish, tomato, brinjal, Knolkhol, carrot and spinach.
15. **Sub Himalayan West Bengal:** Start land preparation for transplanting of early cauliflower. Farmers are also advised to harvest maize.
16. **Sikkim:** Farmers are advised to maintain 3-5 cm standing water in flowering stage of rice.
17. **Gangetic West Bengal:** Farmers are advised to maintain 5-7 cm depth of water in *aman* rice.
18. **Orissa:** Farmers are advised to sow mustard and rainfed groundnut, sesame and toria. In Western Undulating zone BPH and sheath blight occurrence is reported during this period. For control of BPH, spraying of Buprofezin @1.5ml/lt. of water or Imidacloprid @1ml/4lt. of water may be done. To control sheath blight spray validamycin @ 1.5ml/litre of Water.
19. **Punjab:** Complete harvesting of early maturing varieties of paddy crop and go for picking of cotton. Transplant main season varieties of cauliflower and cabbage. Complete planting of autumn potato crop in first fortnight of this month. This month is also ideal for sowing of lucerne, oats, senji and berseem.
20. **Himachal Pradesh:** Start sowing of toria. Maintain 4-5cm of water level in rice field. Undertake nursery sowing of early variety of pea, raddish, turnip, corionder, cabbage, Knol khol, broccoli, parsley, lettuce, fennel and cauliflower.
21. **Jharkhand:** Farmers are advised to undertake sowing of til, kulthi, green pea and grow African marigold or French marigold. After harvesting of moong and urad, undertake sowing of toria immediately in that field. Farmers are advised to sow *rabi* crops like gram, lentil, linseed, pea, mustard, potato etc.
22. **Uttarakhand:** Start harvesting & 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.
23. **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 onion and leafy vegetables like spinach and fenugreek. Start harvesting of rice, maize and other *kharif* pulses. Start land preparation for brown sarson. Undertake sowing of mustard.
24. **East Rajasthan:** Start field preparation for the sowing of *rabi* crops. Carry out weeding, hoeing in timely sown crops like cluster bean, pearl millet, sesame, moong and groundnut. Undertake harvesting of bajra and jowar.
25. **East Madhya Pradesh:** Incidence of Bihar hairy caterpillar, tobacco caterpillar and semilooper is seen in the soybean, moong and urad. Apply plant protection measures if infestation exceeds ETL. Prepare field for sowing of mustard and pea.
26. **West Madhya Pradesh:** Arrange seed, fertilizers and chemicals as soon as possible for sowing of *rabi* crops.
27. **Vidarbha:** Due to heavy rains in parts of Vidarbha, there may be yellowing of leaves in cotton, spray 2% Urea or DAP @ 200g in 10 litres water in East Vidarbha. As green gram, black gram and soybean are at pod maturity stage, farmers are advised to complete harvesting of already matured crops. Farmers are advised for sowing of *rabi* jowar, safflower after harvesting of matured pulses.
28. **Chhattisgarh:** Farmers are advised to undertake sowing of horse gram and transplanting of vegetables crops.
29. **Konkan:** Due to recent rain early maturing *kharif* rice is likely to be damaged, farmers are advised to complete harvesting after current spells. Farmers are advised to maintain water level 5-10 cm by bunding rice field in mid late and late maturing variety.
30. **Coastal Andhra Pradesh:** Undertake foliar application of 2% urea / 2% DAP / 2% KNO₃ at square formation and flowering stages of cotton crop.
31. **Telangana:** Incidence of white fly, tobacco streak virus in cotton and semilooper in castor is noticed in parts of the region. Take appropriate plant protection measures.
32. **Tamil Nadu:** Application of 4 kg Gypsum /cent in *samba* rice nursery is advised.
33. **Coastal Karnataka:** Maintain proper water level in rice field at grain formation stage.
34. **Kerala:** Transplanting of *mundakkan* rice may be continued.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 03.10.2012



**Distribution of rainfall of the
country during week ending on 03.10.2012**

State/Districts	Actual	% Dep.
Arunachal Pradesh		
Anjaw	**	**
Changlang	44.5	-47
Dibang Valley	6.0	-92
East Kameng	22.7	-49
East Siang	286.8	189
Kurung Kumey	**	**
Lohit	179.4	227
Lower Dibang Valley	**	**
Lower Subansari	15.0	-55
Papumpara	214.2	145
Tawang	17.0	-83
Tirap	38.0	-58
Upper Siang	67.1	-37
Upper Subansari	61.4	71
West Kameng	68.7	-33
West Siang	214.0	401
Assam		
Baksa	168.4	145
Barpeta	141.8	106
Bongaigaon	188.7	135
Cachar	60.5	-6
Chirang	133.7	67
Darrang	62.0	66
Dhemaji	122.0	79
Dhubri	204.4	163
Dibrugarh	75.3	38
East Garo Hills	51.0	-25
East Khasi Hills	120.4	10
Goalpara	194.3	159
Golghat	18.1	-35
Hailakandi	51.2	-13
Jaintia Hills	78.0	-50
Jorhat	15.8	-67
Kamrup(Rural)	59.5	48
Kamrup(Metro)	20.3	-50
Karbi Anglong	7.9	-75
Karimganj	53.8	-22
Kokrajhar	194.5	124
Lakhimpur	96.1	41
Morigaon	12.6	-61
N.C.Hills	40.2	-15
Nowgong	28.8	-20
Nalbari	75.5	67
Ribhoi	76.6	98
Sonitpur	139.6	259
Sibsagar	17.9	-40
South Garo Hills	95.0	48
Tinsukia	126.0	187
Udalgiri	169.2	354
West Garo Hills	115.2	79
West Khasi Hills	**	**
East Madhya Pradesh		
Anuppur	3.9	-81
Balaghat	6.7	-75
Chhatarpur	0.0	-100
Chindwara	17.5	-24
Damoh	1.0	-93
Dindori	13.2	-45
Jabalpur	6.0	-59

Katni	0.0	-100
Mandla	15.4	-24
Narsingpur	12.8	-29
Panna	0.0	-100
Rewa	0.0	-100
Sagar	0.0	-100
Satna	0.0	-100
Seoni	5.5	-72
Shahdol	6.0	-66
Sidhi	0.0	-100
Singrauli	0.0	-100
Tikamgarh	0.0	-100
Umaria	0.0	-100
West Madhya Pradesh		
Alirajpur	1.3	-93
Asoknagar	0.0	-100
Badwani	0.0	-100
Betul	39.6	115
Bhind	0.0	-100
Bhopal	1.6	-89
Burhanpur	11.8	-44
Datia	0.0	-100
Dewas	20.3	6
Dhar	0.0	-100
Guna	0.0	-100
Gwalior	0.0	-100
Harda	6.6	-70
Hosangabad	14.0	-29
Indore	10.5	-62
Jhabua	0.0	-100
Khandwa	17.0	-13
Khargone	2.7	-87
Mandsaur	0.0	-100
Morena	0.0	-100
Neemuch	0.0	-100
Raisen	0.0	-100
Rajgarh	0.0	-100
Ratlam	0.0	-100
Sehore	0.0	-100
Shajapur	4.5	-68
Sheopur Kalani	0.0	-100
Shivpuri	0.0	-100
Ujjain	0.8	-96
Vidisha	0.0	-100
Chattisgarh		
Bastar	11.9	-61
Bijapur	30.3	-14
Bilaspur	7.6	-69
Dantewara	55.2	63
Dhamtari	9.6	-49
Durg	6.0	-74
Janjgir	3.5	-84
Jashpurnagar	8.5	-76
Kanker	25.9	-8
Korba	9.9	-57
Koriya	30.7	58
Kawardha	6.0	-72
Mahasumund	1.0	-93
Narayanpur	7.0	-73
Raigarh	1.4	-94
Raipur	6.3	-69

Rajandgaon	9.7	-52
Surguja	20.8	-18
Saurashtra, Kutch & Diu region		
Amreli	0.2	-99
Bhavnagar	0.0	-100
Diu	0.0	-100
Jamnagar	5.5	-29
Junagarh	1.9	-87
Kutch	11.2	123
Porbandar	4.9	-57
Rajkot	5.6	-55
Surendranagar	0.0	-100
Maharashtra		
Konkan & Goa		
Goa	57.8	-19
Mumbai	53.0	-5
Raigad	94.0	25
Ratnagiri	113.5	39
Sindhudurg	99.1	34
Thane	41.3	-31
Madhya Maharashtra		
Ahmednagar	56.9	64
Dhule	0.0	-100
Jalgaon	13.3	-42
Kolhapur	99.7	88
Nandurbar	5.7	-81
Nasik	23.5	-39
Pune	74.1	62
Sangli	74.7	65
Satara	74.6	69
Solapur	53.0	15
Marathwada		
Aurangabad	39.7	27
Beed	42.4	24
Hingoli	29.7	10
Jalna	36.0	44
Latur	72.6	116
Nanded	36.4	14
Usmanabad	22.6	-42
Parbhani	52.4	77
Vidarbha		
Akola	27.5	23
Amraoti	13.0	-45
Bhandara	8.6	-71
Buldhana	36.3	71
Chandrapur	34.5	35
Gadchiroli	28.8	-3
Gondia	8.3	-71
Nagpur	21.3	1
Wardha	7.2	-70
Washim	19.7	-8
Yeotmal	15.9	-45
Orissa		
Angul	21.0	-22
Balasore	14.9	-79
Bargarh	1.2	-94
Bhadrak	20.2	-53
Bolangir	8.2	-72
Boudh	9.7	-73
Cuttack	17.2	-58

Deogarh	6.8	-70
Dhenkanal	11.3	-70
Gajapati	53.8	66
Ganjam	57.1	16
Jagatsingpur	8.0	-79
Jajpur	5.6	-87
Jharsuguda	20.0	2
Kalahandi	53.7	78
Kandhamal	20.7	-43
Kendrapara	1.5	-97
Keonjhar	17.7	-50
Khurda	30.5	-27
Koraput	14.6	-66
Malkangiri	28.5	-9
Mayurbhanj	6.0	-88
Nawapara	13.3	-42
Nawarangpur	13.6	-66
Nayagarh	37.6	-9
Puri	22.0	-64
Rayagada	40.1	23
Sambalpur	20.2	-12
Sonepur	8.0	-70
Sundargarh	8.9	-54
West Bengal		
GWB		
Bankura	2.5	-96
Birbhum	12.9	-78
Burdwan	22.0	-56
East Midnapore	2.3	-97
Hooghly	15.8	-69
Howrah	33.7	-56
Kolkata	15.8	-81
Murshidabad	30.2	-58
Nadia	16.7	-64
24 Pargana (N)	0.0	-100
Purulia	1.5	-97
24 Pargana (S)	7.3	-90
West Midnapore	7.4	-88
SHWB		
Cooch Behar	173.5	87
Darjeeling	42.3	-54
East Sikkim	90.3	67
Jalpaiguri	109.3	29
Malda	0.0	-100
North Dinajpur	17.8	-79
North Sikkim	168.7	106
South Dinajpur	0.7	-99
South Sikkim	28.0	-48
West Sikkim	176.0	115
Karnataka		
Coastal Karnataka		
Dakshin Kannada	60.9	-19
Udupi	101.6	6
Uttar Kannada	100.1	60
North Interior Karnataka		

Bagalkote	47.2	4
Belgaum	70.4	57
Bidar	40.8	9
Bijapur	71.0	38
Dharwad	69.0	68
Gadag	47.3	2
Gulbarga	66.0	38
Haveri	64.0	76
Koppal	27.1	-40
Raichur	41.7	-14
Yadgir	82.3	61
South Interior Karnataka		
Bangalore Rural	54.8	2
Bangalore Urban	28.1	-48
Bellary	28.1	-39
Chamarajnar	25.4	-39
Chichballapur	50.6	1
Chickmagalur	57.9	10
Chitradurga	58.6	38
Davangere	45.2	10
Hassan	38.6	-10
Kodagu	40.6	-31
Kolar	43.3	0
Mandya	58.0	39
Mysore	32.0	-15
Ramnagara	31.6	-46
Shimoga	49.3	7
Tumkur	52.3	2
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	12.3	-82
Palakkad	5.0	-92
Pathanamthitta	0.0	-100
Thiruvananthapuram	1.1	-98
Thrissur	38.6	-53
Wyanad	22.3	-64
Tamil Nadu		
Ariyalur	7.5	-77
Chennai	29.3	4
Coimbatore	0.3	-98
Cuddalore	8.4	-76
Dharmapuri	5.8	-86
Dindigul	17.3	-46
Erode	1.9	-93
Kanchipuram	27.0	-23
Kanyakumari	3.6	-89
Karikal	31.2	-3
Karur	3.4	-88

Krishnagiri	8.9	-81
Madurai	32.9	10
Nagapattinam	10.3	-61
Namakkal	6.0	-82
Nilgiris	3.2	-92
Perambalur	3.5	-89
Puducherry	2.7	-91
Pudukottai	12.6	-55
Ramanathapuram	5.9	-71
Salem	2.0	-95
Sivaganga	3.9	-84
Thanjavur	11.6	-59
Theni	3.8	-85
Tirunelveli	0.5	-96
Tirupur	0.0	-100
Tiruvallur	20.4	-37
Tiruvannamalai	18.7	-52
Tiruvarur	15.2	-47
Toothukudi	0.0	-100
Trichy	10.2	-67
Vellore	21.9	-47
Villupuram	19.2	-45
Virudhunagar	9.9	-59
Andhra Pradesh		
Coastal Andhra Pradesh		
East Godavari	154.3	204
Guntur	100.2	122
Krishna	153.2	227
Nellore	36.5	-4
Prakasam	162.6	277
Sirkakulam	73.9	51
Visakhapatnam	128.5	138
Vizianagram	81.2	68
West Godavari	201.1	295
Telangana		
Adilabad	63.4	131
Hyderabad	75.7	113
Karimnagar	76.6	160
Khammam	89.3	128
Mehabubnagar	82.9	102
Medak	60.2	94
Nalgonda	90.2	127
Nizamabad	69.0	114
Rangareddy	61.7	81
Warangal	117.2	292
Rayalaseema		
Anantapur	65.5	63
Chittoor	45.5	11
Cuddapah	23.5	-31
Kurnool	48.4	21

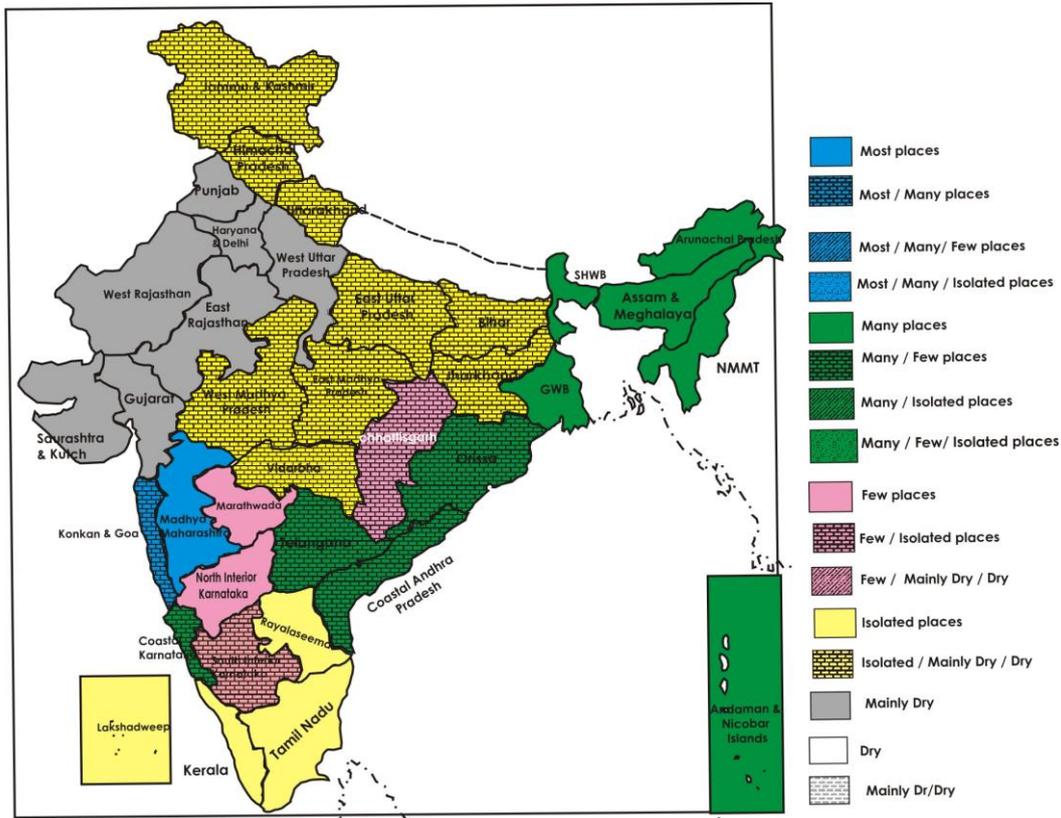


(20% or more) excess rainfall
(-19 to +19%) normal rainfall
(-20 to -59%) deficient rainfall



(-60 to -99%) scanty rainfall
(-100%) no rainfall
** Data not available

Weather Forecast (Valid upto 0830 hours of 7th October , 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 07th October, 2012

- Rain/thundershowers would occur at many places over northeastern states and Konkan-Goa.
- Rain/thundershowers would occur at many places over Andaman & Nicobar Islands, Gangetic West Bengal, Odisha, and north Andhra Pradesh during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at a few places over Chhattisgarh, coastal Karnataka, Madhya Maharashtra, Marathawada and north Karnataka.
- Rain/thundershowers would occur at one or two places over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, east Uttar Pradesh, Bihar, Jharkhand, east Madhya Pradesh, Vidarbha and Madhya Maharashtra during next 48 hours and mainly dry weather thereafter.
- Rain/thundershowers would occur at one or two places over rest peninsular India and Lakshadweep.
- Weather would be mainly dry over rest of the country.

Weather Warning during next 3 days

- Heavy to very heavy rainfall would occur at one or two places over Assam & Meghalaya and Arunachal Pradesh during next 72 hours.
- Heavy rainfall would occur at one or two places over Konkan & Goa, Nagaland, Manipur, Mizoram and Tripura during next 48 hours.

Weather Outlook for subsequent 4 days up to 0830 hours IST of 11th October, 2012

- Rain/thundershowers would occur at many places over northeastern states and south Peninsular India.
- Weather would be mainly dry over parts of northwest and adjoining central India.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Most of the districts of Arunachal Pradesh received significant rainfall except Dibang valley, Lower Subansari and Tawang and most of the districts of Assam received significant rainfall except Golaghat, Kamrup, Karbi Anglong and Morigaon.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over North Eastern States.
- **Warning:** Heavy to very heavy rainfall would occur at one or two places over Assam & Meghalaya and Arunachal Pradesh during next 72 hours. Heavy rainfall would occur at one or two places over Nagaland, Manipur, Mizoram and Tripura during next 48 hours.
- **Advisories:**
 - As most of the districts of Arunachal Pradesh received significant rainfall except Dibang valley, Lower Subansari, Tawang and most of the districts of Assam received significant rainfall except Golaghat, Kamrup, Karbi Anglong and Morigaon, farmers are advised to postpone irrigation in these States.
 - Farmers in Hill Zone of Assam are advised to undertake land preparation and nursery sowing of winter vegetables. Seedlings of 4-6 weeks age may be transplanted to the main field.
 - Farmers in lower Brahmaputra Valley Zone of Assam are advised for nursery sowing of early cauliflower, early cabbage, sowing of onion, garlic, winter brinjal and carrot and also harvesting of matured jute. In already sown black gram / green gram crops, one weeding should be done at 20-25 days after sowing. The crop should be thinned out simultaneously to maintain the required spacing.
 - Farmers in Upper Brahmaputra Valley Zone of Assam are advised to undertake sowing of radish, early cauliflower, black gram and green gram.
 - Farmers in North Bank Plain Zone of Assam are advised to undertake land preparation and sowing the nursery seedling of early cauliflower, radish, tomato, brinjal, Knolkhol, carrot and spinach beet.
 - Farmers in Central Brahmaputra Valley Zone are advised to undertake intercultural operation of *kharif* sesame. Farmers are also advised to undertake nursery bed preparation for early cole crops, winter brinjal and raddish. Harvesting of *Olitorius* jute may be continued.
 - Farmers in Barak Valley Zone of Assam are advised to start planting seedling of brinjal in the main field and field preparation for planting of sugarcane (*Autumn* planting). Select upland sandy loam soil for the cultivation of early cauliflower and potato.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to harvest soybean, black gram, green gram and early sown rice and jhum rice. Farmers are also advised to undertake nursery preparation for early cauliflower, cabbage, broccoli and knolkhol and raising seedling of tomato and raddish.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to complete land preparation and sowing of black gram and nursery sowing of tomato and cole crops.
 - In Mild Tropical Hill Zone of Nagaland, farmers are advised to harvest *ghum* rice. Farmers are also advised for land preparation for transplanting the seedling 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 and broccoli.
 - In Temperate Sub Alpine Zone of Meghalaya, farmers are advised to undertake nursery raising of cole crops and nursery sowing of French bean and dolichos bean. Farmers are also advised to undertake land preparation and sowing of pea, mustard and garlic in high altitude region. Sowing of *rabi* maize may be initiated in low and medium altitude region.
 - In Mild Tropical Plain Zone of Tripura, farmers are advised for land preparation for transplanting the seedling of early cauliflower, radish and brinjal in the main field. Farmers are advised to harvest *kharif* maize and sesame and complete the harvesting of bitter gourd and pointed gourd. After harvesting land may be prepared for vegetables like tomato, cauliflower, cabbage, capsicum, radish, carrot and pea etc.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - In Hill zone of Assam, infestation of rice *Hispa* in *sali* rice at tillering stage may occur; Spraying with Quinolphos @ 2 teaspoonful / 5 litres of water may be carried out, if the infestation is noticed above

ETL. Shoot borer may be observed in turmeric and ginger. Spray Rogor 0.05%, if infestation of shoot borer is observed above ETL.

- In Lower Brahmaputra Valley Zone of Assam, attack of *stem borer* and sheath blight are observed in *Sali* rice. When observe more than 5% death heart you are observed, spray 0.02% Chloropyriphos 20 EC or 0.025% Quinalphos 25 EC to control the pests. To control sheath blight 2 sprays of Carbendazim @ 1g/lit may be given, first at the appearance of the symptoms and the other at 10 days after the first spraying.
- In Mild Tropical Plain Zone of Tripura, due to prevailing weather conditions, there is chance of attack of sheath blight in upland rice and *aman* rice. To control sheath blight, spray Bavistin 50 WP @ 200 g or Tilt 25 EC or Monceren 250 SC @ 200 ml in 200 liters of water.
- In Sub Tropical Hill Zone of Arunachal Pradesh, fruit drop has been reported from different corners. For management, application of Alphamethrin 0.02 % or Malathion 0.5% at 15 days interval may be carried out. Attack of Gummosis is observed in orchards. Drenching with Ridomil @ 2.5 g per litre of water is advised.
- In Mid Tropical Hill zone of Mizoram and Sub Tropical Zone of Manipur there is chance of attack of hairy caterpillar and tikka disease in groundnut and soyabean. If incidence of hairy caterpillar is observed, spray Quinolphos 25 EC or Chloropyriphos 20 EC @ 2 ml / litre of water. Carbendazim @ 0.5g / litre of water may be sprayed to control tikka disease.
- In Sub Tropical Plain Zone of Manipur Plutella(Diamond Black Moth) may be observed in cabbage and cauliflower. Spray Dichlorovos 76 EC @ 0.5 ml/ lit of water if the pest is observed in the crop in vegetative stage.
- 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, FOOY and mouth disease
 - 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.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to protect the birds from cold in the present weather conditions by using gunny bags / plastic sheets around the poultry shed during night, provide heat by lighting with 100 W bulb @ 1 bulb per 20 newly born chicks, also protect the birds against coccidiosis by adding coccineal coccistead @ 1 g per two litres of water. Vaccinate cattle against FMD, Black Quarter and vaccinate Pigs against swine fever.
 - Farmers in Mild Tropical Plain Zone of Tripura are advised to vaccinate cattle against FMD, Vaccinate poultry against Ranikhet and Coccidiosis Disease.
- **Pisciculture**
 - Farmers in Upper Brahmaputra Valley of Assam are advised to feed mustard, rice polish etc. to fish. Well sieved lime, free of pebbles can also be applied to the fish ponds. Application of urea which will enhance the algal growth and eventually become feed for the fishes can also be practiced.
 - Farmers in Manipur, Mizoram are advised to maintain 1.0-1.5 m water depth in fish ponds.

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

- **Realised Rainfall:** Significant rainfall occurred in Gajapati, Ganjam, Kalahandi, Khurda, Nayagarh and Rayagada districts in Orissa, Howrah and Murshidabad in Gangetic West Bengal, all districts except Malda, North & South Dinajpur in Sub Himalayan West Bengal, Sikkim and Kishanganj district of Bihar.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over Sub Himalayan West Bengal and Sikkim and over Orissa and Gangetic West Bengal during next 48 hours and at a few places thereafter. Rainfall is likely at one or two places over Bihar and Jharkhand during next 48 hours and mainly dry weather thereafter.
- **Advisories:**

- As significant rainfall occurred in Gajapati, Ganjam, Kalahandi, Khurda, Nayagarh and Rayagada districts in Orissa, Howrah and Murshidabad in Gangetic West Bengal, all districts except Malda, North & South Dinajpur in Sub Himalayan West Bengal, Sikkim and Kishanganj district of Bihar, farmers are advised to postpone irrigation to the standing crops.
- In South Bihar Alluvial Zone, in the upland areas, farmers are advised to adopt contingent crop planning such as short duration crops (sunflower, maize, urad, bhindi) on upland fields. Weather is congenial for planting of onion, mango, litchi and guava. Maintain proper drainage of water in vegetables crops, farmers are advised to apply last dose of nitrogenous fertilizers in *kharif* maize at tasseling stage. Manures like vermicompost, oilcakes, farmyard manures and straw mulch may be given in between the rows of the maize field to conserve soil moisture and reduce weed populations.
- In North West Alluvial Plain Zone of Bihar, farmers are advised to apply life saving irrigation to rice crop which is in milking stage. Farmers are also advised to prepare the land in the upland area for sowing of rapeseed. Undertake sowing of early varieties of carrot. As weather is likely to remain congenial, farmers are advised to harvest the matured maize and rice crops.
- Farmers of East and South Eastern Coastal Plain Zone of Orissa are advised to go for sowing of pre-rabi pulse crops like green gram, black gram, horse gram, sesame and cowpea in fallow up land and up-medium lands. Farmers are also advised that now the weather is optimum for sowing of mustard, sesame and rainfed groundnut and for harvesting of fodder crops such as hybrid Napier, Guinea grass, etc. Cut the plants leaving 15-18 cm above the ground level. Apply 16 kg N per acre just after cutting. Go for harvesting of direct seeded early rice at 85% maturity. Go for top dressing in late planted medium duration rice and early planted late rice with 14 to 18 kg N and 12 kg K at panicle initiation stage.
- The farmers of Western Undulating Zone of Orissa are advised that do not go for spraying in rainy days. If spraying is necessary mix sticker 0.5ml/lit of water along with the pesticide. Observing the rainfall and water level of the paddy field irrigation should be done before the crop face water stress condition.
- The farmers of North Central Plateau Zone of Orissa are advised to go for harvesting of matured *kharif* groundnut to avoid viviparous germination as there is possibility of rainfall in the coming days. Go for land preparation for sowing of rainfed mustard, groundnut and sesame. Go for harvesting of green gram and black gram by picking the pods and dry them under shade to avoid rotting.
- In early planted medium and late duration varieties of *kharif* rice, farmers of West Central Table Land Zone of Orissa are advised that second top dressing with 45 kg Urea and 35 kg MOP per hectare should be done 18 days before heading. Urea may be treated with 1% Nimin in order to reduce the loss of fertilizer nitrogen. Maintain 5 cm of standing water in the field after top dressing of fertilizers.
- The farmers of North Eastern Ghat Zone (G. Udaygiri) of Orissa are advised to go for sowing of non-paddy crops like green gram, black gram, sesame and vegetables such as cowpea, okra and cucurbitaceous crops.
- Farmers of North Eastern Coastal Plain Zone are advised to irrigate *kharif* rice crop upto 5 cm water depth during Panicle Initiation stage. In early planted medium and late duration varieties second top dressing with fertilizer i.e. 17.5 kg Urea and 13.5 kg MOP per acre should be done 18 days before heading. Urea may be treated with 1% Nimin in order to reduce the loss of fertilizer nitrogen. If fertilizer has already been applied maintain 5 cm of standing water in the field. In late planted crop maintain about 2-3 cm standing water during tillering stage. At 21 days after transplanting apply 50% N (35 kg Urea/acre) by mixing with nimin @ 1ml/kg urea.
- In Central and North Eastern Plateau Zone of Jharkhand, farmers are advised to undertake sowing of short duration varieties of arhar, groundnut, urad, jowar, soybean, turmeric and okra for inter cropping. Farmers are also advised to sow til, kulthi, potato, green pea and African marigold or French marigold.
- In Western Plateau Zone of Jharkhand, farmers are advised to sow til, kulthi, green pea and grow African marigold or French marigold. After harvesting of moong and urad, undertake sowing of toria immediately in that field. Farmers are advised to sow rabi crops like gram, lentil, linseed, pea, mustard, potato etc. Farmers may start seeding of rape seed and mustard after harvesting of *kharif* crops. Farmers may raise the seedlings of winter vegetables like cauliflower, cabbage, chilli, tomato and brinjal etc.
- In Coastal Saline Zone of West Bengal, farmers are advised to prepare main field for transplanting the seedling of early variety of cabbage, cauliflower and tomato. In rice apply last top dressing urea the

dose is 4.34kg/bigha for short duration, 4.9kg/bigha for medium duration and 5.97 kg/bigha for long duration.

- In New Alluvial Zone of West Bengal, farmers are advised to sow winter vegetables like onion, capsicum, radish and broccoli etc. and also raise nursery of capsicum. 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 the seedling of winter vegetables like radish, broccoli and cauliflower etc. Farmers are also advised to maintain 5-7 cm depth of water in *aman* rice and irrigate as per requirement.
- Farmers in Hill Zone of West Bengal are advised to start land preparation for the transplanting of early cauliflower. Seedbed may be prepared for the sowing of late varieties of cauliflower and cabbage. Farmers are also advised to harvest maize.
- Farmers in Old Alluvial Zone of West Bengal are advised to start seedbed preparation for winter vegetables. As there is possibility of rainfall, maintain 5-7cm water in field of *Aman* rice with the help of rainfall.
- Farmers in Terai Zone of West Bengal are advised to prepare seedbed for planting winter seasonal flowers. Farmers are also advised raising the seedbed of brinjal and tomato.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- In some areas of Western Plateau of Jharkhand, late transplanted rice crops are attacked by leaf eating insects like case worm, leaf roller etc. Spray Chlorpyrifos insecticide @ 1 ml per litre of water.
- Present weather conditions are favourable for infection of diseases and insects in rice in South Bihar Alluvial Zone. Apply the Imidacloprid @ 1 ml dissolve in 4 liters of water or Nuvan @ 1 ml dissolve in 1 liter of water for control of insect pests of rice.
- Infestation of Early shoot borer in sugarcane has been occurred in North Eastern Ghat Zone of Orissa. Farmers are advised to release 50,000 *Trybopneustis chilonis* parasite to control the borer. Otherwise install 4 to 5 Pheromone traps per acre to attract the borer or spray 400 ml Monocrotophos or Quinalphos in 200 litre water. Spray 2 g Bentan or Crilton in each litre water to control red rot.
- There is infestation of whorl maggot and leaf folder in paddy in Western Undulating Zone of Orissa. Farmers are advised that spray Monocrotophos @2ml/lit of water. Ensure that 500 liters of pesticide solution should be sprayed for one hectare area.
- Infestation of thrips has been occurred on groundnut in Mid Central Table Land Zone of Orissa. Farmers are advised to spray 2 ml Endosulphan in 1 litre water. White ant and white grub attack has been found. Thorough soil drenching with Chloropyrifos solution @ 2ml/litre water. Bud necrosis has been found. Spray Imidacloprid @ 4ml /10 litre water to control the vector. Infestation of tikka disease has been occurred. Spray 30 g Mancozeb in 10 litre water.
- Sheath blight disease has appeared in most of the areas in *kharif* rice crop in North Eastern Coastal Plain Zone. Farmers are advised that alternate application of Hexaconazole @400ml/acre and Thiophanate methyl@300g/acre at two weeks interval is required to control the disease.
- 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 trap @ 12 nos /ac. 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 litre water. Thrips in chilli has been found. Spray 300 ml Ethion or 400 ml Carbosulphan in 200 litre water/acre. Drain out excess water from the vegetable field.
- There is incidence of *Alternaria* blight and bacterial leaf spot on cotton crop in some places of Western Undulating Zone of Orissa. Farmers are advised to spray Mancozeb@ 2.5 g per one lit. water for *Alternaria* blight and for bacterial leaf spot spray Steptocycline@0.1g with copper oxychloride 2.5g per one litre water. Spray 500 litres of these spray solution for one hectare area.
- Due to humid and wet weather in Terai Zone of West Bengal, downy mildew may be found in cucumber, ridge gourd, pointed gourd, collar rot in chilli, bean, brown spot with yellow halo, blight in betel vine, Ear cutting caterpillar in rice. Apply Mancozeb (64%) and Metalaxyl (8%) @ 1-1.5 gram per lit. of water for downy mildew, to protect from collar rot spray Carbendazim 12 % + Mancozeb 64%, 2 gram per lit of water, protect from ear cutting caterpillar, spray Lambda cyhalothrin 2.5 EC @ 1.5 ml per litre.

- 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 @0.75ml/litre of water. Aphids, lemon butterflies and powdery mildew may be infested in orange. For their protection spraying should be done with Endosulfan @ 2ml/litre of water. For protection against powdery mildew wettable sulphur should be sprayed @ 2g/litre of water.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry

- The farmers of North Eastern Plateau Zone (Keirei) are advised to go for Deworming of Animals. Produce and use Azolla as animal feed. Feed the milch animals @1kg feed in two litres of water mixed in 50gm mineral salt.
- Farmers of Western Undulating Zone of Orissa are advised that in Sheep and Goat, Enterotoxaemia vaccine should be administered @5ml. subcutaneously(S/C) to adults and 2.5ml.S/C to kids above 6 month to prevent mortality in the population. During rainy season the high moisture content may accelerate the growth of fungus (*Aspergillus Spp.*) in the poultry feed. So all feed concentrate meant for poultry should be dried to 12% moisture. In cattle to prevent the out break of foot and mouth disease, FMD Vaccine should be administered to the adult cattle@5ml S/C.

Pisciculture

- Farmers of North Eastern Plateau Zone are advised to go for false netting for better growth of fishes. Regular feeding is to be monitored.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** All districts in Konkan, most districts of Madhya Maharashtra, Marathwada and many districts in Vidarbha received normal to excess rainfall. Weather remained mainly dry over Gujarat.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over Konkan and Goa, Madhya Maharashtra, at few places over Marathwada and at one or two places over Vidarbha during next 48 hours and mainly dry weather thereafter. Weather would be mainly dry over Gujarat.
- **Warning:** Heavy rainfall is likely at one or two places over Konkan and Goa during next 48 hours.
- **Advisories:**
- Due to recent rain matured bajra, soybean and early maturing *kharif rice* is likely to be damaged, farmers are advised to complete harvesting after current spells as early as possible. As fairly wide spread rain is expected during next 3 -5 days in Konkan and Madhya Maharashtra, farmers are advised to apply fertilizers after current spells of rain. As heavy rain is expected over Konkan during next 48 hours, farmers are advised to drain out excess water from standing *kharif* crops.
- Most of the districts in Madhya Maharashtra, Marathwada and many districts of Vidarbha received normal to excess rainfall, farmers in these regions are advised to undertake sowing of *rabi* jowar, safflower and rainfed gram and maize in the harvested field of green gram, black gram, bajra and soybean. Farmers in remaining districts are also advised to undertake sowing of *rabi* crops taking advantage of residual soil moisture.
- As *kharif* rice is at flowering / grain formation stage and fairly wide spread rain is expected in Konkan region during next 3 -5 days, farmers are advised to maintain water level 5-10 cm by bunding in rice field.
- As cotton is at flowering / boll formation stage, farmers in North Madhya Maharashtra are advised to spray 2 % DAP as preventive measures against red leaf. Due to heavy rain in some parts of Vidarbha, there may be yellowing of leaves in cotton, spray 2% Urea or DAP @ 200g in 10 litres of water in East Vidarbha.
- As there was significant rain in Ahmednagar district, farmers are advised to undertake sowing of rainfed *rabi* gram by selecting variety Vijay.
- Farmers are advised to undertake sowing of *rabi* jowar in Madhya Maharashtra on area reserved for *rabi* jowar utilizing the residual soil moisture after harvest of green gram, black gram and bajra and also in the fields where *kharif* sowing could not be undertaken. Sowing of *rabi* jowar may also be undertaken in the areas where fields are reserved for *rabi* cropping.

- As most of districts in Marathwada region received normal to excess rain during last week and scattered rain is expected during next 3 days, farmers are advised to undertake sowing of rainfed *rabi* jowar in the harvested field of soybean, green gram and black gram.
 - As sky will remain mainly clear and no rain would occur in North Gujarat Zone, carry out harvesting of crops like pulses and pear millet/sorghum at physiological maturity. Apply ammonium sulphate (450g), super phosphate (600g) and murate of potash (100g) per papaya (15 days old) plant. Carry out intercultural operation and hand weeding in late sown crops.
 - As paddy is in grain filling stage in middle Gujarat Zone, keep 5 to 7 cm standing water in paddy field. Taking advantage of dry weather carry out harvesting of matured cluster bean, green gram, Indian bean and maize crops, threshing of bajra during noon hours and picking of cotton crop in late morning hours. Apply irrigation to okra, brinjal, tomato, chilli and other vegetables and raise nursery for winter vegetables, if facility of agro shade net is available.
 - Carry out intercultural operation and hand weeding in castor and vegetables in South Saurashtra Zone of Gujarat. Apply irrigation as and when required in vegetables. Spray Ferrous Sulphate @ 100 g with 10 g of Citric Acid in 10 litres of water for yellowing in groundnut.
 - Spray 5 ml NAA in 10 litre of water in cotton to prevent dropping of squares and flowers in North Saurashtra Zone. Give supplementary irrigation and 90 kg urea per hectare to cotton crop, if irrigation facility is available. Carry out harvesting of pre-monsoon sown groundnut. Undertake sowing of gram (Gujarat gram-2 or Gujarat gram-3) and mustard (Varuna or Gujarat mustard-1), if 2-3 irrigation facility 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.
 - Apply irrigation in late sown groundnut which is in pod development stage. Stop irrigation in early sown crop which is in maturity stage in South Gujarat Heavy Rainfall Zone. Carry out harvesting of maize and pulses in clear sky condition.
 - Carry out intercultural and hand weeding operations in crops like castor and fennel in Bhal and Coastal Zone of Gujarat. Apply supplementary dose of fertilizers in castor and vegetables. Apply irrigation in vegetables.
 - Carry out weeding, intercultural operations and application of fertilizer to the field crops in South Gujarat Zone in view of dry weather. Sowing of *rabi* castor should be carried out in first week of October. Provide seed treatment using thirum @ 3 g & bavistin @ 1 g for 1 kg of seed before sowing.
 - Stages of the crops are mentioned in Annexure I.
 - Prevailing high humidity is congenial for incidence of aphids, leaf hoppers, red pumpkin beetle, leaf eating caterpillars, leaf miner in vegetables in South Konkan, spray Malathion 2ml or Dimethoate 1.5 ml per 1 litre of water at 10 to 15 days interval.
 - There may be attack of leaf folder in red gram in Marathwada region, spray 5 % Neemark followed by second spraying of Quinolphos 25 EC@16 ml with 20 ml sticker in 10 litres of water. Prevailing hot and humid weather is also favourable for incidence of oily spots in pomegranate, spray 1 % Bordeaux mixture or Copper Oxy chloride @25 g in 1 litres of water.
 - Under prevailing weather there is attack of jassids and thrips in cotton in Central Vidarbha Zone, if infestation exceeds ETL, spray Acetamiprid 20% @4 g or Acephate 75% @ 15 g in 10 litres water. For control of white fly, spray Trizophos 25 % @ 10 ml or Dimethoate 30% @ 33 ml in 10 litres water. *Prodenia* larvae damaged groundnut crop in North Gujarat Zone, so for its control, spray Chloropyrifos 20 E.C. @ 20 ml or spray D.D.V.P. 76 E.C. @ 5 ml / 10 litres of water.
 - Partly cloudy condition with high humidity in South Gujarat Heavy Rainfall Zone is favorable for attack of sucking pests. To control sucking pest viz., aphids, jassids and thrips in hybrid cotton, lady's finger, brinjal and sesamum, spray Phosphamidon 85 E.C. @ 3 ml, or Methyl –o– Demeton 25 E.C., 10 ml, or Dimethoate 30 E.C., 10 ml or neem oil 300 ppm in 10 litter of water.
 - Due to cloudy weather in South Gujarat Zone, there are chances of incidences of sucking pest in cotton. Spray Emidacloprid 4ml (200 SL) per 10 liter of water.
 - Varieties of *kharif* crops are mentioned in Annexure II.
- Animal Husbandry:**
- Spray Malathion dust & clean the shed frequently for control of fly and mosquito in cattle shed in North West Zone of Gujarat.
 - Wash eyes by diluting a pinch of boric powder in warm water thrice daily in case of conjunctivitis of cattle in Middle Gujarat Zone.

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/thundershowers would occur at one or two places over Jammu & Kashmir, Himachal Pradesh, Uttarakhand and East Uttar Pradesh during next 48 hours and mainly dry weather thereafter. Mainly dry weather is likely 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. Undertake harvesting of bajra and jowar.
 - 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.
 - In Arid Western Plain Zone (Jodhpur & Bikaner) of West Rajasthan, farmers are advised to undertake hoeing and weeding in late sown *kharif* crops, also undertake sowing of taramira, toria and mustard. Prepare field for sowing of *rabi* crops.
 - In Transitional plain zone of Inland Drainage (Fathepur), farmers are advised to apply irrigation to all late sowing *kharif* crops and undertake harvesting of mature crops.
 - In Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan, farmers are advised to prepare nursery of chilli, brinjal and tomato for *rabi* season and undertake hoeing and weeding in vegetables.
 - In Jammu & Kashmir, farmers are advised to continue 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. Drain out excess water from the field. Do the second top dressing with 1/3rd N through urea before tassel formation and also continue nursery preparation of cauliflower, cabbage and knol-knol.
 - In East Uttar Pradesh, farmers are advised to undertake sowing of toria, onion, garlic, radish, potato, carrot and pea, intercultural operation in pea, urd, mung, transplanting of cauliflower, brinjal, chilli, tomato, sugarcane and fertilizer application in sugarcane may be continued.
 - In West Uttar Pradesh, farmers are advised to undertake hoeing and weeding in late sown *kharif* crops, transplanting of brinjal, chilli and tomato, cauliflower, cabbage may be done. Undertake harvesting of urd, moong. Prepare the land for sowing of early potato and vegetable pea and toria/lahi.
 - In (Palampur) Sub-Montane & Low Hills Sub-Tropical Zone and (Seobagh) Mild Hills Sub Humid Zone of Himachal Pradesh, farmers are advised to maintain 4-5cm of water level in rice field for good yield. The lantana weeds in the grasslands may be cut and also may be sprayed with 1% glyphosate for control of regenerated growth. In improved grasslands where cutting are taken may be fertilized with @1.5 kg nitrogen per kanal. It is optimum time for nursery sowing of early variety of pea, raddish, turnip, corriander, cabbage, Knol khol, broccoli, parsley, lettuce, fennel and cauliflower.
 - In Bhabar and Tarai Zone of Uttarakhand, farmers are advised to do harvesting & 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. The sowing distance from line to line must be 30 cm. Farmers are also advised to go for planting of potato during this week with high yielding varieties. Apply 5 kg Urea, 15 kg SSP and 4 kg MOP per Nali before planting of potato tubers.
 - Farmers are advised to start sowing of vegetable pea from end of this week. In (Ranichuri) Hill zone, farmers are advised for sowing of high yield variety of toria utilizing realized rainfall of last week.
 - Farmers in Delhi are advised to start field preparation for *rabi* crops. Ploughing and planking should be done properly to conserve the moisture in the soil. Undertake sowing of early mustard, pea, planting of early potato, sowing of carrot, sarson saag, spinach radish, fenugreek, coriander, bathua, turnip. Marigold plantation should be done in this weather conditions.
 - Farmers in Western Zone in Punjab are advised to complete harvesting of the paddy crop and picking of cotton bolls. Undertake sowing of raya during first fortnight of this month. Sow barseem or lucerne in mixture with oats and sarson. Use PBR-210 and PBR 91 varieties for districts in South Western Region only. Transplant main season varieties of cauliflower and cabbage. Complete sowing of autumn potato crop in first fortnight of this month particularly for seed production purpose and use healthy tubers.
 - Farmers in Western Plain Zone in Punjab are advised complete planting of autumn sugarcane up to 20th October. Intercrops such as potato, raya, gobhi sarson, winter maize, cabbage, radish and peas may be sown in sugarcane during this month. Paddy crop is now at ripening / maturity stage, so farmers are advised to stop irrigating the

fields before harvesting of the crop. Harvest the fully mature crop at right time without any delay. Start picking of cotton in time. Transplant 4-6 weeks old seedlings of cabbage, midseason cauliflower, Chinese cabbage and Broccoli. Start sowing nursery of tomato. Complete the sowing of autumn potato crop in the first fortnight of October.

- Farmers in Central Plain Zone in Punjab are advised to start picking of cotton bolls during these days. Spray of cobalt chloride is recommended when plant show yellowing & wilting symptoms. Complete the planting of sugarcane in the first fortnight. Intercropping of wheat, *raya*, *toria*, *gobhi sarson*, pea, gram, potato etc. can be done successfully in this crop. Berseem sowing may be completed in first week of October. This month is also ideal for sowing lucerne, oats, senji and Berseem. Complete sowing of autumn potato crop in the first fortnight of October particularly for seed production purpose.
- Farmers in Haryana are advised to undertake harvesting of early maturing paddy varieties (non scented) and picking of cotton. There may be incidence of blight disease on guar due to high temperature and rise in humidity. Farmers are advised to take proper plant protection measure. Undertake sowing of winter vegetables. Apply requirement based irrigation to fodder crops.
- In Transitional Plain Zone of Inland drainage of West Rajasthan, bacterial blight attack on late sown green gram, moth bean and cowpea is reported, spray Streptocyclin @ 1 gm and copper fungicide @ 20 gm per 10 litre of water. Also attack of fruit borer in bitter gourd, Tinda, cucumber, brinjal and tomato is observed, pick affected fruits and buried them deep in soil and spray Melathion 50 EC @ 1.0 ml per litre of water.
- In (Palampur) Sub-Montane & Low Hills Sub-Tropical Zone Himachal Pradesh, weather is favorable for appearance of rice hispa, leaf folder and leaf miner, spray Matacid 50EC 1ml/litre or Chloropyrophos @ 2ml/litre of water. For the control of rats in the fields put zinc phosphide baits in the live burrows and also add water in the burrows. Weather is conducive for attack of white fly in cucurbits, tomato and frenchbean, for control spray acephate @ 0.05 % (7g/litres of water) and direct the spray on lower leaves. Weather is conducive for appearance of red spider mites in carnation, for control spray cypermethrin or nuvacron @ 0.05%.
- Termites may damage crops and vegetables in the present weather in Delhi. Farmers are advised to spray Chlorpyrifos 20 % EC @ 4 ml/litre of water.
- Present weather conditions are highly favorable for infection of blast disease in rice in Delhi. Farmers are advised to take proper plant protection measures.
- False smut may appear in paddy in present weather conditions in Delhi. Symptoms include increase in grains size with brown colored fungus inside. Spraying of Blitox 50 @ 500 grams per hectare at 10 days interval (2-3 times) is advised.
- There may be infestation of sheath blight, hopper and leaf folder on rice in Haryana. Farmers are advised to take proper plant protection measures.
- **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 Transitional Plain Zone of Inland drainage and sub-humid southern plain and Aravali hilli zone of Rajasthan farmers are advised to that, mastitis disease may be seen in milch animals. In this disease, mammary glands & teats become swollen & blood spots in milk may be seen. Treat the affected animal under the guidance of veterinary Doctor, protect sheep and infants from pink cold, give vaccination to animals against H.S/B.Q.
 - In intermediate zone of Jammu & Kashmir, vaccination of animals against FMD is advised. Weather is conducive for ticks and mites attack on animals. For control spray Butox @ 2.0 ml per litres of water. Ensure proper drainage in the surroundings of cowshed.
 - 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 Irrigated North Western plain zone of Rajasthan, farmers are advised to prepare nursery for 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, for control of mite, sulphur dusting may be done @ 1gm/frame or thymol dusting @ 1gm mixed with 15gm wheat flour/colony may be done.
- **Floriculture**

- In Himachal Pradesh, when the seasonal flower crops attain height of 10-15cm then do pinching of terminal growing buds 1-2cm so as to encourage the side branching for profuse flowering.
- Farmers in Flood prone Eastern plain zone (Bharatpur) 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, all dead/damaged blooms, stalks and leaves may be removed from the beds as and when seen. Mowing of lawns may be continued. Nursery beds should be dug up and manure to sow the seeds of spring flowering annuals and herbaceous perennials. Procure the spring flowering seeds and bulbs if do not have their own. Start collecting seeds of summer annuals as and when matured. Cacti plants may be re-potted and manured.

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

- **Realised Rainfall:** Almost all the districts of Andhra Pradesh except Cuddapah, all the districts of Karnataka except Bangalore-Rural, Bellary, and Chamrajnagara and Madurai districts of Tamil Nadu, Kannur, Kasargod, Kozikode and Thrissur districts of 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 Andaman & Nicobar Islands and north Andhra Pradesh during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at a few places over coastal Karnataka and north Karnataka. and at one or two places over rest peninsular India and Lakshadweep.
- **Advisories:**
 - As Almost all the districts of Andhra Pradesh except Cuddapah, all the districts of Karnataka except Bangalore-Rural, Bellary, and Chamrajnagara, and Karaikal and Madurai districts of Tamil Nadu, Kannur, Kasargod, Kozikode and Thrissur districts of 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 complete transplanting of finger millet within this week and undertake gap filling, intercultural operations and top dressing with nitrogen in already sown crop. Take up earthing up in groundnut crop and red gram in 6 to 7 weeks stage.
 - In North Dry Zone of Karnataka, farmers are advised to keep the land and inputs ready for sowing of chickpea, safflower and wheat. In North East Dry zone of Karnataka, farmers may undertake sowing of jowar, maize and bajra for fodder purpose. Sunflower can be sown upto end of October under irrigated conditions.
 - Farmers in the North East Dry Zone of Karnataka are advised to undertake sowing of jowar, maize and bajra for fodder purpose, sowing of navane, and sunflower up to end of October, and keep the lands ready for sowing of *rabi* crops like safflower, *rabi* sorghum and Bengal gram and wherever proper conditions are there safflower sowing can be done. Inter cultivation is to be done in all long duration *kharif* crops like redgram and cotton etc. repeatedly.
 - Farmers in the Central Dry Zone of Karnataka are advised to give second top dressing. Apply 18.75 kg nitrogen per hectare of paddy. Before top dressing with fertilizers, drain the water from fields, apply fertilizer preferably during evening hours and later impound the water 24 hours after application.
 - In the North Transition zone of Karnataka farmers are advised to keep the lands weed free and preparation of the lands for Rabi crops like rabi Sorghum , Wheat, Bengal gram and tobacco can be started.
 - Due to poor inflows into the reservoirs, farmers in the Southern Telangana Zone of Andhra Pradesh are advised to plan early *rabi* with irrigated dry crops like maize, jowar, groundnut, greengram and blackgram etc. with 4-5 irrigations by carefully monitoring the reservoir inflows.
 - Farmers of Scarce Rainfall Zone of Rayalaseema in Andhra Pradesh are advised to go for sowing of Bengal gram in black soils by utilizing moisture received by recent rains.
 - Farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to go in for alternate crops like maize/jowar/blackgram/greengram/rabi redgram, wherever transplanting of paddy could not be done due to non-availability of water.
 - Farmers in the Central Zone of Kerala are advised to start preparation for transplanting of mundakan crop, 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. This is the best time for planting vegetables for seed production. Cultivate resistance tomato varieties like Sakthi, Mukthi, Anagha and Brinjal varieties like Swetha, Haritha in bacterial wilt prone areas. If Bitter guard, Snake guard and pumpkin are cultivated during this season, mosaic disease will be reduced.

- Farmers in the Northern Zone of Kerala are advised that care should be taken to drain the water from the field completely to hasten the maturity. It is time to prepare nursery for the second crop, 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.
- The farmers of Cauvery Delta zone of Tamilnadu are advised to hasten harvesting of the matured kuruvai paddy. Complete nursery sowing of Samba paddy with medium duration varieties. Undertake direct sowing of rice in the main field.
- The farmers of the south zone and north western zone of Tamil Nadu can start preparation for sowing of rainfed cotton, sorghum, pearl millet, sunflower, castor and fodder sorghum, groundnut respectively.
- Present cloudy conditions are congenial for the incidence of Gundhi bug on paddy crop, in coastal zone of Karnataka so go for dusting of Melathion @ 8-10 kg/ acre or spray the same @ 2 ml/lit of water or place a rotten frog/dry fish in the field during milky stage, the foul smell of these attracts bugs and keeps busy on feeding carcass.
- To protect Paddy farmers of central dry zone of Karnataka are advised to spray Carbandezim or Kitagin or Edifenphos @ 1 g/litre of water or Beam @ 0.6 g/litre for Blast. To control Brown Plant Hopper spray 2g carbaryl or 1.25 ml of monocrotophos per lit of water and spray should be at the bottom of the plant. If it is not possible apply phorate granules @5kg / acre. To control Leaf folder, Blue beetle and Hispa Spray chloropyriphos @2 ml per of water, Nimbicidin @ 3 ml/litre or 5% Mukkadaka solution or Quinalphos (2.5 ml/liter).
- If farmers the Hill Zone of Karnataka notices the incidence of Red hairy caterpillar on groundnut, farmers are advised to go for hand picking of grown up larvae followed by dusting with Fenval (0.4%) or Malathion dust (8-10kg/acre). Where ever noticed the incidence of aphid and leaf minor on groundnut , farmers are advised to go for spray with Dimethoate (1.75ml /lt)
- In the Eastern hill tracts of the northern zone of Kerala, Gundhi bug attack is seen in late sown paddy fields of. Farmers are advised to apply Azadiractin 3000ppm stock after diluting in water @ 3ml/L. To have a better control add and stir one to two ml. of Malathion 50EC per litre of the diluted Azadiractin solution before applying. The spraying should be done in the evening hours after fading of the sun. Give the first spray around the border and progress inwards in a spiral manner.
- **Livestock**
 - Farmers in the Coastal Zone of Karnataka are advised to sprinkle water on cattle and provide shade for maintaining temperature as there is sudden rise in Temperature.
 - Farmers of central zone of Kerala are requested to be vigilant against 'E fever' or three day fever which is very common during this season. It is spread by arthropod vectors which suck blood. Though the disease is not fatal it reduces milk production considerably. To prevent both these disease drugs which can be applied externally are used as per the prescription of a veterinarian.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Light to moderate rainfall occurred in some districts of Madhya Pradesh and many districts of Chhattisgarh.
- **Rainfall Forecast:** Rain/thundershowers would occur at a few places over Chhattisgarh and at one or two places over East Madhya Pradesh during next 48 hours and at one or two places thereafter and mainly dry weather in rest of the region.
- **Advisories:**
 - Farmers in Madhya Pradesh and Chhattisgarh are advised to provide irrigation to the standing crops as there was no significant rainfall during last week.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised that top dressing of remaining nitrogenous fertilizer may be applied in rice. Drain the water from the paddy field then top dressing of urea to be done. Again fill the water in the paddy field after three days. Make arrangement for drainage in oilseed and pulse crops. Undertake sowing / transplanting of tomato, brinjal, onion, chilli, and cauliflower. Weeding in rice, arhar, ginger and turmeric field should be done and give irrigation as per requirement in chilly, brinjal and tomato field.
 - Farmers in Gird Zone of Madhya Pradesh are advised to prepare fields for *rabi* crops like mustard, gram, pigeon pea and potato. Conserve moisture in the field. This is proper time for nursery preparation of onion.
 - Farmers in Malwa Plateau Zone of Madhya Pradesh are advised that weather is favourable for the attack of caterpillar and girdle beetle in soybean, for its control apply Chloropyrephos @ 2 ml /lit.

Harvest the early varieties of soybean at physiological maturity. Arrange seeds of improved varieties for sowing of *rabi* crops. Apply fertilizer to chilli, tomato, brinjal, cabbage, cauliflower, onion etc. There is attack of leaf miner on vegetable crops apply Rogor or Confidor @ 1ml/ lit. Nursery for *rabi* vegetables may be prepared by making elevated bed so that water logging can be avoided also protect the bed from rains for this cover the beds by polythene. Sowing of leafy vegetables, radish and carrot may be done. Arrange improved varieties and manures and fertilizers for sowing of potato.

- Farmers in Jhabua Hills of Madhya Pradesh are advised to harvest matured urad and green cobs of maize for marketing. Arrange inputs— seed, fertilizers and chemicals as soon as possible for *rabi* crop cultivation. Tillage operation should be done in fallow field. Irrigated pea/gram (Green) crop may be sown. Prepare proper drainage channels in *kharif* chilli, capsicum, tomato, papaya, onion etc. Use recommended dose of fertilizers. Transplanting of cauliflower for early crop may be done. Prepare nursery of *rabi* onion.
- Farmers in Satpura Plateau of Madhya Pradesh are advised for top dressing of urea in cotton and sugarcane. Also field operations like weeding, intercultural operations, earthing and plant protection are to be followed in sugarcane crop. Care for weed control and plant protection is to be taken for vegetable crops, irrigation and top dressing of nitrogen is to be followed. Transplanting may be done for brinjal, tomato, cauliflower, *kharif* onion etc.
- 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. Farmers are advised to undertake sowing / transplanting of vegetables utilizing the realized rainfall during last week. 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.
- Farmers are advised to apply last dose of fertilizer application for healthy grain production which is at panicle initiation stage in most of the fields in Chhattisgarh Plain Zone.
- 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 vegetable crops with proper drainage system.
- Farmers in Bastar Plateau Zone in Chhattisgarh are advised to prepare field and undertake sowing of cowpea and *kharif* vegetables like bottle gourd, bitter melon, okra and short duration beans, cabbage, cauliflower utilizing the realized rainfall during last week. Farmers are also advised for planting of cassava, colocasia, ginger, elephant foot yam and dioscorea 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 Kymore Plateau and Satpura hill zone of Madhya Pradesh, incidence of Bihar hairy caterpillar, tobacco caterpillar and semilooper is seen in the soybean, moong and urad crops. Use light traps in the field, and if possible destroy egg and larval masses by hand picking. For chemical control spray Chlorpyrifos (20 EC) at 1.5 lit/ha; or Triazophos at 800 ml/ha, or Quinalphos at 1.5 lit/ha on these crops.
- In Jhabua hill zone of Madhya Pradesh, attack of tobacco caterpillar is increasing, farmers are advised to monitor the crops and if 3 caterpillars in one meter row are found spray profenophos+cyper methrin @ 3.0 ml/l or Trizophos + cyper methrin @ 2.0 ml/l soon. Collect the field weeds and prepare Nadep compost.
- Attack of swarming caterpillar may be observed in Bastar Plateau Zone in Chhattisgarh, spray Profenofos 1 ml + Cypermethrin 0.5 mls per litre of water on the bunds. In rice crop stem borer may be observed, for its control light trap should be switched on (bulb) and below in the polythene pit, water should be filled and spray Chlorpyrifos @ 2 ml/ litre of water.
- In the cucurbitaceous vegetables, the attack of red pumpkin beetle is being observed in Bastar Plateau Zone in Chhattisgarh, spray neem oil 5 ml or Carbaryl 50 WP @ 2.5 grams per litre. Attack of fruit fly is being observed in bottle gourd and bitter melon. For this, poison traps should be hanged. Leaf spot disease may be observed in tuber crops, spray Blitox or Mancozeb @ 0.2 percent.

• Animal Husbandry & Poultry

- Farmers in Kymore Plateau and Satpura Hills and Satpura Plateau regions of Madhya Pradesh are advised to vaccinate cattle against Anthrax disease and provide deworming tablets against worm's infection.
- Farmers in Jhabua hills of Madhya Pradesh are advised to vaccinate their cattle for FM disease. Animal and birds should be kept in clean, dry and well ventilated place.
- Farmers in Malwa Plateau of Madhya Pradesh are advised to provide the clean water, balanced nutrients rich food to the animals. De-worm the cattle.

Annexure I

Major Crops

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

- Sugarcane (vegetative), *sali* rice (panicle initiation), *Capsularis* and *Olitorius* jute for seed (seedling / early vegetative), ginger / turmeric (vegetative), arhar (vegetative), *kharif* sesame (vegetative / flowering / pod formation), groundnut (flowering / pegging / pod formation), black gram, green gram (early vegetative / vegetative), maize (vegetative), cauliflower (nursery raising / transplanting), winter vegetables (nursery sowing) in Assam.
- WRC rice (flowering / grain formation), okra, cucurbitaceous vegetables (fruiting / harvesting), soybean (vegetative / flowering / pod formation), sesame (vegetative / flowering / pod formation), cauliflower, cabbage (nursery raising) in Arunachal Pradesh.
- *Kharif* rice (panicle initiation / flowering), soybean, groundnut (vegetative / flowering / pod formation), Potato, pea (sowing), cucurbits, chilli and okra (fruiting / harvesting), tomato (seedling / transplanting), cauliflower (nursery sowing), black gram (vegetative) in Manipur.
- *Ahu* rice (flowering / grain formation), *kharif* rice (tillering / panicle initiation) maize (cob maturity / harvesting), groundnut (flowering / pegging), tomato (flowering / fruiting / harvesting), cole crops (nursery sowing), soybean (vegetative / flowering), turmeric, ginger (vegetative / rhizome formation), *rabi* maize (sowing) and French bean and dolichos bean (branching) in Meghalaya.
- Rice (vegetative / tillering), soybean (vegetative / flowering / pod formation), groundnut (vegetative / flowering / pegging), *kharif* maize (maturity / harvesting), cauliflower, tomato (nursery preparation) and ginger / turmeric (vegetative / rhizome formation), okra, bean and cow pea (harvesting) in Mizoram.
- *Jhum* rice (ripening), Wet land rice(dough stage), maize (maturity / harvesting), Tomato, cabbage (nursery), soybean (vegetative / flowering) in Nagaland.
- Upland rice (flowering / grain formation), *aman* rice (tillering / panicle initiation / flowering), groundnut (flowering / pegging), *kharif* maize (harvesting), sesame (harvesting), bitter gourd and pointed gourd (harvesting) in Tripura.

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

- Maize (harvesting), sugarcane (vegetative), fodder crops like sorghum, bajra, meth, kalai, boda and dinanath grass (sowing / early vegetative / vegetative), *kharif* rice (panicle initiation / flowering), urad, arhar, bajra etc. (sowing / early vegetative), onion, mango, litchi, guava (planting/early vegetative), in Bihar.
- Turmeric and ginger (vegetative), upland rice (tillering / panicle initiation), maize (harvesting), pigeon pea, arhar, groundnut(vegetative), rice (flowering / grain formation), urad, jowar and soybean, til (vegetative), *kharif* vegetables like okra, beans, French bean, tomato, cauliflower, cabbage etc. (vegetative / harvesting), kulthi, African marigold, French marigold (sowing), urad, potato, green pea, toria, tomato, cauliflower, cabbage and bell pepper (land preparation / sowing), rapeseed, linseed and mustard(sowing) in Jharkhand.
- Sugarcane (grand growth), banana (vegetative), jute (harvesting), maize(cob formation), arhar, ragi, cotton, rice(panicle initiation / flowering), sunflower (vegetative), rice (flowering / panicle initiation), Mustard, Groundnut, Sesame, green gram, black gram, cow pea (sowing), *kharif* vegetables like okra, French bean, tomato, cauliflower, cabbage etc. (sowing / vegetative) and fruit crops (planting / seedling) in Orissa.

- *Aus* rice (maturity to harvesting), *aman* rice (heading to grain filling stage), *kharif* maize (cob formation/ cob maturity), cauliflower (seedling), marigold (planting), bitter gourd and pointed gourd, cucurbits (fruiting), yam and betel vine (vegetative), winter vegetables (sowing), Monsoon vegetables (flowering to fruiting stage) in West Bengal.
- Ginger (germination / early vegetative), orange (transplanting/seedling), large cardamom (vegetative / primary flowering / secondary flowering), vegetables (vegetative), rice (tillering) in Sikkim.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane *adsali* (elongation), sugarcane new pre-seasonal (active tillering / elongation), sugarcane new *suru* (active tillering in Madhya Maharashtra and Marathwada), new *adsali* (early tillering), *kharif* rice (grain maturity in early maturing variety, flowering / grain formation in mid late and panicle initiation/flowering in late variety in Konkan, Kolhapur division and panicle initiation / flowering in Nashik, Pune and East Vidarbha division), cotton (flowering / boll formation), soybean (pod maturity / harvesting), groundnut (pod development / pod maturity), bajra (grain maturity / harvesting in Madhya Maharashtra and Marathwada), red gram (primary branching) in Maharashtra.
- Cotton (flowering/boll formation), groundnut (pegging/pod development / maturity), *kharif* rice (flowering / grain filling), pulses (flowering / maturity), sugarcane (vegetative / elongation), sesamum, castor (early) (flowering / capsule formation), castor (vegetative), vegetables (flowering / fruiting / harvesting), winter vegetables (sowing / transplanting) green gram, black gram (pod maturity / harvesting), red gram (vegetative), pearl millet (flowering / ear head emergence), cow pea (maturity / harvesting), sorghum (vegetative) in Gujarat.

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

- Vegetables [bhindi, cucurbits], peas (harvesting), mirch, brinjal (maturity/harvesting), Shimla mirch, and tomato (maturity/harvesting), apple (fruit development), 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 (maturity/harvesting), soybean (flowering), rice (grain formation/maturity), pea, raddish, turnip, coriander, cabbage, Knol khol, broccoli, parsley, lettuce, fennel and cauliflower (sowing) in Himachal Pradesh.
- Rice (flowering/ grain filling stage), chilli, tomato, brinjal, cauliflower (vegetative/flowering/fruiting), spinach, coriander, radish (vegetative/ flowering/fruiting), maize (cob formation), urd, moong, lobia, bajra, til, sorghum (grain formation), sugarcane (vegetative), cotton (boll formation), sugarcane (vegetative) in Delhi.
- Chilli, capsicum, cauliflower, broccoli (vegetative/fruiting/harvesting), sugarcane (planting), papaya (planting), sunflower (early vegetative / vegetative), maize (Normal sown -reproductive stage, 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 irrigated- (panicle initiation / flowering), *kharif* pulses (pod formation/maturity), potato (sowing), radish (sowing), cabbage, cauliflower (nursery sowing), carrot, turnip (sowing), knol-khol, cole crops (transplanting), toria (sowing/emergence), vegetable crops (fruiting stage/harvesting), vegetables {Methi early bunching and kasuri methi, spinach} (sowing) in Jammu & Kashmir.
- Rice (maturity/harvesting), finger millets (grain formation/maturity), groundnut, sorghum, urad, moong, rajma (pod / grain formation/maturity), arhar and ginger (vegetative), soybean (pod maturity/harvesting), maize (cob maturity/harvesting) in Uttarakhand.
- Rice (grain formation/maturity), sugarcane (vegetative growth/ripening), sunflower (vegetative/flowering), fodder maize, lobia, (vegetative/1st cutting), Sanai, Dhaincha (early vegetative / vegetative), summer sugarcane (tillering/grand growth), cotton, soybean (vegetative/flowering), urd (maturity/harvesting), sunflower, jowar, bajra, arhar, (vegetative/flowering), maize (cob formation /cob maturity), vegetables [cucumber, pumpkin, tomato, brinjal, cabbage, lady's finger, chilly, cucurbits] (vegetative/fruiting), groundnut (vegetative/pegging) 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 (fruiting), okra, chilli, brinjal (transplanting/early vegetative), maize, mung, mash, tur (early vegetative), toria (sowing), maize (tasseling/silking) 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, Narma kapas, American Cotton) (boll formation), 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), *kharif* onion (transplanting), *kharif* rice (panicle initiation / flowering), other *kharif* crops viz. pearl millet, sorghum, (flowering / grain formation/grain maturity), green gram, cowpea (pod formation/pod maturity) and groundnut (pod formation/pod maturity), short duration moth and guar (vegetative), moong (vegetative), kinnow (new planting), mustard, potato (sowing) in Rajasthan.

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

- Sugarcane (vegetative), rice (grain filling), late planted paddy (flowering to panicle initiation), fodder maize (cob formation), sunflower (vegetative), groundnut (Pod formation), cowpea (vegetative), soybean (maturity), pigeon pea (vegetative), sorghum (earhead emergence), maize (cob formation), desi cotton (vegetative), cotton (vegetative/flowering) and chilli (flowering/fruitletting) in Karnataka.
- Sugarcane (June planted) (formative/grand growth), banana (vegetative), vegetables (all stages), jowar (flowering), bajra (grain development), paddy (grain formation), ragi (flowering), castor (flowering), early sown groundnut (Pod maturation/harvesting), late sown groundnut (Pod formation/pod filing), maize (taselling), green gram/black gram (pod formation), red gram (vegetative), sesamum (pod filling/harvesting), cotton (flowering/boll development), Bt. cotton (fruitletting) in Andhra Pradesh.
- Pepper (Berry development/new planting), coconut (flowering), irrigated banana (harvesting/ planting), cardamom (planting/harvesting), rubber (tapping), vegetables (harvesting/planting), *virippu* paddy (harvesting), *mundakan* paddy (transplanting), sugarcane (grand growth) in Kerala.
- *Kuruvai* rice (harvesting), *Samba* rice (transplanting), rainfed maize and cotton (sowing), rainfed groundnut (vegetative), groundnut (pod formation/pod maturity), cotton (flowering/boll formation), maize (vegetative/flowering), banana (planting), irrigated maize (grain formation/ maturity), sugarcane (grand growth), pulses (vegetative), vegetables (vegetative/fruitletting) in Tamil Nadu.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Rice (flowering/grain formation), maize (cob formation / harvesting), jowar, and soybean (maturity/harvesting) arhar(vegetative), *kharif* vegetables i.e. tomato, brinjal, chilli etc. (early vegetative/vegetative), fodder crops (maturity/sowing), ladies finger, cucurbits (early vegetative/vegetative) in Madhya Pradesh.
- Rice (flowering / grain formation), 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) in Chhattisgarh.

Annexure II List of Varieties

Assam

Sesame: Punjab Til No. 1, Gouri, Vinayak, Madhabi, ST-1683.

Early cauliflower: Early Kunwari, Pusa Katki, Pusa Deepali.

Dolichos bean: Asina.

Green gram: T-44, Kopergaon, K-851, ML-56, ML-131.

Black gram: T-9, T-27, Pant U-19, T-122, Saonia Mah (SB123), KU 301, USJD113.

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.

Carrot: Nantes, Pusa Kesar, Chantenay etc.

Manipur

Cauliflower: White Shot.

Pea : Arkel, Azad Pea

Meghalaya:

French bean: Arka Suvidha, 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

Orissa

Okra: Utkal Gourav, Arka Anamika, Varsha Uphar, Parvani Kranti and all available hybrid varieties.

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.

Pre-rabi non-paddy crops

Sesame: Kanak, kalika, Uma, Usha, Tilottama, Neelima and Prachi

Green gram : K -851, PDM -54, PDM -11, OUM 11-5

Black gram : T-9, Pant-U-19. Pant –U-30, Pant –U-11

Niger : Deomali

Horsegram : Urmi, DS 1-2-2, DS 1-2

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

Groundnut: Smruti and JL-24

West Bengal:

Cauliflower: Kanwari, Jowhar, Moti, Early Patna.

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

Jharkhand:

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

Urad: Pant Urad -19, Birsa Urad -1.

Til: Kanke Safed and Krishna.

Horse gram: Birsa kulthi-1, G.H.G.-20.

African Marigold: Pusa Narangi, Pusa Basanti.
French Marigold: Petite Orange, Petite Yellow, Rusty Red, Lemmon Drop.
Niger: Birsa niger – 1 or Birsa niger- 2.
Green Pea: Arkel, Kashi Nandini, PE-6, Azad pea, Birsa Matar.
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

Bihar

Urd: T-9.

Arhar: Bahar, Narendra Arhar 1, Malviya 13, Pusa-9, Sharad

Pigeon pea: Navin

Cauliflower: Aghani, Pusi, Early Snowball, Patna main and Pusa Shuvra

Shakarkand: Rajendra Shakarkand 5, Rajendra Shakarkand35, Rajendra Shakarkand 43, Rajendra Shakarkand 47, Kalmegh and Rajendra Shakarkand 92

Rapeseed: RAUTS-17, PT-303, Panchali and Bhawani

Carrot: Pusa Keser, Pusa Meghali, Pusa Yamdagini, Desi lal, Desi kali, American beauty and Kalyanpur yellow.

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 : K Badshah, K.Sinduri, K.Chipsona & K.Sona,

Radish: P.Reshmi,

Carrot: Pusa Kesar, P.Yamdagani,

Turnip: PTWG,

Garlic: Yamuna safed agrifound parvati,

Methi : Pusa early bunching and kasuri methi

Gobi sarson: GSS-1, GSL-2 & DGS –1.

Punjab & Haryana

Punjab :

Okra: Punjab-8, Punjab-7 and Punjab Padmani

Radish: Punjab Ageti & Pusa Chetki, Punjab Pasand & Punjab Safed

Turnip: L-1 & 4-white

Carrot: PC-34

Palak: Punjab Green

Cauliflower: Punjab Giant 26, late season varieties: Snow-Ball-16, Pusa Snow ball 1 & Pusa Snow ball K-1.

Toria: PBT 37/ TL

Sugarcane: CoJ 85, CoJ 83, and CoJ 64

Delhi

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

Carrots: 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 Surya.

Pea : Pusa Pragati, Arkel.
Fenugreek: Pusa Kasuri

Madhya Pradesh

Wheat: Sujata, HW 2004, HI 1500
Gram: JG-130, JG-11, JG-315, JG-16, Jaki – 9218, Kabuli kak-2

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

Cowpea: TVX-944, KBC-1 and KBC-2,
Field bean-HA-3 and HA-4.

Kerala:

Banana: Robusta, Poovan, Njalipoovan, Palayankodan.

Tamilnadu:

Samba Paddy: ADT 38, ADT 39, ADT 46, ADT 49, Co 43, Co 50, TRY 1 and TRY 3 varieties.
KC 3 and PA 255 in cotton, K 8 and K 11 in sorghum, CO 6 in green gram, CO 4 in sunflower, CO (Cu) 9 in pearl millet, TMV 3 in gingelly, CO 4 in coriander and KKM 1 in senna are suitable for rainfed conditions. Fodder sorghum (Lovilpatty-8), Castor (YRTS-1) and groundnut (TMV-7 and 13).

Andhra Pradesh:

Green gram - LGG 460, LGG 407, LGG-410, TM96-2, MGG 295, ML 267, LGG 450.
Black gram - LBG 752, PU 31, T9, LBG 20, LBG 645, LBG 685, LBG 709, LBG 623.

Rajasthan

Vegetables : Tomato : Pusa Ruby, Pusa early dwarf, Roma, Brinjal: Pusa long, Meghdoot, Arka Bahar, Pusa summer and prolific round, Cucumber: Balam, Pusa Sahyog, Early Radish: Pusa Chetki, Carrot: Pusa Kesar,
Early cauliflower : Pusa hybrid-2, Improved Japanese and Pusa Himjyoti,
Sweet potato: Pusa Safed, Pusa Lal, Pusa Sunhari & L-20,
Mid season cauliflower: Improved Japanese, Pusa hybrid-2 & Himjyoti
Ashwaghandha : Improved varieties - Ashwaghandha-20 and Ashwaghandha-134.
Taramira: T-27, I.T.S.A, RTM-314, Karan Tara, Narendra Tara, R.T.M.
Ajwain: Pratap ajwain-1
Early mustard: NPJ112, EJ17, Pusa Mahak and Kanti
Early Pea: Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6
Mustard: Early sown (Irrigated) - NPJ 112, EJ17, Pusa Mahak and kanti.
Normal sown (irrigated) sarson- Maya, Rohini, Pusa Jai kisan, Varuna, RGN13, RGN73, like Bharat Sarson-1 (NRCD-2), Bharat Sarson-2 (NRCHB 101), Bharat Sarson-3 (NRCHB506), 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.

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.

Gujarat:

Gram: Gujarat gram-2 or Gujarat gram-3
Mustard: Varuna or Gujarat mustard-1

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.

Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 03.10.2012

