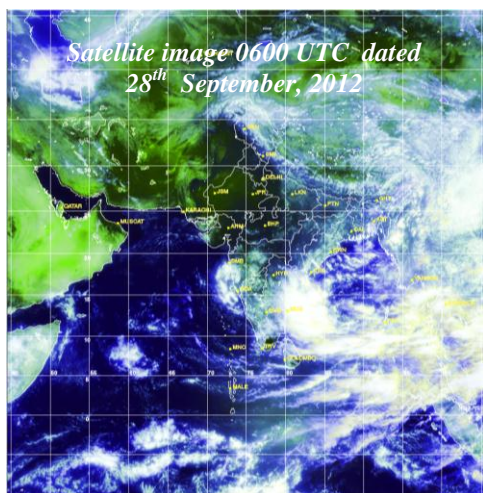
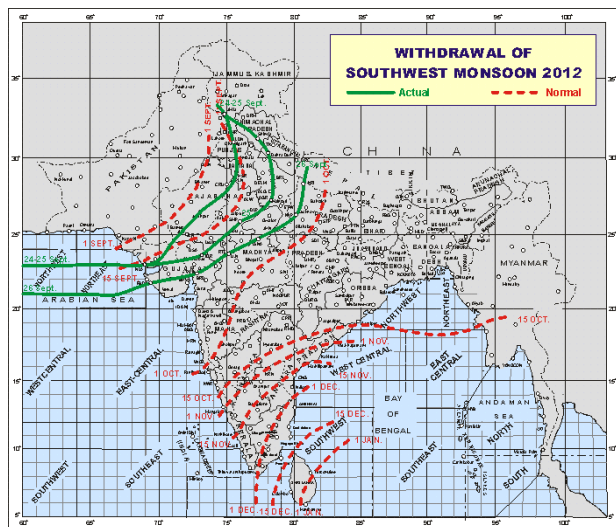


- The withdrawal line continues to pass through Lat. 29.0° N / Long. 81.0° E, Kheri, Kanpur, Guna, Ratlam, Vallabh Vidhyanagar, Porbandar, Lat. 21.0° N / Long. 67.0° E and Lat. 21.0° N / Long. 60.0° E.



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 undertake plant protection measures. Carry out weeding and intercultural operations in groundnut and cotton and in other recently sown crops in North Saurashtra Zone. Carry out intercultural operations, weeding and top dressing of fertilizer in crops sown in July in North West Zone of Saurashtra and Kutch region. Harvest the fully matured green gram and bajra crops. **Gujarat region:** In Middle Gujarat Zone harvest maize and bajra crops and put the harvested product in proper place for drying. Carry out weeding, intercultural operations and application of fertilizer in crops as there possibility of dry weather during next week. Carry out intercultural operation and hand weeding in castor, cotton and apply supplementary dose of nitrogen @ 40 kg / ha. Harvest the matured cowpea pods by hand picking. Carry out hand weeding in newly planted chillies, tomato and brinjal also.
2. **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. Undertake sowing of South African and Deccan-103 maize for fodder purpose up to 30<sup>th</sup> September.
3. **North Interior Karnataka:** In North Dry Zone, farmers are advised to complete sowing of sunflower, *rabi* jowar upto September end. Priority may be given to sowing of fodder crops such as fodder cowpea, maize and bajra. 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.
4. **Madhya Maharashtra:** As cotton is at floral bud initiation / flowering / boll formation stage, farmers of North Madhya Maharashtra are advised to spray 2% DAP as preventive measures against red leaf. As there were rains in August end and September and most of the *kharif* crops are at grain formation / pod development / maturity stage, farmers are advised for early sowing of *rabi* jowar, safflower and rainfed gram using residual soil moisture after harvesting of *kharif* crops.
5. **Marathwada:** As there was rain in some districts of Marathwada region during last week, farmers are advised to undertake sowing of *rabi* jowar and safflower with the help of realized rain in the fields where green gram or black gram is already harvested. Due to heavy rain at few places in Marathwada, there is chance of root rot in papaya; farmers are advised to apply Copper oxy chloride @ 25 g in 10 litres water around the stem near the roots.
6. **Haryana:** Rice is at flowering / grain formation stage. 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.
7. **Delhi:** Start field preparation for early mustard, early pea and planting of early potato. Sowing of carrot can be done in raised beds. Transplant onion seedlings in the prepared fields. This is suitable time for sowing of sarson saag, spinach, coriander, turnip etc. Marigold plantation should also be done. Present weather conditions are favourable for infestation of false smut in rice. Take appropriate plant protection measures.

8. **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.

9. **Bihar:** Farmers are advised to continue land preparation and sowing of September arhar and planting of cauliflower, shakarkand. Undertake nursery sowing of tomato and cabbage. Farmers are advised to apply lifesaving irrigation to rice crop, which is in booting to panicle initiation stage. Farmers are also advised to prepare the land in the upland area for sowing of rapeseed.

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



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National Agrometeorological Advisory Service Centre, Agricultural Meteorology Division,  
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The bulletin is also displayed in the website (<http://www.imdagrimet.gov.in>) of the Division

## Executive Summary

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.

Significant rainfall occurred over most of the districts in Arunachal Pradesh, Assam and Vidarbha, many districts in Chhattisgarh, Marathwada, Sub Himalayan West Bengal and Telangana and over a few districts in Jharkhand and Orissa. Rainfall for the above mentioned States during last week is given in Annexure – I.

Rainfall is likely to occur at many places over Coastal Andhra Pradesh, Rayalaseema and Coastal Tamil Nadu and at a few places over Karnataka, Telangana, Nagaland, Manipur, Mizoram, Tripura, Arunachal Pradesh, Assam and Meghalaya during next 48 hours and increase thereafter. Farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures in these regions. Heavy rainfall would occur at one or two places over Coastal Andhra Pradesh and North Coastal Tamil Nadu during next 72 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:

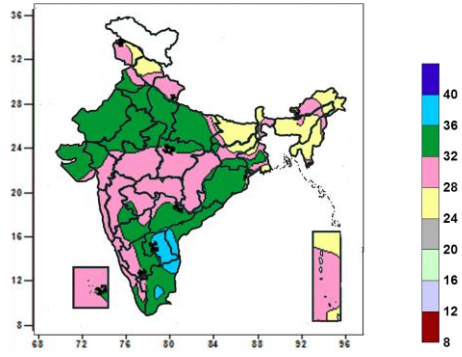
10. **Saurashtra & Kutch:** Carry out intercultural operation and hand weeding in castor and vegetables in South Saurashtra Zone of Gujarat. In groundnut there is incidence of rust and leaf spot diseases. Farmers are advised to undertake plant protection measures. Carry out weeding and intercultural operations in groundnut and cotton and in other recently sown crops in North Saurashtra Zone. Carry out intercultural operations, weeding and top dressing of fertilizer in crops sown in July in North West Zone of Saurashtra and Kutch region. Harvest the fully matured green gram and bajra crops.
11. **Gujarat region:** In Middle Gujarat Zone harvest maize and bajra crops and put the harvested product in proper place for drying. Carry out weeding, intercultural operations and application of fertilizer in crops as there possibility of dry weather during next week. Carry out intercultural operation and hand weeding in castor, cotton and apply supplementary dose of nitrogen @ 40 kg / ha. Harvest the matured cowpea pods by hand picking. Carry out hand weeding in newly planted chillies, tomato and brinjal also.
12. **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. Undertake sowing of South African and Deccan-103 maize for fodder purpose up to 30<sup>th</sup> September.
13. **North Interior Karnataka:** In North Dry Zone, farmers are advised to complete sowing of sunflower, *rabi* jowar upto September end. Priority may be given to sowing of fodder crops such as fodder cowpea, maize and bajra. 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.
14. **Madhya Maharashtra:** As cotton is at floral bud initiation / flowering / boll formation stage, farmers of North Madhya Maharashtra are advised to spray 2% DAP as preventive measures against red leaf. As there were rains in August end and September and most of the *kharif* crops are at grain formation / pod development / maturity stage, farmers are advised for early sowing of *rabi* jowar, safflower and rainfed gram using residual soil moisture after harvesting of *kharif* crops.
15. **Marathwada:** As there was rain in some districts of Marathwada region during last week, farmers are advised to undertake sowing of *rabi* jowar and safflower with the help of realized rain in the fields where green gram or black gram is already harvested. Due to heavy rain at few places in Marathwada, there is chance of root rot in papaya; farmers are advised to apply Copper oxy chloride @ 25 g in 10 litres water around the stem near the roots.
16. **Haryana:** Rice is at flowering / grain formation stage. 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.
17. **Delhi:** Start field preparation for early mustard, early pea and planting of early potato. Sowing of carrot can be done in raised beds. Transplant onion seedlings in the prepared fields. This is suitable time for sowing of sarson saag, spinach, coriander, turnip etc. Marigold plantation should also be done. Present weather conditions are favourable for infestation of false smut in rice. Take appropriate plant protection measures.
18. **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 15<sup>th</sup> October and undertake weeding in standing crops. Prepare field for sowing of the *rabi* crops.
19. **Bihar:** Farmers are advised to continue land preparation and sowing of September arhar and planting of cauliflower, shakarkand. Undertake nursery sowing of tomato and cabbage. Farmers are advised to apply lifesaving irrigation to rice crop, which is in booting to panicle initiation stage. Farmers are also advised to prepare the land in the upland area for sowing of rapeseed.

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:

20. **Rayalaseema:** Top dressing of 30- 40 days old castor with urea @ 25 Kg per acre is advised.
21. **East Uttar Pradesh:** Undertake sowing of toria, onion, garlic, radish, potato, carrot, pea. Undertake intercultural operation in already sown pea, urd and moong. Also undertake transplanting of cauliflower, brinjal, chilli, tomato, sugarcane.
22. **West Uttar Pradesh:** Prepare bund around the field, also carry out Weeding, top dressing and spraying insecticide in rice, maize, sorghum, bajra, red gram, transplanting of brinjal, chilli and tomato, cauliflower, cabbage are in progress. Undertake harvesting of urd, moong and land preparation and sowing of toria / lahi.
23. **Nagaland, Manipur, Mizoram & Tripura, Arunachal Pradesh and Assam & Meghalaya:** 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. Undertake sowing of early cauliflower and radish. Sowing of black gram / green gram in high lands having sandy loam soils may be completed within this month.
24. **Sub Himalayan West Bengal:** Start land preparation for transplanting of early cauliflower. Farmers are also advised to harvest maize.
25. **Sikkim:** Farmers are advised to maintain 3-5 cm standing water in flowering stage of rice.
26. **Gangetic West Bengal:** Under present hot and humid situation there is chance of spread of sheath blight in rice. For control, spray Carbendazim @ 1.5 g / litre of water.
27. **Orissa:** Undertake sowing of green gram, black gram, horse gram, sesame and cowpea in **fallow up** and up-medium land. Farmers are advised to sow mustard and rainfed groundnut. In western undulating zone there is infestation of whorl maggot and leaf folder in paddy; spray *Monocrotophous* @ 2 ml / litre of water.
28. **Punjab:** Farmers in Western Zone in Punjab are advised for sowing early varieties of vegetables like “desi” varieties of radish, turnip and carrot and late season varieties of cauliflower. Farmers in Western Plain Zone in Punjab are advised to start planting of *autumn* cane varieties like CoJ 85, CoJ 64 and CoJ 83 from this week. Also undertake sowing of garlic, palak etc.
29. **Himachal Pradesh:** Start sowing of toria. Maintain 4-5 cm of water level in rice field. It is optimum time for transplanting of tomato seedlings in raised bed and planting of onion bulbs.
30. **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. Farmers are also advised to sow *rabi* crops like gram, lentil, linseed, pea, mustard, potato etc.
31. **Uttarakhand:** Start harvesting & threshing of matured rice crop during this week. Also start sowing of vegetable pea and prepare the land for sowing of *rabi* crops from end of this week.
32. **Jammu & Kashmir:** Undertake sowing of toria intercropped with gobi sarson, berseem and harvesting of moong, vegetables, maize, *kharif* fodder and early sown rice crops.
33. **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.
34. **East Madhya Pradesh:** Incidence of Bihar hairy caterpillar, tobacco caterpillar and semilooper is seen in the soybean. Apply plant protection measures if infestation exceeds ETL. Prepare field for sowing of mustard and pea.
35. **West Madhya Pradesh:** Attack of caterpillar and girdle beetle reported. Take appropriate plant protection measures.
36. **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 and black gram are at pod maturity stage, farmers of west Vidarbha are advised to complete plucking of already matured pods. They are also advised to complete preparatory tillage and field may be kept ready for sowing of *rabi* jowar, safflower after harvesting of matured pulses.
37. **Chhattisgarh:** Farmers are advised to undertake sowing of horse gram and transplanting of vegetables crops.
38. **Konkan:** As there was light rain and isolated rain is expected during next 3 -5 days, farmers of Konkan are advised to maintain water level 5-10 cm by bunding rice field and application of irrigation.
39. **Coastal Andhra Pradesh:** In North Coastal Andhra Pradesh, blast and sheath blight disease is observed in some parts on rice crop. Take appropriate plant protection measures. In South Coastal Andhra Pradesh, undertake foliar application of 2% urea / 2% DAP / 2% KNO<sub>3</sub> at square formation and flowering stages of cotton crop.
40. **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.
41. **Tamil Nadu:** Undertake nursery sowing of *samba* rice. Also undertake direct sowing of rice in the main field.
42. **Coastal Karnataka:** Maintain proper water level in rice field at grain formation stage.
43. **Kerala:** Drain out water from rice field 10 days before harvesting.

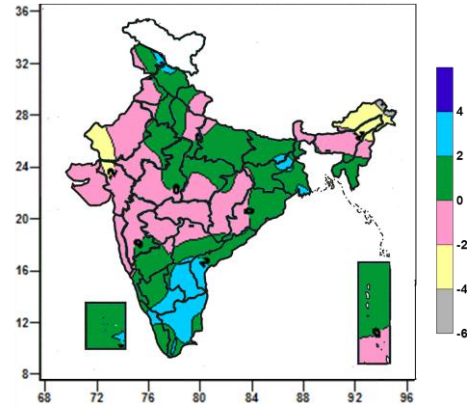
## Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 26.09.2012

**Actual Mean Maximum Temperature ( $^{\circ}\text{C}$ ) in India for the week ending 26.09.2012**



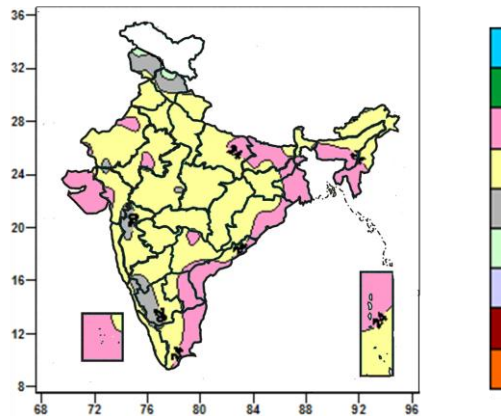
Actual Mean Maximum temperature ranged  $36^{\circ}\text{C}$  and above over some parts of Coastal Andhra Pradesh, Tamil Nadu,  $32$  to  $36^{\circ}\text{C}$  over many parts of Punjab, Haryana, Delhi, Rajasthan, Uttar Pradesh, Saurashtra & Kutch, Gujarat, Orissa, Telangana, Coastal Tamil Nadu, South Interior Karnataka, some parts of Coastal Andhra Pradesh, Raylaseema, Coastal Tamil Nadu, North Interior Karnataka, Madhya Maharashtra, Marathwada, Madhya Pradesh, Bihar, Jharkhand,  $24$  to  $32^{\circ}\text{C}$  over remaining parts of the country.

**Maximum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 26.09.2012**



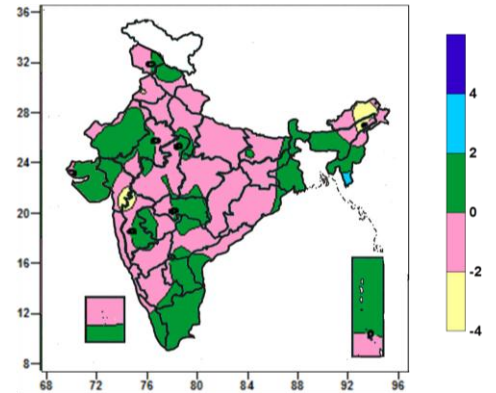
Actual Mean Maximum temperature anomaly ranged between  $2$  to  $4^{\circ}\text{C}$  and above over many parts of Raylaseema, Tamil Nadu, some parts of Coastal Andhra Pradesh, Telangana, South interior Karnataka, Kerala, Jammu & Kashmir, Himachal Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Lakshadweep Islands,  $0$  to  $2^{\circ}\text{C}$  over many parts of Jammu & Kashmir, Himachal Pradesh, Haryana, Delhi, Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Tripura, Orissa, Karnataka, Lakshadweep and Andaman & Nicobar Islands, some parts of East Rajasthan, Jharkhand, Punjab, Uttarakhand, Mizoram, Assam, Andhra Pradesh, Tamil Nadu, Kerala, Madhya Maharashtra,  $-4$  to  $0^{\circ}\text{C}$  over rest of the country.

**Actual Mean Minimum Temperature ( $^{\circ}\text{C}$ ) in India for the week ending 26.09.2012**



Actual Mean Minimum Temperature ranged between  $24^{\circ}\text{C}$  and above over many parts of Bihar, Gangetic West Bengal, Tripura, Gujrat, Coastal Andhra Pradesh, Raylaseema, Lakshadweep, some parts of East Uttar Pradesh, Rajasthan, Sub-Himalayan West Bengal, Assam & Meghalaya, Mizoram, Gujarat, Orissa, Telanagana, Tamil Nadu, Andhaman & Nicobar Islands,  $16$  to  $20^{\circ}\text{C}$  over many parts of Jammu & Kashmir, Himachal Pradesh,  $12$  to  $16^{\circ}\text{C}$  over some parts of Jammu & Kashmir, Himachal Pradesh and between  $20$  to  $24^{\circ}\text{C}$  over remaining parts of the country.

**Minimum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 26.09.2012**



Minimum Temperature anomaly ranged above  $2^{\circ}\text{C}$  over some parts of Tripura,  $0$  to  $2^{\circ}\text{C}$  many parts of West Rajasthan, West Bengal & Sikkim, Assam & Meghalaya, Manipur, Mizoram, Tripura, Raylaseema, Tamil Nadu, Kerla, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, West Rajasthan, West Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Orissa, North & south Karnataka, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh, Telanagana, Lakshadweep Islands,  $-4$  to  $-2^{\circ}\text{C}$  over most parts of Arunachal Pradesh, Assam, Gujarat, Madhya Maharashtra, some parts of Assam,  $-2$  to  $0^{\circ}\text{C}$  over remaining parts of the country.

**Distribution of rainfall of the  
country during week ending on 26.09.2012**

State/Districts	Actual	% Dep
<b>Arunachal Pradesh</b>		
Anjaw	**	**
Changlang	80.5	25
East Kameng	151	213
East Siang	34.8	-39
Kurung Kumey	873.8	644
Lohit		
Lower Dibang Valley	450.7	622
Lower Subansiri		
Papumpara	29	-41
Tawang	162.9	45
Tirap	99	3
Upper Dibang Valley	70.1	-9
Upper Siang	305.3	57
Upper Subansiri	52.4	39
West Kameng	64.6	-33
West Siang	119	80
<b>Assam</b>		
Baksa	232.9	174
Barpeta	282.9	232
Bongaigaon	441	424
Cachar	51.5	-24
Chirang	329.8	292
Darrang	21	-43
Dhemaji	145	63
Dhubri	291.7	385
Dibrugarh	118.9	100
East Garo Hills	423	738
East Khasi Hills	478.1	422
Goalpara	186.8	154
Golghat	22.1	-47
Hailakandi	38	-37
Jaintia Hills	191	35
Jorhat	60	8
Kamrup(Metro)	52	44
Kamrup	12.8	-65
Karbi Anglong	14.5	-59
Karimganj	47.3	-30
Kokrajhar	291.5	196
Lakhimpur	157.9	78
Morigaon	14.4	-71
N.C.Hills	133.7	180
Nowgong	13.1	-73
Nalbari	125.1	222
Ribhoi	56	-29
Sonitpur	75.4	90
Sibsagar	69.4	85
South Garo Hills	57	-5
Tinsukia	186.7	194
Udalgiri	133.4	264
West Garo Hills	149	149
West Khasi Hills	**	**
<b>Himachal Pradesh</b>		
Bilaspur	5.8	-78
Chamba	0	-100
Hamirpur	14.7	-64
Kangra	0	-100
Kinnaur	2.3	-94
Kullu	2.4	-93
Lahaul and Spiti	0	-100

State/Districts	Actual	% Dep
Mandi	8.8	-79
Shimla	2.7	-88
Sirmaur	0.9	-97
Solan	0.8	-98
Una	3.3	-91
<b>Punjab</b>		
Amritsar	0	-100
Barnala	0	-100
Bhatinda	0	-100
Faridkot	0	-100
Fatehgarh Saheb	0	-100
Ferozpur	0.2	-99
Gurdaspur	0	-100
Hoshiarpur	0	-100
Jalandhar	0	-100
Kapurthala	0	-100
Ludhiana	0.8	-97
Mansa	0	-100
Moga	0	-100
Muktesar	0	-100
Nawashahar	0	-100
Patiala	0	-100
Ropar	1.7	-95
Sangrur	0	-100
Mohali	0	-100
TarnTaran	0	-100
<b>Haryana</b>		
Ambala	0	-100
Bhiwani	0	-100
Chandigarh	0	-100
Faridabad	0	-100
Fatehabad	0	-100
Gurgaon	0	-100
Hissar	0	-100
Jhajar	0	-100
Jind	0	-100
Katihah	0	-100
Karnal	0	-100
Kurukshetra	0.3	-99
Mahendragarh	0.3	-97
Mewat	0	-100
Palwal	0	-100
Panchkkula	1.7	-95
Panipat	0.1	-99
Rewari	0	-100
Rohtak	0	-100
Sirsa	0	-100
Sonepat	0.1	-99
Yamunanagar	0	-100
New Delhi	0.2	-99
<b>Jammu &amp; Kashmir</b>		
Anantnag	2	-86
Badgam	0	-100
Bandipore	**	**
Baramula	0	-100
Doda	0	-100
Ganderwal	0	-100
Jammu	0	-100
Kargil	0	-100
Kathua	1	-97
Kistwar	**	**

State/Districts	Actual	% Dep
Kulgam	0	-100
Kupwara	0	-100
Ladakh(Leh)	0	-100
Poonch	0	-100
Pulwama	0	-100
Rajouri	0	-100
Ramban	0	-100
Reasi	0	-100
Samba	0	-100
Shopian	0	-100
Srinagar	0	-100
Udhampur	0	-100
<b>East Madhya Pradesh</b>		
Anuppur	20.6	-37
Balaghat	29	-22
Chhatarpur	0.8	-96
Chindwara	16.7	-45
Damoh	7	-68
Dindori	66.6	127
Jabalpur	10.6	-60
Katni	0	-100
Mandla	5.4	-81
Narsingpur	7.8	-75
Panna	0	-100
Rewa	0	-100
Sagar	17	-37
Satna	6	-79
Seoni	20.8	-36
Shahdol	7	-69
Sidhi	2.2	-93
Singrauli	44	62
Tikamgarh	4	-79
Umaria	37.4	36
<b>West Madhya Pradesh</b>		
Alirajpur	42.7	54
Asoknagar	6.5	-75
Badwani	47.4	54
Betul	32.5	9
Bhind	0	-100
Bhopal	1.2	-97
Burhanpur	14.2	-36
Datia	0	-100
Dewas	12.2	-63
Dhar	17.3	-51
Guna	0	-100
Gwalior	0	-100
Harda	3.1	-91
Hosangabad	9.2	-75
Indore	32.9	-22
Jhabua	17.1	-35
Khandwa	17	-53
Khargone	8.9	-73
Mandsaur	7.5	-68
Morena	0	-100
Neemuch	62.7	260
Raisen	31.6	12

State/Districts	Actual	% Dep
Rajgarh	9	-66
Ratlam	6.8	-80
Sehore	12.2	-64
Shajapur	0.8	-98
Sheopur Kalani	3.8	-72
Shivpuri	10.5	-45
Ujjain	7	-78
Vidisha	7.8	-62
<b>Chattisgarh</b>		
Bastar	75.8	68
Bijapur	117.3	190
Bilaspur	13.4	-58
Dantewara	92	149
Dhamtari	64	54
Durg	37.1	-19
Janjgir	26.2	-39
Jashpurnagar	16.6	-62
Kanker	88.5	111
Korba	26.5	-12
Koriya	14.6	-45
Kawardha	38	-3
Mahasumund	13.2	-64
Narayanpur	34.6	-14
Raigarh	9.1	-76
Raipur	26.3	-28
Rajandgaon	30	-33
Surguja	1.1	-97
<b>East Uttar Pradesh</b>		
Allahabad	2.1	-92
Ambedkar Nagar	0	-100
Azamgarh	0	-100
Bahraich	0	-100
Ballia	0.4	-99
Balrampur	0	-100
Banda	0	-100
Barabanki	0	-100
Basti	0.5	-98
Chandauli	0	-100
Deoria	0	-100
Faizabad	0	-100
Farrukhabad	0	-100
Fatehpur	0	-100
Gazipur	0	-100
Gonda	0	-100
Gorakhpur	0	-100
Hardoi	0	-100
Jaunpur	0	-100
Kannauj	0	-100
Kanpur City	0	-100
Kanpur Dehat	0	-100
Kaushambi	0	-100
Kheri	0.4	-99

State/Districts	Actual	% Dep
Kushi nagar	0	-100
Lucknow	0	-100
Maharajganj	0	-100
Mau	0	-100
Mirzapur	0	-100
Pratapgarh	0	-100
RaiBareilly	0	-100
Sahuji Maharajnagar	0	-100
Sant Kabirnagar	0	-100
Sant Ravidas Nagar	0	-100
Shrawasti	0	-100
Sidharthnagar	0	-100
Sitapur	0	-100
Sonbhadra	0	-100
Sultanpur	0	-100
Unnao	0	-100
Varanasi	0	-100
<b>West Uttar Pradesh</b>		
Agra	0	-100
Aligarh	0	-100
Auraiya	0	-100
Badaun	0	-100
Baghpat	0	-100
Bareilly	0	-100
Bijnor	0	-100
Bulandsahar	0	-100
Etah	0	-100
Etawah	0	-100
Firozabad	0	-100
GBNagar	0	-100
Ghaziabad	0	-100
Hamirpur	0	-100
Jalaun	0	-100
Jhansi	0.4	-98
Jotirba Phule Nagar	0	-100
Kanshiramnagar	0	-100
Lalitpur	0	-100
Mahamaya Nagar	0	-100
Mahoba	0	-100
Mainpuri	0	-100
Mathura	0	-100
Meerut	0	-100
Moradabad	0	-100
Muzzaffarnagar	0	-100
Pilibhit	0	-100
Rampur	0	-100
Saharanpur	0	-100
Shahjahanpur	0.7	-97
<b>Uttarakhand</b>		
Almora	0	-100
Bageshwar	0	-100

State/Districts	Actual	% Dep
Chamoli	3.7	-83
Champawat	0	-100
Dehradun	2.5	-93
Garhwal Pauri	5	-82
Garhwal Tehri	2.3	-90
Haridwar	0	-100
Nainital	1.4	-97
Pithorgarh	6	-88
Rudraprayag	2	-93
Udham Sing Nagar	0	-100
Uttarkashi	9.3	-70
<b>Bihar</b>		
Araria	34.6	-19
Arwal	1.3	-96
Aurangabad	0.3	-99
Banka	8.7	-78
Begusarai	0	-100
Bhabua	0	-100
Bhagalpur	10.5	-75
Bhojpur	15.5	-58
Buxar	0	-100
Darbhanga	0	-100
East Champaran	3.6	-91
Gaya	0	-100
Gopalganj	6.5	-76
Jahanabad	0.4	-99
Jamui	16.8	-58
Kathihar	15.5	-61
Khagadia	1.8	-95
Kishanganj	93.2	40
Lakhisarai	10	-74
Madhepura	3.1	-92
Madhubani	6.2	-84
Monghyar	5.4	-86
Muzaffarpur	4.3	-89
Nalanda	0	-100
Nawada	2.2	-94
Patna	0.4	-99
Purnea	2.4	-94
Rohtas	0	-100
Saharsha	2.2	-95
Samstipur	8	-83
Saran	2.9	-93
Sheikpura	0	-100
Sheohar	2	-94
Sitamarhi	0	-100
Siwan	0	-100
Supaul	23.8	-46
Vaishali	3.1	-91
West Champaran	3.5	-92
<b>Jharkhand</b>		
Bokaro	10.9	-75

State/Districts	Actual	% Dep
Chatra	3	-93
Deoghar	2.1	-95
Dhanbad	35.9	-18
Dumka	21.5	-60
East Singbhum	45.5	2
Garhwa	0	-100
Giridih	44.2	18
Godda	15.6	-53
Gumla	46.4	-3
Hazaribagh	0.7	-98
Jamtara	63	44
Khunti	27.3	-18
Koderna	5	-87
Latehar	0	-100
Lohardagga	1.6	-96
Pakur	91.6	62
Palamau	4.9	-87
Ramgarh	10.8	-74
Ranchi	12.8	-61
Sahebganj	11.8	-76
Saraikeela	43	24
Simdega	23	-43
West Singbhum	25.6	-41
<b>East Rajasthan</b>		
Ajmer	0	-100
Alwar	0.3	-97
Banswara	9.9	-53
Baran	0.2	-99
Bharatpur	0.4	-96
Bhilwara	3.6	-71
Bundi	0.9	-94
Chittorgarh	16.2	6
Dausa	7.7	-43
Dholpur	0.4	-97
Dungarpur	3.6	-73
Jaipur	0	-100
Jhalawar	2.6	-89
Jhunjhunu	0.2	-98
Karauli	2.2	-80
Kota	7.4	-62
Pratapgarh	7.8	-70
Rajsamand	2.8	-80
Sawai Madhopur	9.3	-20
Sikar	0	-100
Sirohi	0.2	-99
Tonk	2.3	-79
Udaipur	16.5	1
<b>West Rajasthan</b>		
Barmer	0.6	-88
Bikaner	0	-100
Churu	0	-100
Hanumangarh	0	-100

State/Districts	Actual	% Dep
Jaisalmer	0	-100
Jalore	0.1	-98
Jodhpur	0.5	-93
Nagaur	0	-100
Pali	0	-100
Sri Ganganagar	0	-100
<b>Gujarat Region</b>		
Ahmedabad	17.1	14
Anand	6.6	-62
Banaskantha	0	-100
Baroda	20.4	-20
Broach	12.3	-61
DNH	24.3	-77
Dahod	11.3	-52
Daman	17	-84
Dangs	24.3	-63
Gandhinagar	1.3	-92
Kheda	5.6	-71
Mehsana	2.9	-81
Narmada	26.4	-12
Navsari	37.7	-22
Panchmahal	3.9	-83
Patan	4.3	-49
Sabarkantha	0	-100
Surat	52.6	27
Tapi	7.5	-82
Valsad	28.7	-50
<b>Saurashtra, Kutch &amp; Diu region</b>		
Amreli	18.5	-31
Bhavnagar	18.2	-29
Diu	0	-100
Jamnagar	5.9	-11
Junagarh	4.9	-71
Kutch	9	100
Porbandar	0	-100
Rajkot	7.7	-55
Surendranagar	19.4	21
<b>Maharashtra</b>		
<b>Konkan &amp; Goa</b>		
Goa	0.8	-98
Mumbai	14.6	-81
Raigad	3.1	-96
Ratnagiri	0.9	-98
Sindhudurg	3.1	-96
Thane	10.2	-86
<b>Madhya Maharashtra</b>		
Ahmednagar	35.1	-14
Dhule	0.8	-98
Jalgaon	12.2	-57
Kolhapur	4	-91
Nandurbar	18.7	-39
Nasik	15.6	-63

State/Districts	Actual	% Dep
Pune	9.5	-79
Sangli	0	-100
Satara	1.5	-97
Solapur	17.1	-65
<b>Marathwada</b>		
Aurangabad	23.6	-43
Beed	34.6	-17
Hingoli	67.2	81
Jalna	26	-27
Latur	41.2	20
Nanded	47.3	15
Usmanabad	28.3	-39
Parbhani	32.3	-18
<b>Vidarbha</b>		
Akola	39.2	32
Amraoti	27	-17
Bhandara	59.8	103
Buldhana	41.8	51
Chandrapur	60.2	59
Gadchiroli	48.2	52
Gondia	41.3	22
Nagpur	36	16
Wardha	45.9	41
Washim	53.1	73
Yeotmal	40.8	24
<b>Orissa</b>		
Angul	40.5	-15
Balasore	3.5	-95
Bargarh	25.5	-26
Bhadrak	3.7	-93
Bolangir	39.3	9
Boudh	15.1	-69
Cuttack	19.7	-58
Deogarh	21.4	-47
Dhenkanal	24.6	-52
Gajapati	123.2	129
Ganjam	21.4	-53
Jagatsingpur	26.6	-45
Jajpur	11.7	-82
Jharsuguda	6.9	-82
Kalahandi	35.1	-7
Kandhamal	49.8	4
Kendrapara	4.3	-92
Keonjhar	44.2	-14
Khurda	14.7	-74
Koraput	50.9	-6
Malkangiri	131.8	230
Mayurbhanj	8.8	-86
Nawapara	15.4	-60
Nawarangpur	79.4	73
Nayagarh	43.5	-28
Puri	19.7	-57

State/Districts	Actual	% Dep
Rayagada	45.5	22
Sambalpur	28.7	-29
Sonepur	33.7	-26
Sundargarh	28.4	-21
<b>West Bengal</b>		
<b>GWB</b>		
Bankura	15.9	-73
Birbhum	24.9	-65
Burdwan	16.5	-73
East Midnapore	15.7	-83
Hooghly	4.8	-90
Howrah	0.2	-99
Kolkata	89.6	32
Murshidabad	3.2	-94
Nadia	0	-100
24 Pargana (N)	4	-94
Purulia	46	-4
24 Pargana (S)	14.9	-84
West Midnapore	7.6	-87
<b>SHWB</b>		
Cooch Behar	101.6	21
Darjeeling	62.9	-33
East Sikkim	35.5	-51
Jalpaiguri	107.4	22
Malda	28.8	-57
North Dinajpur	27	-72
North Sikkim	443.6	441
South Dinajpur	88.9	57
South Sikkim	1.7	-98
West Sikkim	20	-76
<b>Karnataka</b>		
Coastal Karnataka		
Dakshin Kannada	0	-100
Udupi	2.3	-97
Uttar Kannada	0.2	-99
<b>North Interior Karnataka</b>		
Bagalkote	0	-100
Belgaum	0.1	-99
Bidar	16	-64
Bijapur	0.6	-99
Dharwad	0	-100
Gadag	0	-100
Gulbarga	7.8	-83
Haveri	0	-100
Koppal	0	-100
Raichur	8.1	-80
Yadgir	2.7	-95

State/Districts	Actual	% Dep
<b>South Interior Karnataka</b>		
Bangalore Rural	0	-100
Bangalore Urban	0.5	-99
Bellary	0.6	-99
Chamarajnar	1.2	-97
Chichballapur	1.7	-96
Chickmagalur	0	-100
Chitradurga	0	-100
Davangere	0	-100
Hassan	0	-100
Kodagu	1.4	-97
Kolar	3.9	-91
Mandya	0	-100
Mysore	0	-100
Ramnagara	0	-100
Shimoga	0.9	-98
Tumkur	0	-100
<b>Kerala</b>		
Alappuzha	0	-100
Kannur	0	-100
Ernakulam	2.4	-97
Idukki	25.6	-69
Kasaragod	0	-100
Kollam	1	-99
Kottayam	10.3	-86
Kozhikode	0	-100
Malappuram	0	-100
Palakkad	0	-100
Pathanamthitta	0	-100
Thiruvananthapuram	2.3	-96
Thrissur	0	-100
Wyanad	0	-100
<b>Tamil Nadu</b>		
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	-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	-82
Nilgiris	3.2	-92

State/Districts	Actual	% Dep
Perambalur	3.5	-89
Puducherry	2.7	-91
Pudukottai	12.6	-55
Ramanathapuram	5.9	-71
Salem	2	-95
Sivaganga	3.9	-84
Thanjavur	11.6	-59
Theni	3.8	-85
Tirunelveli	0.5	-96
Tirupur	0	-100
Tiruvallur	20.4	-37
Tiruvannamalai	18.7	-52
Tiruvarur	15.2	-47
Toothukudi	0	-100
Trichy	10.2	-67
Vellore	21.9	-47
Villupuram	19.2	-45
Virudhunagar	9.9	-59
<b>Andhra Pradesh</b>		
<b>Coastal Andhra Pradesh</b>		
East Godavari	83	66
Guntur	36.2	-13
Krishna	32.7	-28
Nellore	17.9	-38
Prakasam	19.4	-48
Sirkakulam	51.4	8
Visakhapatnam	65	44
Vizianagram	61.5	29
West Godavari	63	34
<b>Telangana</b>		
Adilabad	85.2	107
Hyderabad	20.5	-56
Karimnagar	55.6	29
Khammam	51.5	29
Mehabubnagar	7.3	-82
Medak	37.4	-7
Nalgonda	31.5	-24
Nizamabad	34.2	-14
Rangareddy	10.1	-80
Warangal	23.9	-30
<b>Royalaseema</b>		
Anantapur	0	-100
Chittoor	17.9	-48
Cuddapah	1.2	-97
Kurnool	4.1	-90

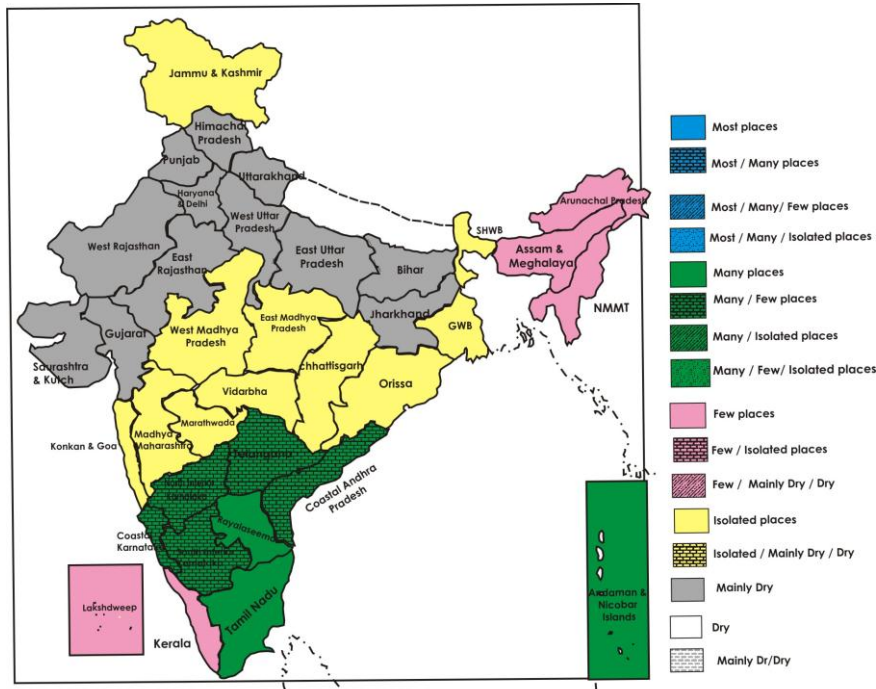


(20% or more) excess rainfall  
(-19 to +19%) normal rainfall  
(-20 to -59%) deficient rainfall

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



## Weather Forecast (Valid upto 0830 hours of 30<sup>th</sup> September, 2012)



### Major Feature of Weather Forecast up to 0830 hours IST of 30<sup>th</sup> September, 2012

- Rain/thundershowers would occur at many places over coastal Andhra Pradesh, Rayalaseema, coastal Tamilnadu & Puduchery and Andaman & Nicobar Islands.
- Rain/thundershowers would occur at a few places over interior Tamilnadu, Kerala and Lakshadweep.
- Rain/thundershowers would occur at a few places over Karnataka and Telangana during next 48 hours and increase thereafter.
- Rain/thundershowers would occur at a few places over Nagaland, Manipur, Mizoram & Tripura, Arunachal Pradesh and Assam & Meghalaya during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at one or two places over Jammu & Kashmir, south Madhya Pradesh, Odisha, Vidarbha, south Chhattisgarh, West Bengal & Sikkim, Marathawada, Madhya Maharashtra and Konkan & Goa.
- Weather would be mainly dry over rest of the country.

### Weather Warning during next 3 days

- Heavy rainfall would occur at one or two places over coastal Andhra Pradesh and north coastal Tamilnadu during next 72 hours.

### Weather Outlook for subsequent 4 days up to 0830 hours IST of 4<sup>th</sup> October, 2012

- Rain/thundershowers would occur at many places over northeastern states, Karnataka and Andhra Pradesh.
- Rain/thundershowers would occur at a few places over east and adjoining central India on 30<sup>th</sup> Sept. & 1st Oct. and at many places thereafter.
- A fresh western disturbance may affect western Himalayan region.

## Zonewise Agromet Advisories

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

- **Realised Rainfall:** Most of the districts of Arunachal Pradesh received significant rainfall except Papumpara and most of the districts of Assam received significant rainfall except Darrang, Golaghat, Kamrup, Karbi Anglong, Morigaon, Nowgaon during last week.
- **Rainfall Forecast:** Rain/thundershowers would occur at a few places over Nagaland, Manipur, Mizoram & Tripura, Arunachal Pradesh and Assam & Meghalaya during next 48 hours and at many places thereafter.
- **Advisories:**
  - Most of the districts of Arunachal Pradesh except Papumpara and most of the districts of Assam except Darrang, Golaghat, Kamrup, Karbi Anglong, Morigaon, Nowgaon received significant rainfall during last week, farmers are advised to postpone irrigation in these States.
  - Farmers in Hill Zone of Assam are advised to undertake land preparation and sowing of black gram and green gram, transplanting of early cauliflower and also nursery sowing of winter vegetables.
  - 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 niger 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 of early cauliflower and radish. Select high lands having sandy loam soil for sowing of green gram and black gram.
  - 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 *Olorius* jute may be continued.
  - Farmers in Barak Valley Zone of Assam are advised to start preparing nursery for raising seedlings of brinjal and field preparation for sugarcane (*Autumn* planting). Select upland sandy loam soil for the cultivation of early cauliflower.
  - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to harvest matured maize, 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 30 – 35 days after transplanting. Farmers are advised to harvest *kharif* maize and complete the harvesting of bitter gourd and pointed gourd. After harvesting land may be prepared for vegetables like tomato, cauliflower, cabbage, capsicum, raddish, 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 *Hispa* and Sheath blight are observed in rice. To control *Hispa* spray 0.02% Chloropyriphos 20 EC or 0.025% Quinalphos 25 EC. Spray Mancozeb (2.5 g / litre of water) or Hexaconazole 5 EC @ 2 ml / litre of water to control sheath blight.
- 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.
- Farmers in Sub Tropical Plain Zone of Manipur Plutella/ Daimond Black Moth may be observed in cabbage and cauliflower. Spray Dichlorovos 76 EC @ 0.5 ml/ lit of water if Plutella (Daimond Black Moth) 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 at many places over Sub Himalayan West Bengal, Sikkim, few places over Jharkhand and Orissa, at Kishanganj and Araria districts of Bihar, at Kolkata and Purulia in Gangetic West Bengal during last week.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Orissa, West Bengal & Sikkim and weather would be mainly dry over Bihar and Jharkhand.
- **Advisories:**
  - As there was significant rainfall occurred in many districts of Sub Himalayan West Bengal and Sikkim during last week, farmers are advised to postpone irrigation to the standing crops.
  - In South Bihar Alluvial Zone, in the upland areas, where paddy crop could not be transplanted, farmers can start sowing of September pigeon pea, utilizing recent monsoon rainfall. Farmers are also advised to adopt contingent crop planning such as short duration crops (sunflower, maize, urad, bhindi) on

upland fields. Sowing of tobacco and vegetables may also be undertaken. Weather is congenial for planting of onion, mango, litchi and guava.

- In North West Alluvial Plain Zone of Bihar, farmers are advised for field preparation and sowing of September arhar. Weather condition is congenial for planting of cauliflower and shakarkand. Farmers are advised to prepare field and sow these crops. Farmers are advised to apply life saving irrigation to rice crop which is in booting to panicle initiation stage. Farmers are also advised to prepare the land in the upland area for sowing of rapeseed. Undertake nursery sowing of tomato and cabbage.
- 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.
- Farmers of Western Undulating Zone of Orissa are advised raising nursery of *rabi* vegetables.
- As light to moderate rain is expected, farmers of North Central Plateau Zone of Orissa are advised to impound water in the field. In early planted medium and late duration varieties of rice, 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. 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.
- Farmers of North Eastern Plateau Zone of Orissa are advised for top dressing of fertilizer at tillering and PI stage. Farmers are also advised to complete planting of tomato.
- Farmers of North Eastern Coastal Plane Zone ( Ranital ) 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.
- Farmers of North Eastern Ghat Zone of Orissa are advised to go for hoeing and weeding for cotton crop. Apply 16 kg each of nitrogen and potash for HYVs and 24 kg each of nitrogen and potash for hybrids in lines followed by earthing up. Also advised to continue sowing of non-paddy crops like, green gram, black gram sesame, and vegetables such as cowpea, okra and cucurbitaceous crops.
- 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 complete sowing of different *kharif* crops at an early date with early duration varieties; undertake sowing of short duration varieties of different *kharif* crops like rice, urad, groundnut, arhar, maize and rainy season vegetables like bhindi, bean, French bean, tomato, cauliflower, cabbage, brinjal, chilli etc. Farmers, who have not sown *kharif* crops in upland till now, may sow kulthi or safflower. Farmers, having assured irrigation facility are advised to sow early potato and green peas. After harvesting of mung, urad, maize, rice, groundnut, finger millet, farmers may sow *rabi* crops like gram, lentil, linseed, pea, mustard, potato etc. with assured irrigation facility and farmers may sow toria immediately. 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 nursery bed for short duration early variety of cabbage, cauliflower and tomato.
- In New Alluvial Zone of West Bengal, farmers are advised to sow winter vegetables like onion, capsicum, raddish 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 start sowing 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.
- Farmers in Terai Zone of West Bengal are advised to prepare seedbed for planting winter seasonal flowers.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- 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 *Trychogramma 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.
- Farmers of East and South Eastern Coastal Plain Zone of Orissa, fruit fly in cucurbits has been found. To control it use 15 poison baits per acre prepared by adding 2 ml Malathion + 30g gur in 1 litre water.
- There is infestation of whorl maggot and leaf folder in paddy in Western Undulating Zone of Orissa. Farmers are advised that spray Monocrotophous @2ml/lit of water. Ensure that 500 liters of pesticide solution should be sprayed for one hectare area.
- *Helicoverpa* infestation has been found in maize in North Eastern Plateau Zone of Orissa. Farmers are advised to spray 100 L.E. NPV during morning and evening. Maize crop has been infested with stem borer, apply 1 g Furadan in the leaf whorl. Otherwise spray 2 ml Chloropyriphos or 1.5 ml Phosphamidon in 1 litre water. Again repeat the spraying once again after 15 days of first spraying.
- 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. 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.
- Fruit and shoot borer in brinjal has been found in Mid Central Table Land Zone (Mahisapat) 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.
- Under prevailing weather situation in New Alluvial Zone of West Bengal, sheath blight and stem borer may attack *aman* rice. To control sheath blight, spray Carbendazim @1.5 g/l of water. In case of stem borer attack spray Carbosulfan 25 EC @ 2ml/l or Profenphos 40% + Cypermethrin 4% @1ml/l of water. Attack of fungal leaf spot disease may occur in vegetables. To prevent apply 2.5 gm Indofil-M-45 or 'Kavach' mixed with one lit of water.
- 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 Lamda 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**

- Farmers of North Eastern Plateau Zone are advised that RD vaccine should be given immediately to the chicks which are 7 days old. To prevent coxidioidis disease, spray antibiotic solution named Kohrsolin-

TH in the poultry house. Periodic vaccination viz. FMD, HS & BQ may be carried out to protect the dairy animals.

- 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.

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

- **Realised Rainfall:** Ahmednagar district in Madhya Maharashtra, many districts in Vidarbha and Marathwada received light to moderate rain. Remaining districts of Maharashtra received deficient / scanty rain during last week. No significant rainfall occurred in most of the districts of Gujarat.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Vidarbha, Marathawada, Madhya Maharashtra and Konkan & Goa, weather would be mainly dry over Gujarat.
- **Advisories:**
  - As there was rain in last week of August and also sufficient rain occurred during this month and most of the kharif crops are at grain / pod development / maturity stage, farmers in Maharashtra are advised to undertake sowing of rabi jowar, safflower and rainfed gram, using residual soil moisture.
  - As rice is at flag leaf initiation / panicle initiation stage in Konkan, farmers are advised to maintain water level 5 cm by bunding in rice field. Farmers in Kolhapur, Pune and East Vidarbha region are also advised to maintain proper water level in transplanted rice field.
  - As there was spread rain in many districts of Marathwada region during last 2-3 days, farmers are advised to undertake sowing of rabi jowar and safflower with the help of realized rain in harvested green gram / black gram field.
  - As cotton is at floral bud initiation / 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 light to moderate rain in Ahmednagar district, farmers are advised to undertake sowing of rainfed gram by selecting variety “vijay”.
  - Farmers in Madhya Maharashtra are advised to undertake sowing of rabi jowar on area reserved for rabi jowar by utilizing the residual soil moisture after harvest of green gram and black gram 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 green gram and black gram are at pod maturity stage, farmers in Madhya Maharashtra, Marathwada and West Vidarbha are advised to complete plucking of already matured pod and field may be prepared for rabi season crops.
  - 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.
  - Farmers in North Gujarat Zone are advised to carry out intercultural operation and hand weeding in late sown crops. Weather will remain fair in next 5-days so harvest the crops like castor and pear millet/sorghum at physiological maturity. After harvesting, crop straws may be allowed for sun drying in clear day.
  - Carry out intercultural and hand weeding operations in crops like castor, fennel and vegetables in Bhal and Coastal Zone of Gujarat. Apply supplementary dose of nitrogen. Harvest the fully matured green gram and bajra crops.
  - In South Gujarat Zone carry out weeding, intercultural operation and application of fertilizers in crops in view of no of rainfall during next five days. Sowing of *rabi* castor should be carried out in between first week of October. Provide seed treatment using thirum @ 3 g & bavistin @ 1 g for 1 kg of seed before

sowing. Farmers are also advised to carry out the intercultural and hand weeding operations in rice crops which are transplanted in the month of July-August followed by application of supplementary dose of nitrogen.

- In middle Gujarat Zone, farmers are advised to harvest maize and bajra crops and put the cobs in proper place for drying. Complete transplanting of tobacco @ 90 cm X 75 cm spacing to control nematode problem. In early sown irrigated castor, application of top dressing dose of fertilizer is recommended @ 19 Kg Nitrogen (41 Kg Urea) per hectare during optimum soil moisture condition.
  - Taking the advantage of dry weather, carry out weeding and intercultural operation in groundnut and cotton and in other recently sown crops in North Saurashtra Zone. Spray Ferrus Sulphate 100 gm + Citric Acid 10 gm per 10 lit of water for yellowing due to deficiency of Fe in groundnut. In cotton to speed up new growth, spray 10 ppm solution of gibberallic acid (1 gm of gibberallic acid in 100 litres of water).
  - Stages of the crops are mentioned in Annexure I.
  - Prevailing weather is favourable for increase in infestation of thrips and jassids in cotton in Marathwada region, spray Fipronil 5% @ 20 ml or Acephate 75% @ 20g in 10 litres of water.
  - Due to uneven rains, the incidence of ear head bug is observed in rice in some parts of the Sindhudurg district, spray Monocrotophos 36 WSC @ 14 ml or Cypermethrin 25 EC @ 2.4 ml per 10 litres of water or dust 2% Methyl Parathion dust @ 20 kg/ha.
  - Due to cloudy and humid weather during last week, there may be attack of white fly, thrips and aphids in cotton in Western Maharashtra Scarcity Zone, spray Acetamiprid 20 EC@3 g or Carbosulfan 25 SC@20 ml in 10 litres of water.
  - There may be 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 of water. For control of white fly, spray Trizophos 25 % @ 10 ml or Dimethoate 30% @ 33 ml in 10 litres of water.
  - Due to heavy rain at few places in Marathwada, there is chance of root rot in papaya, farmers are advised to apply Copper oxy chloride @ 25g in 10 litres of water around the stem near to the roots.
  - Prodonia larvae damaged groundnut crop in North Gujarat 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.
  - 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.

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

- **Realised Rainfall:** No significant rainfall occurred in all districts of Uttar Pradesh, Uttarakhand, Himachal Pradesh, Punjab and West Uttar Pradesh and many districts in Haryana and Jammu & Kashmir.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Jammu & Kashmir and mainly dry weather prevailed over remaining States in the region.
- **Advisory:**
  - As no significant rainfall occurred in all districts of East Uttar Pradesh and Uttarakhand, Himachal Pradesh, Punjab and West Uttar Pradesh and many districts in Haryana and Jammu & Kashmir, farmers are advised to apply irrigation to the standing crops in the region.
  - As rain/thundershowers would occur at one or two places over Jammu & Kashmir and mainly dry weather is likely over rest of the region, farmers are advised to continue weeding, intercultural operation and application of fertilisers to the standing crops.
  - 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 and picking the fruits of tomato, brinjal and chilli.
  - Farmers in Semi-arid Eastern plain zone of Jaipur and Southern humid plain zone of East Rajasthan are advised to start 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), semi Arid Eastern Plain Zone (Jaipur) of West Rajasthan, farmers are advised to give the third dose of nitrogen @ 10 gm/bigha in the form of top dressing of ammonium sulphate or

urea in rice, hoeing and weeding in late sowing kharif crops, also undertake sowing of taramira, toria and mustard. Prepare field for sowing of rabi 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, also undertake sowing of toria with intercropped with gobi sarson, berseem crops and harvesting of moong, vegetables, maize, *kharif* fodder, 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 second top dressing of nitrogen fertilizer in early/medium transplanted rice. Undertake sowing of toria, onion, garlic, radish, potato, carrot, 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 repair the bund around the field, top dressing and spraying insecticide in rice, 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 toria/lahi.
- Farmers in Himachal Pradesh are advised to ensure 4-5 cm standing water and keep paddy crop weed free. In high hill dry temperate zone, improved grasses and legumes can be planted. Intercultural operations in ojala, phafra, French bean may be carried out in temperate regions. Skip irrigation to the crops. Ensure drainage in maize fields and impound water in rice field. It is optimum time for sowing of cole crops in poly houses. Nursery sowing of cauliflower and tomato crop is advised so that same can be transplanted. In mid hill region transplanting of cauliflower may be done. Harvest the apple, liliun bulbs and gladiolus spikes.
- In (Palampur) Sub-Montane & Low Hills Sub-Tropical Zone and (Seobagh) Mild Hills Sub Humid Zone of Himachal Pradesh, farmers are advised to complete sowing of toria. Maintain 4-5cm of water level in rice field for good yield. It is optimum time for transplanting of tomato seedlings in raised bed and planting of onion bulbs for harvesting green onion in October. It is optimum time for nursery sowing of raddish, turnip, coriander, 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. Irrigate the late transplanted crop if soil moisture is less and irrigation facilities are available. Remove weeds from late planted crop and apply top dressing of Urea as per the need to boost the ear head emergence. 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 early mustard, early pea and planting of early potato. Sowing of carrot can be done in raised beds. Transplant green onion seedling in the prepared fields. Nurseries should be prepared in raised bed. This is suitable time for sowing of sarson saag, spinach, coriander, turnip. Marigold plantation may be done.
- Farmers in Western Zone in Punjab are advised to give four sprays of 2% potassium nitrate at weekly intervals starting at flower initiation to cotton in addition to soil applied fertilizers. Undertake sowing of short duration variety PBT 37/ TL 15 of toria for better yield. Weather conditions are ideal for sowing early varieties of vegetables like “desi” varieties of radish, turnip and carrot. Transplant fully developed seedlings (4-6 week old) of main season varieties of cauliflower. Undertake sowing of late season varieties of cauliflower.
- Farmers in Western Plain Zone in Punjab are advised to start planting of *Autumn* cane from this week. Undertake sowing of garlic, palak and late season varieties of cauliflower.
- Farmers in Central Plain Zone of Punjab are advised to start harvesting of early matured varieties of paddy and picking of cotton bolls. Give irrigation to sugarcane crops.
- Farmers in Haryana are advised to undertake harvesting of early maturing paddy varieties 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 melon, 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 Himachal Pradesh, the ensuing weather is congenial for spread of fruit rot in tomato, chilli and Shimla mirch, for control apply Dithane M-45 @ 2-3 g per litre of water in 10-15 days interval. Fruit borer is observed in brinjal, okra and tomato, for control spray carbaryl @ 2g /litre. Also 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. Blue beetle in roses and balsam is reported, for control spray Metacid @ 0.05%.

- Present weather conditions are highly favorable for infestation of blast disease in rice in Delhi. Monitoring at 2-3 days interval is advised. Early symptoms include development of eye shaped spot in the leaf sheath with light centre and dark boundaries. At later stage these spots coalesce to form big spots. Take proper plant protection measures the disease.
- 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.
- 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.
- In present weather condition in Delhi, there may be attack of brown plant hopper (BPH) in paddy field is advised. Farmers are advised to enter into the middle of the crop field and see mosquito like insect at the basal portion of the plant. Take appropriate plant protection measures if pest population exceeds ETL.
- 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 Himachal Pradesh, give support to the branches of apple so that branches should not break due to fruit load. It is time for plantation of evergreen plants like mango, litchi, guava, citrus, loquat and amla.
  - 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, it is advised in seed crop of marigold rouging is required to maintain the health of flowers. When the seasonal flowers attain height of 10-15cm then do pinching of terminal growing buds 1-2 cm 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.

## CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in many districts in Chhattisgarh.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over South Madhya Pradesh and South Chhattisgarh and weather would be mainly dry over rest of the region.
- **Advisories:**
  - Farmers in Chhattisgarh are advised to postpone irrigation to the standing crops as there was 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. 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 Nimar Valley Zone of Madhya Pradesh are advised to avoid water logging in rice crop field also collect the water in pond and use this water at time of water stress condition for the crop. Apply urea and fertilizers in all *kharif* crops. Do weeding and hoeing in groundnut crop.
  - 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. As this is proper time for sowing of toria, arrange seeds of toria and start sowing.
  - Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised to broadcast urea in paddy crop. They are also advised to use pheromone trap in sugarcane field for the control of pyrilla and shoot borer in sugarcane. Apply fertilizer in tomato, brinjal, onion, chilli and cauliflower. Maintain proper drainage of water in soybean, arhar and maize fields. Weather is favourable for the attack of caterpillar and girdle beetle in soybean if it is there apply Chloropyriphos @ 2 ml /lit. Farmers are advised for destroy of the soybean plant which is affected by the yellow mosaic virus and its vector white fly can be controlled by the use of chemical insecticide.
  - Farmers in Bundelkhand region of Madhya Pradesh are advised to prepare the fields for sowing of *rabi* crops and harvest the mature *kharif* crops.
  - Farmers in Malwa Plateau Zone of Madhya Pradesh are advised to harvest the early varieties of soybean are at physiological maturity. Arrange seeds of improve varieties for sowing of *rabi* crops.
  - Farmers in Vindhyan Plateau Zone of Madhya Pradesh are advised to harvest matured soybean, urad, moong crops. Farmers are also advised to prepare fields for *rabi* crops like wheat and gram. If irrigation facilities are available farmers are advised to pigeonpea and potato.
  - Incidence of Bihar hairy caterpillar, tobacco caterpillar and semilooper is seen in the soybean, moong, and urd crops in Kymore Plateau and Satpura Hill Zone of Madhya Pradesh. Use light traps in the field, and if possible destroy egg and larval masses by hand picking. Chemical control include spray of Chlorpyriphos (20 EC) at 1.5 lit/ha; or Triazaphos at 800 ml/ha, or Quinalphos at 1.5 lit/ha.
  - Farmers in Jhabua Hills of Madhya Pradesh are advised to harvest matured urad and green cobs of maize for marketing.
  - In Bundelkhand zone of Madhya Pradesh; farmers are advised to prepare field for sowing of mustard and pea at end of week. Due to rainfall during past few days, some fields are submerged with water; hence farmers are advised to drain out the excess water from the fields of oilseed, pluses and early duration rice which is at grain filling stage.
  - 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 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 horsegram during second fortnight of this month and transplanting of vegetables crops with proper drainage system.

- Farmers in Bastar Plateau Zone in Chhattisgarh are advised to prepare field and undertake sowing of cowpea and *kharif* vegetables like bottle gourd, bitter melon, okra and short duration beans, cabbage, cauliflower utilising the realised rainfall during last week. Farmers are also advised for planting of cassava, colocasia, ginger, elephant foot yam and dioscorea and support may be given by bamboo sticks.
- Tobacco caterpillar is likely to damage soybean in Chhattisgarh Plain Zone, farmers are advised to spray Prophenophos + Cypermethrin (Polettrin C) 1.25 liter per hectare or Spynosed 250 ml/ha in clear weather condition.
- 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 Chloropyriphos @ 2 ml/ litre of water.
- In the cucurbitaceae vegetables, the attack of red pumpkin beetle is being observed in Bastar Plateau Zone in Chhattisgarh, spray neem oil 5 ml or Carboryl 50 WP @ 2.5 grams per litre.
- **Animal Husbandry & Poultry**
  - Farmers in Central Narmada Valley Zone and Satpura Plateau Zone are advised to vaccinate cattle against Foot and Mouth Disease.
  - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to vaccinate cattle against Anthrax disease and provide deworming tablets against worm's infection.
  - Farmers in Bundelkand region of Madhya Pradesh are advised that animals should be protected from high day and low night temperature which may cause exposure to infants of animals. So keep them in animals' houses.
  - 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

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

- **Realised Rainfall:** Almost all the districts in Telangana except Hyderabad, Rangareddy and Warangal districts, Guntur, Srikakulam, Vishakapatnam, Vizianagarm and West Godavari districts of Coastal Andhra Pradesh and Chennai, Karaikal and Madurai districts of Tamil Nadu received good rainfall during last week. No significant rainfall occurred over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at a many places over Coastal Andhra Pradesh, Rayalseema, Tamilnadu, Pondicherry and at a few places over Karnataka, Kerala, Telangana within next 48 hours and increase thereafter.
- **Advisories:**
  - As almost all the districts in Coastal Karnataka and Kerala, East Godavari, Guntur and Srikakulam in Coastal Andhra Pradesh, Kodagu and Shimoga in South Interior Karnataka, Nilgiris, Chennai, Karaikal, Madurai, Sivaganga and Thiruvallur in Tamil Nadu 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 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. Undertake sowing of South African and Deccan-103 maize for fodder purpose up to 30<sup>th</sup> September.
  - In North Dry Zone, farmers are advised to complete sowing of sunflower, *rabi* jowar upto September end. Priority may be given to sowing of fodder crops such as fodder cowpea, maize and bajra. 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.
  - Farmers in the Coastal Zone of Karnataka are advised to apply second dose of fertilizers to arecanut, coconut and cashew in the month of September and October, since low to medium showers are expected in the next few days.

- 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 make provision for drainage in maize and cotton fields as these two crops are very susceptible to water logging.
- 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 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 could not be done due to non-availability of water and direct sowing of paddy can be done with short duration varieties NLR 34449/ MTU 1010.
- Farmers in Krishna Godavari Zone are advised to prepare land for sowing of *rabi* black gram/ green gram.
- Farmers in the Central Zone of Kerala are advised to drain the paddy field 10 days before harvest, as the first crop is ready for harvesting, 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
- Farmers in the Southern Zone of Kerala are advised to give propping to bunched banana plants, ensure drainage in already planted tissue culture banana, plant new TC banana only after rain and start preparation for planting of mundakan crop.
- Farmers in the Eastern Dry zone of Karnataka are advised to spray fungicide & pesticide, if the incidence of pest and diseases exceeds threshold level of crops.
- Phytophthora blight and sterility mosaic in pigeon pea and Heliothis in sorghum was noticed in the North East Transition Zone of Karnataka. Farmers are advised to rouge out the affected plants and spray M-45 @ 2g/litre of water to control Phytophthora blight, Dicofol @ 2.5 ml/litre of water to control sterility mosaic and dusting of Malathion @ 8 kg per acre to control Heliothis.
- Present cloudy and high humid conditions are congenial for the incidence of late leaf spot and its spread on the groundnut crop which is at pegging stage in the North East Dry Zone of Karnataka. Farmers are advised to spray Mancozeb @ 3g or Hexaconazole @ 2ml/litre of water for efficient control of late leaf spot. Incidences of Cercospora leaf spot on redgram, sucking pests in cotton and leaf folder and sheath blight disease in paddy is also observed. Farmers are advised to spray Carbendizim or Bavistin @ 1gm/litre of water to control Cercospora leaf spot. Spray Propiconazole @ 1 ml or Hexaconazole @ 2ml/liter of water to control sheath blight and Dimethoate @ 1.75ml/ltr or Confidor @ 0.3ml/ltr of water to control sucking pests.
- The farmers of Cauvery Delta zone of Tamilnadu are advised to take up harvesting of the matured kuruvai paddy. Nursery sowing of Samba paddy can be done upto September end with medium duration varieties. Undertake direct sowing of rice in the main field.
- Farmers in the Western Zone of Tamil Nadu are advised to monitor thrips and leaf hopper infection in cotton, early shoot borer in sugarcane, red hairy caterpillar in groundnut (rainfed) and Leaf folder/Tikka leaf spot in groundnut(unirrigated) and take the appropriate management measures.
- Farmers of Scarce Rainfall Zone of Rayalaseema in Andhra Pradesh are advised to apply Carbofuran @4kg/acre granules in the whorls of Jowar for controlling shoot borer and top dress 30 days Jowar with urea @ 25 Kg per acre is recommended. In *kharif* groundnut it is advised to make trench around the field to avoid migration of RHC from one field to another and apply quinalphos@1.5% per 70 cm furrow and for controlling RHC/S.litura spread poison bait (rice brawn@10kg, jaggary 1kg, thiodicarb@250gm) equally in field during evening times. To control thrips or white flies in Bt. cotton spray monocrotophos @1.6 ml (or) acetamiprid @ 0.2 g (or) Imidocloprid 200 SL @ 0.4per liter of water. Stem application with Monocrotophos + water (1:4), Imidocloprid+ water (1:20) at 20, 40 and 60 DAS.
- In the prevailing climatic condition in the Problem Area Zone of Kerala, coconut palms of all the age are liable to be attacked by Bud rot disease but young palms are more susceptible this disease. In

seedlings, the spear leaf turns pale and comes off with a gentle pull. In adult palms, the first visible symptom is the colour change of the spear, which becomes pale and breaks at the base and hangs down. In the early stages, cut and remove the affected tissues of the crown and burn them. Spray Bordeaux mixture 1% on spindle leaves and crown of disease affected as well as neighbouring palms.

- Farmers in the Central Zone of Kerala are advised to undertake plant protection measures against rice bug in late planted paddy fields, gall midge, leaf roller and stem borer attack in rice, sigattoka leaf spot diseases in banana.
- Livestock
- Farmers in the Coastal Zone of Karnataka are advised to undertake de-worming of animals and vaccinate the cattle's against black quarter, foot and mouth disease, mastitis and other diseases.

## 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 (panicle initiation / 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) 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 (panicle initiation / heading stage), jute (harvesting / retting), banana(vegetative), 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) in West Bengal.
- Ginger (germination / early vegetative), orange (transplanting), 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 (flag leaf initiation / panicle initiation / flowering in Konkan, Kolhapur Division and active tillering / flag leaf initiation in Nashik, Pune and East Vidarbha Division), cotton (floral bud initiation / flowering / boll formation), soybean (pod development / pod maturity in early sown crops ), groundnut (pod development), bajra (grain maturity / harvesting in Madhya Maharashtra and Marathwada), red gram (vegetative / primary branching) in Maharashtra.
- Cotton (flowering/boll formation/flowering), groundnut (pegging/pod development), *kharif* rice (flowering / grain filling), pulses (early vegetative / flowering), 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 (vegetative/maturity/harvesting), mirch, brinjal (vegetative/maturity/harvesting), Shimla mirch, and tomato (vegetative/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 formation), chilli, tomato, brinjal, cauliflower (vegetative/flowering/fruiting), spinach, coriander, radish (vegetative/ flowering/fruiting), maize(tasselling / cob formation), urd, moong, lobia, bajra, til, sorghum (pod / grain formation), sugarcane (vegetative), cotton (flowering / boll formation), sugarcane (vegetative) in Delhi.
- Chilli, capsicum, cauliflower, broccolli (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, sunnhemp, cowpea, jowar for green fodder (vegetative/1<sup>st</sup> cutting), garlic, cucurbits, okra(seedling), French bean, rice (panicle initiation/ flowering), Rice irrigated- (tillering/ panicle initiation), *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 (grain formation/ early maturity), finger millets (grain formation), groundnut, sorghum, urad, moong, rajma( pod / grain formation), arhar and ginger (vegetative), soybean (pod formation/ pod maturity), maize(grain formation/cob maturity) in Uttarakhand.
- Rice (grain formation/maturity), sugarcane (vegetative growth/ripening), sunflower (vegetative/flowering), fodder maize, lobia, (vegetative/1<sup>st</sup> 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/maturity), groundnut(vegetative/pegging) in Uttar Pradesh.
- Rice (grain formation), 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), sugarcane (grand growth) (early vegetative/vegetative), barseem (vegetative / last cut), fodder ((maize + cowpeas) (vegetative/ 1<sup>st</sup> 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/fruitlet/1<sup>st</sup> 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 (tillering/panicle initiation), 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 (panicle initiation/flowering), late planted paddy (flowering), fodder maize (cob formation), sunflower (vegetative), groundnut (Pod formation), cowpea (vegetative), vegetables (fruiting / maturity), green gram/black gram (maturity/harvesting), soybean (flowering), pigeon pea (vegetative), sorghum (earhead emergence), maize (cob formation), desi cotton (vegetative), cotton (vegetative/flowering) and chilli (flowering/fruitlet) in Karnataka.
- Sugarcane (June planted) (formative/grand growth), banana (vegetative), vegetables (all stages), direct seeded rice (panicle initiation), jowar (vegetative), rice (nursery sowing), bajra (vegetative/grain development), ragi (flowering), castor (vegetative/ spike initiation), early sown groundnut (Pod maturation/harvesting), late sown groundnut (Pod formation/pod filing), maize (taselling), green gram/black gram (pod formation), red gram (early vegetative), sesamum (pod filling/harvesting), cotton (flowering/boll development), mesta (vegetative/flowering), Bt. cotton (flower initiation /boll formation) 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 (maturity/harvesting), Samba rice (sowing), rainfed maize and cotton (sowing), rainfed groundnut (vegetative), groundnut (pod formation/pod maturity), cotton (flowering/boll formation), maize (vegetative/flowering), banana (planting), sugarcane (grand growth), pulses (vegetative/flowering), vegetables (vegetative/fruitlet) in Tamil Nadu.

#### **CENTRAL INDIA [M.P., CHHATTISGARH]**

- Rice (grain formation), maize (cob formation / harvesting), jowar, arhar and soybean (maturity/harvesting), *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 (panicle initiation / 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, dioscorea, elephant foot yam and cassava (planting) in Chhattisgarh.

## **Annexure II**

### **List of Varieties**

#### **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

**Balck 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.

**Bell Pepper :** Californiya wander, Bharat, Arka basant, Arka mohini, Arka gaurav, Allowander, Bombi, Indra, Nan-3020

#### **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.

#### **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.

**Winter Brinjal:** Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Amrat 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, Suhasihi

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

**Broccoli:** Everest, Ayeshwaria

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

**Cowpea:** Kashi Kanchan.

### **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.

### **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;

**Radish:** Pusa Chatki, Versa Kee Rani, Long Chetaki;

**Spinach:** All Green;

**Coriander:** Pant Haritama, Hybrids;

**Turnip:** Pusa Swati, Local Red variety.

**Potato:** Kufri Badshah.

**Pea :** Pusa Pragati, Arkel.

## 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)-Maya, Rohini, Pusa Jai kisan, Varuna, RGN13, RGN73, like Bharat Sarson-1 (NRCDR-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:

**Castor:** GCH-7, GCH-5, GCH-4

**Sesamum:** Purva-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.

### Annexure III

#### Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 26.09.2012

