

Significant rainfall occurred over a few districts in Kerala and Tamil Nadu during last week. High wind speed (nearly 75 kmph at Chennai) and rainfall occurred on 30 and 31 October, 2012 due to cyclone 'NILAM' caused damage of rice crop in districts of Cauvery Delta, viz., Thanjavur, Nagapattinam and Thiruvarur besides parts of Thiruchirapalli district. Many thousands of hectares of rice fields submerged under water. There is also report of uprooting of plants in banana plantations at Villupuram and Vellore districts due to the impact of cyclone

Rain/thundershowers would occur at many places over Coastal and North Interior Karnataka, Telangana, North Coastal Andhra Pradesh during next 48 hours and over Tamil Nadu, South Interior Karnataka, South Coastal Andhra Pradesh, Rayalaseema and Kerala during next 24 hours and decrease thereafter. Heavy rainfall would occur at one or two places over North Coastal Andhra Pradesh and Coastal and North Interior Karnataka during next 48 hours and over Telangana, Rayalaseema and South Interior Karnataka during next 24 hours.

1. **Tamil Nadu:** Due to cyclonic storm 'NILAM', rainfall occurred at most / many places over Tamil Nadu during 30 – 31 October along with heavy rainfall at one or two places. Waterlogging has been observed in the crop fields particularly in rice fields over coastal districts along with high wind speed. Farmers are advised to arrange for extensive drainage facilities to avoid waterlogging and crop damage. After cessation of rains, undertake spraying of 1% urea + 0.5% zinc sulphate in rice for recovery of crops. Provide mechanical support for field / horticultural crops wherever feasible to prevent lodging due to strong winds.

Crop situation and advisories for the sub-divisions in the southern peninsula are given below:

2. **South Coastal Andhra Pradesh:** Farmers in the Krishna Godavari Zone are advised to postpone sowing of *rabi* black gram, green gram, red gram and chick pea. Farmers in the Prakasam district are also advised to postpone direct sowing of rice. Sowing may be started after current spells of rain. Farmers are advised to apply potassium fertilizers to reduce the incidence of bacterial leaf blight in rice in the Krishna Godavari Zone of Andhra Pradesh. Mealy bug incidence is observed in cotton; for the control, spray the infested plants with Acephate @ 2 g or Prophenofos @ 3 ml / litre of water. Application of fertilizers and chemicals may be undertaken after current spells of rain.
3. **North Coastal Andhra Pradesh:** Blast, sheath blight and sheath rot was noticed in rice crop in the North Coastal Zone of Andhra Pradesh. Spray Tricyclozole @ 0.6 g / litre of water for blast, Hexacanzole @ 2 ml / litre for sheath blight and Validamycin @ 2 ml / litre for sheath rot. Rust and wilt was noticed in sugarcane. For control of rust, spray Tridemorph @ 1 ml / litre and for wilt drain out excess water if stagnated in the field.
4. **Kerala:** Monitor *mundakan* rice for rice bug incidence and undertake plant protection measures. Mulching may be undertaken to conserve soil moisture in coconut and arecanut fields.
5. **South Interior Karnataka:** Farmers in the Eastern dry zone are advised to take up intercultural operation and top dressing with urea in the standing crops like ragi.
6. **North Interior Karnataka:** In North Dry Zone, sowing of sunflower, safflower, *rabi* jowar, chickpea and wheat may be completed. In North East Dry Zone, farmers may undertake sowing of *rabi* sorghum.
7. **Rayalaseema:** In some of the mandals of Anantpur district of Scarce Rainfall zone of Andhra Pradesh, crops like castor and cotton are suffering from moisture stress. Farmers are further advised to complete sowing of Bengal gram and take up sowing of *rabi* groundnut by utilizing the residual soil moisture due to recent rainfall occurred. They are further advised to take up harvesting of *kharif* groundnut when sufficient moisture is available in the root zone. **Continued on Page No. 2.**



## Executive Summary

(Continued from page no. 1)

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

1. **Saurashtra & Kutch:** Farmers in South Saurashtra Zone are advised to select improved varieties for sowing of gram. Harvest ripened spiklets of castor in time. Apply irrigation in alternate bed to cotton crop in North Saurashtra Zone. Complete harvesting of early sown groundnut. Undertake sowing of gram, if 2-3 irrigation facilities are available. Prepare land for sowing of *rabi* crops like wheat, gram & mustard in Bhal and Coastal Zone. Complete sowing of wheat crop before 15th November in North West Zone of Gujarat.
2. **Gujarat region:** As weather was mainly dry and no rain is likely to occur in North Gujarat Zone, apply irrigation to castor and cotton. Wait for sowing of *rabi* crops till the maximum temperature will down around 30°C. Select improved cultivars for transplanting of cabbage, brinjal, cauliflower and sowing of onion, radish and garlic. Carry out inter cultural operation in pigeon pea before flowering in South Gujarat Zone. Undertake land preparation for wheat sowing in middle Gujarat Zone.
3. **Madhya Maharashtra:** In North Madhya Maharashtra as mainly dry weather is expected during next 5 days, farmers are advised to continue picking of fully opened cotton boll. Farmers are advised to continue sowing of *rabi* jowar, safflower, maize and rainfed gram and wheat with the help of residual soil moisture in the field. Prevailing weather is favourable for cultivation of carnation flowers in Pune region. Farmers of Pune region are advised to undertake sowing of wheat.
4. **Marathwada:** Farmers are advised to continue sowing of *rabi* jowar, safflower, maize and rainfed gram with the help of residual soil moisture in the field. As irrigated cotton is at boll maturity stage in Aurangabad Division and mainly dry weather is expected during next 5 days, farmers are advised to continue picking of fully opened cotton boll. Under prevailing weather, incidence of leaf curl is observed in chilli in Marathwada region, spray Fipronil 5% @ 20 ml in 10 litres of water. Also Pomegranate is at fruit (Mrigbahar fruit) development stage in Marathwada region. Under prevailing weather there may be infestation of oily spot, spray 1 % Bordeaux mixture or Copper oxy chloride @ 25 g in 10 litres of water.
5. **Vidarbha:** Farmers are advised to complete harvesting of already matured *kharif* crops. Farmers are also advised to complete sowing of *rabi* safflower, maize and rainfed gram with the help of residual soil moisture in the fields. Start harvesting of already matured late rice variety.
6. **Konkan & Goa:** As early and mid-late varieties of *kharif* rice are at maturity stage, farmers are advised to harvest the crops.
7. **East Madhya Pradesh:** Undertake sowing of *rabi* crops and *rabi* vegetables.
8. **West Madhya Pradesh:** Undertake sowing of irrigated and rainfed crops of wheat, gram, pea, potato, mustard etc.
9. **Chattisgarh:** Farmers are advised to undertake transplanting of vegetable crops. After the harvesting of rice crop, sow gram and lathyrus.
10. **Punjab:** In Central Plain Zone, start sowing of wheat, complete planting of sugarcane with intercrops like wheat, raya, toria, gobhi sarson, pea, gram etc. and planting of potato. In Undulating Plain Zone complete sowing of berseem and start sowing of wheat and lentil. Harvest matured moong and mash crops. Complete planting of sugarcane. In Western Zone of Punjab undertake sowing of raya and gobhi sarson and sowing of berseem or lucerne in mixture with oats and sarson. Transplanting of main season varieties of cauliflower and cabbage may also be undertaken.
11. **Haryana:** Farmers in Eastern Zone of Haryana are advised to undertake land preparation and sowing of mustard crop. Undertake picking of cotton when the dew is dried up. Farmers are advised to start harvesting of bajra and guar crops.
12. **Delhi:** Start harvesting of rice. Undertake sowing of gram, oat, berseem, lentil, garlic and pea and planting of potato. This is also suitable time for sowing of sarson saag, bathua, radish, spinach, fenugreek, coriander, turnip and *rabi* onion. Transplanting of matured seedlings of cauliflower, cabbage, broccoli and tomato may also be undertaken in raised bed.
13. **Himachal Pradesh:** Undertake sowing of barley in the high altitudes and complete planting of potato in the low hill areas. Continue sowing of *toria* and early varieties of pea, radish, turnip, coriander, cabbage, knol-khol, broccoli, parsley, lettuce, fennel and cauliflower. Attack of fruit borer is observed in bhindi and brinjal; spray Carbaryl 50 WP @ 2 g per litre of water or Endosulphan @ 1.5 ml per litre of water to control the pest.
14. **Jammu & Kashmir:** Undertake sowing of *toria* intercropped with gobhi sarson, berseem and harvesting of moong, vegetables, maize, *kharif* fodder and early sown rice and picking of mosambi and sweet lime. Farmers are advised to continue sowing of vegetables and mustard.

15. **Uttarakhand:** Sowing of barley, oat, pea and chickpea may be continued. Farmers can also undertake planting of sugarcane with intercrops like potato, lentil and vegetables in Udham Singh Nagar district. In Nainital district farmers are advised to undertake sowing of wheat in hilly regions and continue sowing of wheat in mid and high hills as well as in lower hills during this week. Farmers having irrigation facilities are advised to give light irrigation to crops like vegetables (coriander, spinach, radish and mentha). Complete harvesting of matured soybean and finger millet crops.
16. **West Rajasthan:** Sowing of taramira may be carried out. Prepare field for sowing of *rabi* crops like mustard, gram, barley and undertake transplanting of tomato. Continue harvesting of bajra and *kharif* pulses.
17. **East Rajasthan:** Undertake harvesting of *kharif* crops. Start field preparation and sowing of *rabi* crops like mustard and other horticultural crops.
18. **East Uttar Pradesh:** Farmers are advised to undertake land preparation and sowing of mustard, pea, lentil and gram. Sowing of lucerne, oats and senji crops may also be done. Complete planting of sugarcane. Along with intercrops like wheat, raya, toria, gobhi sarson, pea, gram etc. and planting of potato. Complete harvesting / threshing of rice and groundnut crops.
19. **West Uttar Pradesh:** Farmers are advised to undertake sowing of wheat, maize, pea, masoor, vegetables (onion, tomato, raddish, carrot, palak, cauliflower, cabbage etc.), gram, lentil and mustard and planting of potato and sugarcane. Farmers are also advised to apply irrigation to vegetable crops.
20. **Bihar:** Farmers are advised to provide irrigation and undertake intercultural operations like weeding / hoeing and top dressing of urea in early transplanted cauliflower, chilli, brinjal, tomato etc. Prepare nursery bed for sowing of Autumn planted tomato, cauliflower, chili, palak, carrot, radish, khnol-khol, turnip, beet, garlic and cabbage. Farmers are advised to undertake land preparation for sowing of *rabi* crops. Undertake sowing of pea and lentil crops as present temperature condition is favourable. Farmers are advised to harvest matured rice crop.
21. **Jharkhand:** Farmers are advised to undertake sowing of *toria*, *rabi* crops like gram, lentil, linseed, pea, mustard, kulthi, African marigold or French marigold and vegetables like turnip, spinach, carrot etc. and planting of potato.
22. **Orissa:** Farmers are advised to undertake sowing of mustard, sunflower, green pea and sesame. Undertake raising of *rabi* vegetable crops in the nursery.
23. **Nagaland, Manipur, Mizoram & Tripura, Arunachal Pradesh and Assam & Meghalaya:** Undertake land preparation and sowing of rapeseed and mustard, lentil, planting of potato and transplanting of 4-6 weeks age seedlings of winter vegetables like cauliflower, radish, tomato, brinjal, knolkhol, carrot and spinach in the main field in Assam. Also undertake land preparation and sowing of wheat. Undertake land preparation and sowing of mustard and *rabi* maize in Meghalaya and sowing of *rabi* maize, *toria*, sesame and lentil in Tripura.
24. **Sub Himalayan West Bengal:** Start land preparation for sowing and transplanting of early cauliflower, radish, broccoli, cabbage and onion. Farmers are also advised to harvest maize.
25. **Sikkim:** Farmers are advised to sow mustard.
26. **Gangetic West Bengal:** Undertake land preparation for sowing of mustard and onion crops and planting of pointed gourd and seasonal flower crops like gladiolus. Undertake land preparation for transplanting of winter vegetable crops like radish, broccoli, cabbage, cauliflower etc.
27. **Telangana:** Cutworm is noticed in rice fields of Northern Telangana Zone of Andhra Pradesh. Farmers are advised to irrigate the fields and spray any of the following combinations: Dichlorvos @ 1.0 ml + Quinalphos @ 2.0 ml (or) Chlorpyrifos @ 2.5 ml + Dichlorvos @ 1.0 ml in one litre of water in the evening hours. Incidence of leaf spot is noticed in cotton in Southern Telangana Zone of Andhra Pradesh. To control Leaf spot spray Copper-Oxy-Chloride @ 30 g and Plantomycin @ 2 g in 10 litres of water.
28. **Coastal Karnataka:** Harvest the already matured rice crops.

## Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 31.10.2012

|  |   |
|--|---|
| <p><b>Actual Mean Maximum Temperature (<math>^{\circ}\text{C}</math>) in India for the week ending 31.10.2012</b></p>  | <p><b>Maximum Temperature (<math>^{\circ}\text{C}</math>) Anomaly in India for the week ending 31.10.2012</b></p>   |
| <p>Actual Mean Maximum temperature ranged <math>36^{\circ}\text{C}</math> and above over some parts of Saurashtra &amp; Kutch, <math>28</math> to <math>32^{\circ}\text{C}</math> over many parts of Rajasthan, Gujarat, Saurashtra &amp; Kutch, Andhra Pradesh, Maharashtra, some parts of Punjab, West Madhya Pradesh, Orissa, Chattisgarh, south &amp; North Interior Karnataka, Lakshadweep Islands, <math>24</math> to <math>28^{\circ}\text{C}</math> over of many parts of Jammu &amp; Kashmir, some parts Himachal Pradesh, Andaman &amp; nicobar Islands, <math>20</math> to <math>24^{\circ}\text{C}</math> over of some parts of Jammu &amp; Kashmir, Himachal Pradesh, <math>32</math> to <math>36^{\circ}\text{C}</math> over remaining parts of the country.</p>   | <p>Actual Mean Maximum temperature anomaly ranged between <math>2</math> to <math>4^{\circ}\text{C}</math> over some parts of Jammu &amp; Kashmir, Himachal Pradesh, Mizoram, Tripura, <math>-2</math> to <math>0^{\circ}\text{C}</math> over many parts of Rajasthan, Haryana, Delhi, Uttar Pradesh, Chattisgarh, some parts of Jammu &amp; Kashmir, Punjab, Uttarakhand, Madhya Pradesh, Bihar, Jharkhand, Orissa, North &amp; South Interior Karnataka, Lakshadweep, Andaman &amp; Nicobar Islands, <math>-4</math> to <math>-2^{\circ}\text{C}</math> over some parts of Haryana, West Rajasthan, Tamil Nadu, Kerla, <math>0</math> to <math>2^{\circ}\text{C}</math> over rest of the country.</p> |
| <p><b>Actual Mean Minimum Temperature (<math>^{\circ}\text{C}</math>) in India for the week ending 31.10.2012</b></p>  | <p><b>Minimum Temperature (<math>^{\circ}\text{C}</math>) Anomaly in India for the week ending 31.10.2012</b></p>   |
| <p>Actual Mean Minimum Temperature ranged between <math>24^{\circ}\text{C}</math> and above over many parts of Lakshadweep Islands, some parts of Coastal Andhra Pradesh, Raylaseema, Andaman &amp; Nicobar Islands, <math>20</math> to <math>24^{\circ}\text{C}</math> over many parts of Coastal Andhra Pradesh, Tamil Nadu, Kerala, Andaman &amp; Nicobar Islands, some parts of Haryana, Rajasthan, Saurashtra &amp; Kutch, Gangetic West Bengal, West Madhya Pradesh, Telangana, North Interior Karnataka, <math>12</math> to <math>16^{\circ}\text{C}</math> over many parts of Punjab, Uttarakhand, Uttar Pradesh, Madhya Pradesh, Chattisgarh, some parts of Jammu &amp; Kashmir, Haryana, Rajasthan, Gujarat, Manipur, Mizoram, Vidarbha, Madhya Maharashtra, <math>4</math> to <math>12^{\circ}\text{C}</math> over Jammu &amp; Kashmir, Himachal Pradesh, and between <math>16</math> to <math>20^{\circ}\text{C}</math> over remaining parts of the country.</p> | <p>Minimum Temperature anomaly ranged above <math>0</math> to <math>2^{\circ}\text{C}</math> over many parts of Tamil Nadu, Kerala, Lakshadweep, Andaman Nicobar Islands, some parts of West Rajasthan, Coastal Andhra Pradesh, Raylaseema, <math>-4</math> to <math>-2^{\circ}\text{C}</math> over many parts of Arunachal Pradesh, Assam &amp; Maghalaya, East Uttar Pradesh, Bihar, Jharkhand, West Bengal &amp; Sikkim, Chattisgarh, Orissa, some parts of Punjab, Rajastha, Madhya Pradesh, Madhya Maharashtra, Marathwda, Madhya Pradesh, North &amp; south Interior Karnataka, <math>-2</math> to <math>0^{\circ}\text{C}</math> over remaining parts of the country.</p>                        |

## Distribution of rainfall of the country during week ending on 31.10.2012

| State/Districts                 | Actual (mm) | Dep. % |
|---------------------------------|-------------|--------|
| <b>Karnataka</b>                |             |        |
| <b>Coastal Karnataka</b>        |             |        |
| Dakshin Kannada                 | 8.8         | -81    |
| Udupi                           | 3.5         | -92    |
| Uttar Kannada                   | 1           | -96    |
| <b>North Interior Karnataka</b> |             |        |
| Bagalkote                       | 0.0         | -100   |
| Belgaum                         | 0.6         | -96    |
| Bidar                           | 0.0         | -100   |
| Bijapur                         | 0.0         | -100   |
| Dharwad                         | 0.0         | -100   |
| Gadag                           | 0.0         | -100   |
| Gulbarga                        | 0.4         | -97    |
| Haveri                          | 0.0         | -100   |
| Koppal                          | 0.0         | -100   |
| Raichur                         | 0.0         | -100   |
| Yadgir                          | 0.0         | -100   |
| <b>South Interior Karnataka</b> |             |        |
| Bangalore Rural                 | 3.5         | -87    |
| Bangalore Urban                 | 6.5         | -73    |
| Bellary                         | 0.7         | -97    |
| Chamarajnar                     | 3.1         | -90    |
| Chichballapur                   | 0.7         | -98    |
| Chickmagalur                    | 0.6         | -98    |
| Chitradurga                     | 0.0         | -100   |
| Davangere                       | 0.1         | -99    |
| Hassan                          | 4.6         | -86    |
| Kodagu                          | 1.6         | -96    |
| Kolar                           | 6           | -77    |
| Mandya                          | 3.6         | -87    |
| Mysore                          | 0.4         | -99    |
| Ramnagara                       | 4.1         | -85    |
| Shimoga                         | 0.1         | -99    |
| Tumkur                          | 0.4         | -98    |
| <b>Kerala</b>                   |             |        |
| Alappuzha                       | 43.7        | -42    |
| Kannur                          | 0.9         | -98    |
| Ernakulam                       | 18.5        | -73    |

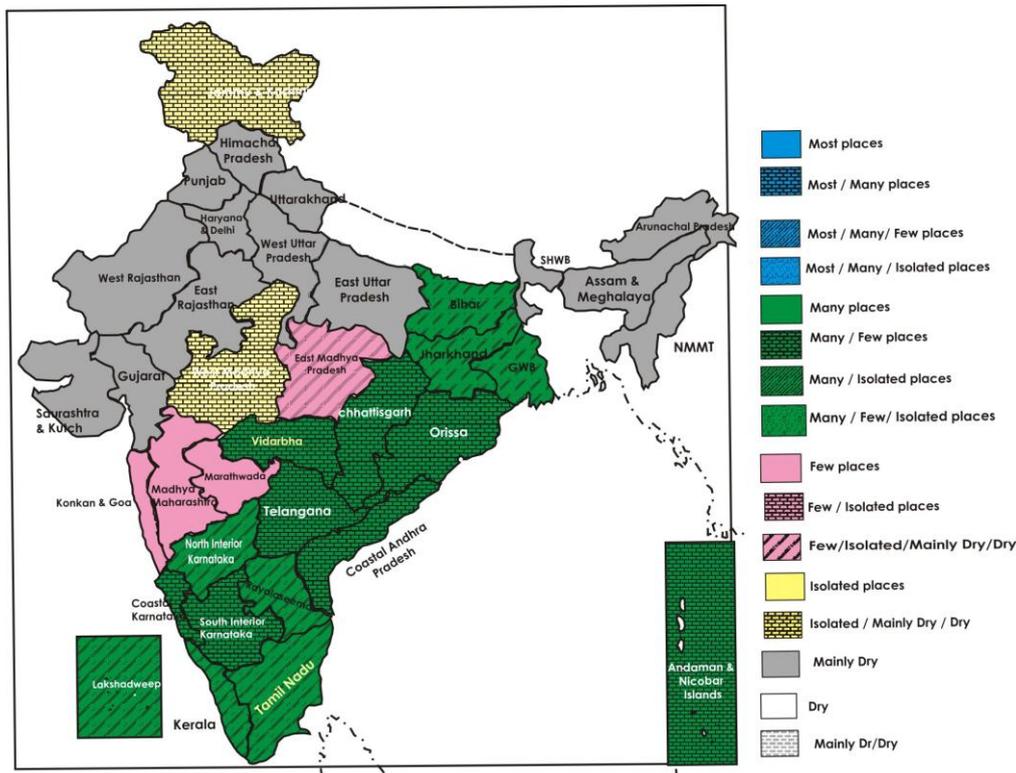
| State/Districts    | Actual (mm) | Dep. % |
|--------------------|-------------|--------|
| Idukki             | 2.2         | -97    |
| Kasaragod          | 2.8         | -94    |
| Kollam             | 38.1        | -53    |
| Kottayam           | 24.2        | -67    |
| Kozhikode          | 28.5        | -52    |
| Malappuram         | 8.6         | -85    |
| Palakkad           | 1.3         | -98    |
| Pathanamthitta     | 14.5        | -83    |
| Thiruvananthapuram | 44.1        | -24    |
| Thrissur           | 2.7         | -96    |
| Wyanad             | 3.3         | -93    |
| <b>Tamil Nadu</b>  |             |        |
| Ariyalur           | 45.8        | 15     |
| Chennai            | 114         | 47     |
| Coimbatore         | 1.5         | -96    |
| Cuddalore          | 118.2       | 107    |
| Dharmapuri         | 6.0         | -82    |
| Dindigul           | 9.4         | -78    |
| Erode              | 8.5         | -77    |
| Kanchipuram        | 90.5        | 52     |
| Kanyakumari        | 39.6        | -24    |
| Karikal            | 406.6       | 299    |
| Karur              | 11.9        | -58    |
| Krishnagiri        | 18.6        | -42    |
| Madurai            | 4.4         | -90    |
| Nagapattinam       | 296.9       | 330    |
| Namakkal           | 11.7        | -62    |
| Nilgiris           | 10.4        | -81    |
| Perambalur         | 16.3        | -56    |
| Puducherry         | 165.4       | 94     |
| Pudukottai         | 22.1        | -33    |
| Ramanathapuram     | 26.9        | -50    |
| Salem              | 14.9        | -60    |
| Sivaganga          | 9.3         | -79    |
| Thanjavur          | 81.2        | 80     |
| Theni              | 0.5         | -99    |
| Tirunelveli        | 18          | -61    |

| State/Districts               | Actual (mm) | Dep. % |
|-------------------------------|-------------|--------|
| Tirupur                       | 2.7         | -92    |
| Tiruvallur                    | 57          | -4     |
| Tiruvannamalai                | 25.7        | -31    |
| Tiruvarur                     | 204.9       | 302    |
| Toothukudi                    | 4.4         | -90    |
| Trichy                        | 16.3        | -54    |
| Vellore                       | 25.2        | -18    |
| Villupuram                    | 63.3        | 57     |
| Virudhunagar                  | 6.9         | -85    |
| <b>Andhra Pradesh</b>         |             |        |
| <b>Coastal Andhra Pradesh</b> |             |        |
| East Godavari                 | 0.0         | -100   |
| Guntur                        | 3.9         | -83    |
| Krishna                       | 2.0         | -92    |
| Nellore                       | 27.1        | -62    |
| Prakasam                      | 1.1         | -97    |
| Sirkakulam                    | 1.8         | -95    |
| Visakhapatnam                 | 11.1        | -55    |
| Vizianagram                   | 6.4         | -71    |
| West Godavari                 | 3.5         | -87    |
| <b>Telangana</b>              |             |        |
| Adilabad                      | 0.0         | -100   |
| Hyderabad                     | 0.0         | -100   |
| Karimnagar                    | 0.0         | -100   |
| Khammam                       | 0.0         | -100   |
| Mehabubnagar                  | 0.0         | -100   |
| Medak                         | 0.0         | -100   |
| Nalgonda                      | 0.0         | -100   |
| Nizamabad                     | 0.3         | -98    |
| Rangareddy                    | 0.0         | -100   |
| Warangal                      | 0.0         | -100   |
| <b>Rajalaseema</b>            |             |        |
| Anantapur                     | 1.6         | -91    |
| Chittoor                      | 40.3        | 6      |
| Cuddapah                      | 6.4         | -75    |
| Kurnool                       | 1.2         | -92    |

### Legends

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

## Weather Forecast (Valid upto 0830 hours of 4<sup>th</sup> November, 2012)



### Major Feature of Weather Forecast up to 0830 hours IST of 4<sup>th</sup> November, 2012

- Rain/thundershowers would occur at many places over coastal & north interior Karnataka, Telangana, north coastal Andhra Pradesh and Andaman & Nicobar Islands during next 48 hours and decrease thereafter.
- Rain/thundershowers would occur at many places over Tamilnadu, south interior Karnataka, southcoastal Andhra Pradesh, Rayalaseema, Lakshadweep and Kerala during next 24 hours and decrease thereafter.
- Rain/thundershowers would occur at a few places over Vidarbha, Chhattisgarh and Odisha during next 24 hours and increase thereafter.
- Rain/thundershowers would occur at a few places over Konkan & Goa, Madhya Maharashtra and Marathawada.
- Rain/thundershowers would occur at one or two places over Madhya Pradesh, Jharkhand, Bihar and Gangetic West Bengal from tomorrow and at a few places thereafter.
- Rain/snow would occur at one or two places over Jammu & Kashmir from 3rd onwards.
- Fog/shallow fog would prevail over parts of Punjab, Haryana, Delhi, Chandigarh and Uttar Pradesh during next 48 hours.
- Weather would be mainly dry over rest parts of the country.

### Weather Warning during next 3 days

- Heavy rainfall would occur at one or two places over north Coastal Andhra Pradesh and Coastal & north interior Karnataka during next 48 hours and over Telengana, Rayalaseema and south interior Karnataka during next 24 hours.

### Weather Outlook for subsequent 4 days up to 0830 hours IST of 8<sup>th</sup> November, 2012

- Scattered to fairly widespread rainfall would occur over east and adjoining central India.
- Rain/thundershowers would occur at one or two places over peninsular & northeast India.

## Zonewise Agromet Advisories

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

- **Realised Rainfall:** Weather remained mainly dry over the States of the region.
- **Rainfall Forecast:** weather will be mainly dry over the states of the region.
- **Advisories:**
  - As there was no significant rain during last couple of weeks and mainly dry weather is likely to prevail over the States of the region, farmers are advised to apply irrigation to the standing crops.
  - Farmers in Hill Zone of Assam are advised to undertake land preparation and sowing of rapeseed, mustard and lentil, planting of potato and transplanting of the seedlings of winter vegetables. Undertake transplanting of seedlings of vegetables of 4-6 weeks age in the main field.
  - Farmers in Lower Brahmaputra Valley Zone of Assam are advised to undertake land preparation and sowing of cauliflower, cabbage, knolkhol, and improved varieties of winter brinjal and tomato. Also undertake transplanting of seedlings of these vegetables of 30-35 days age in the main field. Farmers are also advised to prepare land and undertake sowing of rapeseed and mustard and planting of potato.
  - Farmers in Upper Brahmaputra Valley Zone of Assam are advised to undertake sowing of brinjal, knolkhol, early cauliflower and cabbage. Farmers are also advised to undertake land preparation and sowing of rapeseed and mustard.
  - Farmers in North Bank Plain Zone of Assam are advised to undertake land preparation and sowing of rapeseed and mustard and planting of potato. Farmers are also advised to undertake sowing of cauliflower, cabbage, knolkhol, brinjal and tomato.
  - Farmers in Central Brahmaputra Valley Zone are advised to undertake land preparation and sowing of rapeseed and mustard and cole crops and planting of potato. The seedlings of cole crops may be transplanted when they become 30-35 days old. Farmers are also advised to prepare land and undertake sowing of wheat.
  - Farmers in Barak Valley Zone of Assam are advised to start transplanting seedlings of brinjal and planting of potato in the main field. Farmers are also advised to undertake field preparation and planting of sugarcane setts (Autumn planting). Select upland sandy loam soil for the cultivation of cauliflower.
  - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to undertake nursery preparation and transplanting of the seedlings of late varieties of cauliflower, cabbage, broccoli and knolkhol and seedbed preparation of tomato and radish. Farmers are also advised to prepare field and undertake sowing of maize and planting of potato. Farmers are also advised to harvest late sown Rice (WRC) and pineapple on colour breaking stage.
  - In Mild Tropical Hill Zone of Mizoram, farmers are advised to harvest *Khasi* Mandarin fruit when colour changes.
  - In Mild Tropical Hill Zone of Nagaland, farmers are advised to harvest *jhum* rice. Farmers are also advised for land preparation and transplanting of the seedlings of tomato and cabbage.
  - Farmers in Sub Tropical Plain Zone of Manipur are advised to undertake land preparation and sowing of pea and zero tillage rapeseed and planting of potato just after the harvest of the rice crop. Farmers are also advised to harvest soybean, groundnut and blackgram and undertake nursery raising of cabbage, cauliflower, broccoli, onion etc.
  - In Temperate Sub Alpine Zone of Meghalaya, farmers are advised to undertake nursery raising as well as transplanting of cole crops and other winter vegetables. Farmers are also advised to undertake sowing of *rabi* maize in low and medium altitude region.
  - In Mild Tropical Plain Zone of Tripura, farmers are advised to prepare seedbed for sowing of winter vegetable in the harvested *aman* rice field. Farmers are also advised to undertake sowing of *rabi* maize, toria, sesame and lentil.
  - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
  - In Lower Brahmaputra Valley Zone of Assam, infestation of rice bug and stem borer is reported in *sali* rice; To protect from stem borer infestation, apply recommended doses of Chloropyrifos or

Quinolphos or Monocrotophos or Fenitrothion or Phosphamidon and to control rice bug apply Malathion 5% dust @ 20 kg / ha.

- In Central Brahmaputra Valley Zone of Assam, Gundhi bug infestation is observed in rice. Apply Malathion 5% dust @ 20 kg / if the population exceeds ETL in *Sali* rice.
- In Mid Tropical Hill zone of Mizoram, there is chance of attack of Collar rot, Rhizome rot in passion fruit, ginger and turmeric. Spraying with copper fungicide or combination of Metalaxyl + Mancozeb @ 2.5 g / litre of water or soil drenching with 1% Bordeaux mixture to control Collor rot and spraying with Copper Oxychloride @ 3 g / litre of water to prevent rhizome rot disease may be done.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
  - In North Bank Plain Zone and Bramhaputra Valley Zone of Assam and Sub Tropical Plain Zone of Manipur and Mid Tropical Zone of Tripura, farmers are advised to vaccinate cattle, pigs and buffaloes against FMD, HS, BQ.
  - In Mild Tropical Hill Zone of Mizoram and Sub Tropical Plain Zone of Manipur, farmers are advised to deworm cattle against Fascioliosis and Endoparasite, vaccinate poultry against Ranikhet and Coccidiosis, deworm pigs and vaccinate against swine fever.

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

- **Realised rainfall:** Mainly dry weather prevailed over the States of the region during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at one or two places over Jharkhand, Bihar and Gangetic West Bengal from tomorrow and at a few places thereafter. Rain / thundershowers would occur at a few places over Orissa during next 24 hours and increase thereafter. Weather will be mainly dry over Sub Himalayan West Bengal and Sikkim during the period.
- **Advisories:**
  - Farmers are advised to apply irrigation to the standing crops in Jharkhand, Bihar, West Bengal and Sikkim.
  - As there is possibility of occurrence of fairly widespread rain in Orissa, farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures in Orissa.
  - In South Bihar Alluvial Zone Farmers are advised to harvest matured short duration rice crop and to prepare field for sowing of gram, lentil, peas, sunflower and mustard. Farmers are advised to provide irrigation and undertake intercultural operations and top dressing of urea in early transplanted cauliflower, chilli, brinjal, tomato etc. Prepare nursery bed with recommended dose of fertilizers for sowing of autumn planted tomato, cauliflower, chilies, tomato, palak, carrot, radish, khnol khol, turnip, beet, garlic and cabbage.
  - In North West Alluvial Plain Zone of Bihar, farmers are advised to harvest matured rice crop and undertake planting of potato. Farmers are advised to prepare the land for *rabi* maize and other crops. Temperature condition is favourable for sowing of pea and lentil crop.
  - The farmers of Western Undulating Zone of Orissa are advised to carry the harvested crops to covered threshing floor to protect from loss due to expected rain.
  - The farmers of East and South Eastern Coastal Plain Zone of Orissa are advised to undertake harvesting of matured *kharif* groundnut, green gram and black gram immediately before start of rain. As the weather condition is optimum for sowing of mustard under rainfed condition, groundnut in river bank and sesame in the fallow uplands, the farmers of this zone are advised to undertake sowing of these crops.
  - The drop in temperature is very much suitable for sowing of wheat. The farmers of North Central Plateau Zone of Orissa are advised to prepare the land for wheat crop. As present weather conditions are favourable for proper germination of linseed and gram, the farmers are also advised for sowing of linseed and gram as paira crop after the harvesting of rice provided sufficient soil moisture must be there.
  - The farmers of North Eastern Plateau Zone (Keirei) of Orissa are advised to protect their harvest / produce from the expected occurrence of rainfall. The farmers are also advised to harvest the 85 per cent matured rice crop. The weather is optimum for sowing of groundnut, green pea etc.

- The farmers of West Central Table Land Zone of Orissa are advised to undertake harvesting rice crop, if 85 per cent grains are matured, in view of possibility of rainfall and store the harvested grains at safe place. It is optimum time for sowing of mustard under rainfed condition.
- In Central and North Eastern Plateau Zone of Jharkhand, farmers are advised to undertake sowing of short duration varieties of arhar, groundnut, jowar, soybean, turmeric and okra for inter cropping. Farmers are also advised to sow kulthi, potato, green pea and African marigold or French marigold.
- In Western Plateau Zone of Jharkhand, farmers are advised to sow kulthi, green pea and grow African marigold or French marigold. Farmers are advised to sow *rabi* crops like gram, lentil, linseed, pea, mustard etc. and undertake planting of potato. Farmers are also advised to raise the seedlings of winter vegetables like cauliflower, cabbage, chilli, tomato and brinjal etc. and sow directly the seeds of radish, turnip, spinach, carrot etc. As dry weather is likely to prevail, farmers are advised to dry the cobs of maize in the open sun before storage.
- In Coastal Saline Zone of West Bengal, farmers are advised to start intercultural operation like weeding and earthing up in winter vegetables like spinach, coriander, hybrid radish, tomato etc.
- In New Alluvial Zone of West Bengal, farmers are advised to undertake land preparation and sowing of wheat, mustard, Autumn sugarcane and planting of gladiolus bulb and cuttings of Marigold.
- Farmers in Laterite and Red Soil Zone of West Bengal are advised to prepare main field for sowing of early varieties of winter vegetables like radish, broccoli, cabbage and cauliflower etc. Farmers are also advised to undertake harvesting of matured *aman* rice and sowing of onion and planting of potato.
- Farmers in Old Alluvial Zone of West Bengal are advised to start seedbed preparation for winter vegetables.
- Farmers in Terai Zone of West Bengal are advised to prepare main field for planting cauliflower, cabbage, brinjal and tomato. Farmers are also advised for transplanting of winter seasonal flowers like gladiolus.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- BPH and Sheath Blight occurrence is reported in Western Undulating Zone of Orissa during this period in some areas. For control of BPH, basal spraying of Buprofezin @ 1.5 ml / litre of water or Imidacloprid @ 1 ml / 4 litre of water may be carried out. Alternate wetting and drying of field should be done.
- Pod borer infestation has been found in arhar in East and South Eastern Coastal Plain Zone of Orissa. Spray 200 ml Endosulphan along with 200 Neem based pesticides in 200 litres of water.
- Shoot borer infestation has been found in sugarcane crop in Mid Central Table Land Zone of Orissa. The farmers are advised to spray 400 ml Monocrotophos or Tryozophos or Profenophos for control of shoot borer. Fruit and shoot borer in brinjal has also been found. The farmers are advised to control by installing Pheromone traps @ 12 no.s / ac. Alternately spray 4 g Sevin WP or 2 ml Malathion in 1 litre water. Thrips in chilli has also been reported. Spray 300 ml Ethion or 400 ml Carbosulphan in 200 litres water / acre.
- Infestation of Early shoot borer in sugarcane has occurred in North Eastern Ghat Zone of Orissa. The farmers of 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.
- Due to humid and wet weather in Terai Zone and Old Alluvial Zone of West Bengal, neck blast, BPH, mealy Bug, bacterial leaf blight and sheath blight may occur in rice. Imidachlorpid @ 1 ml / 5 litres of water may be applied to control the attack of mealy bug and brown plant hopper. To control bacterial leaf blight, Streptocycline @ 1 ml / 10 litres of water and to prevent sheath blight spray Validamycine @ 2 ml / litre of water or Carbendazim @ 1 g / litre of water. For management of neck blast spray Bavistin 1 g / litre of water.
- Due to favourable weather condition in Hill Zone of West Bengal, fruit borer and shoot borer may attack in brinjal, Okra, tomato and chilli; for the management of fruit borer and shoot borer, Dichlorvos may be sprayed @ 0.75 ml / litre of water. Aphids, lemon butterflies and powdery mildew may infest orange. For their protection spraying should be done with Endosulfan @ 2 ml / litre of water. For protection against powdery mildew wettable sulphur should be sprayed @ 2 g / litre of water.

- Under present hot and humid situation in Laterite and Red soil Zone of West Bengal, sheath blight may attack *aman* rice. Spray Carbendazim @ 1.5 g / litre of water. In case of stem borer attack, spray Carbosulfan 25 EC @ 2 ml / litre or Profenphos 40% + Cypermethrin 4% @ 1 ml / litre of water.
- **Animal Husbandry**
- Foot and mouth disease has been observed in cows. The farmers of North Central Plateau Zone and North Eastern Plateau Zone of Orissa are advised to apply potassium permanganate on lesions in the mouth and sulphur treatment is recommended for foot lesions.
- **Pisuculture**
- The farmers of North Eastern Plateau Zone and North Central Plateau Zone of Orissa are advised to apply CIFAX 400 ml / ha mt of water as prophylactic measures against diseases. Apply Lime @ 250 kg / ha
- Stages of major crops are mentioned in Annexure I.

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

- **Realised Rainfall:** No significant rain occurred during the period over the States during last week.
- **Rainfall Forecast:** Rain/thundershowers would occur at a few places over Konkan & Goa, Madhya Maharashtra, Marathwada and Vidarbha. Mainly dry weather is likely to prevail over Gujarat State.
- **Advisories:**
- In view of rainfall forecast at few places, farmers in Maharashtra are advised to complete harvesting of matured *kharif* jowar, groundnut and early / midlate maturing rice varieties.
- As rain / thundershowers would occur at a few places over Madhya Maharashtra, Marathwada and Vidarbha, farmers in these region are advised to complete sowing of *rabi* jowar, maize and rainfed gram. They are also advised to undertake thinning in 15-20 days old *rabi* jowar.
- Prevailing weather is favourable for sowing of *rabi* gram, wheat and pea in the State. Farmers in Madhya Maharashtra are advised to undertake sowing of irrigated gram upto 10<sup>th</sup> November.
- Farmers in Marathwada region are advised to avoid irrigation in orange and sweet lime orchards for blossoming *ambe bahar*.
- As early and midlate maturing varieties of *kharif* rice are in maturity stage in Konkan, Kolhapur, Nashik and Pune division and scattered rain is expected in these regions, farmers are advised to complete harvesting of matured rice crop. Late varieties of rice are in grain maturity stage, farmers are advised to start harvesting of already matured late rice variety. Rice in East Vidarbha region is in grain formation / maturity stage, farmers are advised to start harvesting of already matured rice crop.
- Farmers are advised to complete planting of pre seasonal sugarcane in Madhya Maharashtra and Marathwada.
- As cotton is at boll maturity stage in Marathwada region, farmers are advised to continue picking of fully opened cotton bolls.
- Farmers in Nasik region are advised to complete threshing of harvested paddy crop and the harvested paddy heaps and other crops should be covered with plastic paper or tarpaulin to protect from rains.
- As weather was mainly dry and no rain is likely to occur in North Gujarat Zone, apply irrigation to castor and cotton. Make crop planning according to availability of irrigation water and arrange farm inputs for *rabi* sowing. Wait for sowing till the maximum temperature become down around 30<sup>o</sup>C. Select improved cultivars for transplanting of cabbage, brinjal, cauliflower and sowing of onion, raddish and garlic. Prepared the land for sowing of carrot.
- Carry out intercultural operations in pigeon pea before flowering in South Gujarat Zone. Apply urea @ 75 gm per plant and make ring around banana plant for irrigation. After flowering in papaya orchard, remove 90 % male plant.
- Undertake land preparation for wheat sowing in middle Gujarat Zone. Complete transplanting of cabbage, cauliflower and onion. Intercultural operations or hand weeding is advised in brinjal and tomato. Farmers are advised to sow rapeseed. Sow sweet corn from 3<sup>rd</sup> week October to 1<sup>st</sup> week of November.
- Farmers in South Saurashtra Zone of Gujarat are advised to select varieties mentioned in Annexure II for sowing of gram. Harvest ripened spiklets of castor in time. Apply irrigation at regular intervals in custard apple and harvest ripen fruits.
- Apply irrigation in alternate bed to cotton crop in North Saurashtra Zone. Complete harvesting of early sown groundnut. Undertake sowing of gram, if 2-3 irrigation facilities are available.

- As cotton crop is at boll formation and maturity stage in South Gujarat Heavy Rainfall Zone, maintain soil moisture in the field. Select varieties given in Annexure II for sowing of gram. Carry out picking of cotton if crop is ready. For transplanting of cauliflower and garlic select improved cultivars. Sowing of sweet corn may be done up to 1st week of November. Sundry the harvested paddy.
  - Prepare land for sowing of *rabi* crops like wheat, gram & mustard, plough the harvested field to take advantage of solarization before sowing of winter crops in Bhal and Coastal Zone of Gujarat. Groundnut crop is at maturity stage; carry out harvesting in proper time. Carry out intercultural operation and apply regular irrigation in cotton.
  - Stages of the crops are mentioned in Annexure I.
  - Prevailing weather is congenial for attack of fruit borer in okra in Ahmednagar Division, spray Deltamethrin 5 ml or Profenofos 10 ml per 10 litres of water.
  - Varieties of *rabi* crops are mentioned in Annexure II.
- Animal Husbandry:**
- Cut the beaks of birds in the poultry under age of 15 Week. Entry of visitors of poultry should be prevented. Rats in the poultry should be destroyed. Clean udder of milking Animals with insecticide, zinc oxide or boric powder in North West Zone of Gujarat.

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

- **Realised Rainfall:** No significant rainfall occurred over the States of the region.
- **Rainfall Forecast:** Rain/snow would occur at one or two places over Jammu & Kashmir from 3<sup>rd</sup> onwards. Weather will be mainly dry over rest of the states.
- **Advisory:**
  - As no significant rainfall occurred over the States of the region and rain/snow would occur at one or two places over Jammu & Kashmir after 48 hours, farmers are advised to apply irrigation to the standing crops in the region.
  - Farmers in Flood Prone Eastern plain zone of East Rajasthan are advised to prepare field for sowing of *rabi* crops like wheat, mustard, potato and lentil and sow seeds in nursery for raising seedling of autumn vegetables.
  - Farmers in Semi-arid Eastern plain zone of Jaipur of East Rajasthan are advised to complete the sowing of mustard & gram at the earliest and start field preparation for the sowing of *rabi* crops like wheat, barley. Undertake planting nursery of late cauliflower, cabbage & *rabi* onion. Sowing of carrot, radish & garlic may be continued.
  - In Arid Western Plain Zone Bikaner of West Rajasthan, farmers are advised to undertake the harvesting of matured late sown *kharif* crops, also undertake sowing of gram and mustard and also undertake transplanting of tomato and sowing of cumin seeds.
  - In Arid Western Plain Zone Jodhpur of West Rajasthan, farmers are advised to complete the sowing of mustard and for sowing of wheat and barley undertake field preparation and also undertake sowing of vegetables.
  - In Transitional plain zone of Inland Drainage, farmers are advised to start for sowing of taramira, toria, pea rainfed gram and mustard and vegetables like carrot, spinach and radish.
  - In irrigated northwestern plain zone of west Rajasthan, farmers are advised to start field preparation for the sowing of wheat, gram and barley and complete the sowing of mustard.
  - In Sub Humid Southern Plain and southern humid plain zone of Rajasthan, farmers are advised to start preparation of field for sowing of *rabi* crops like wheat, barley and gram. Sowing of opium poppy should also be started during this week. Complete the planting of autumn sugarcane.
  - In southeastern humid plain zone of East Rajasthan, farmers are advised to start field preparation for sowing wheat and gram.
  - In sub tropical zone of Jammu & Kashmir, farmers are advised to do sowing of gram, barley, *rabi* oilseeds, pulses and vegetables and undertake harvesting of early maturity varieties of rice.
  - In Intermediate zone of Jammu & Kashmir, farmers are advised to start sowing of wheat, gram, barley and continue the planting / sowing of potato, pole type beans, radish, carrot, turnip, garlic, methi and nursery sowing of cauliflower and cabbage, undertake sowing of toria with intercropped with gobi sarson, berseem crops and harvesting of moong, vegetables, maize, *kharif* fodder and early sown rice crops. Apply irrigation and hoeing and weeding may be done.
  - In Barbar & Tarai region of Uttarakhand, conditions are favourable for sowing of barley, Oat pea, chickpea. Also farmers can also go for sowing of sugarcane, intercropping with potato, lentil and vegetables in Udham Singh Nagar district. In Nainital district, it is advised to sow wheat in hilly region and also continue sowing of wheat in mid and high hills as well as in lower hills during this week and farmers having irrigation facilities are advised to

- give light irrigation in vegetables (coriander, spinach, radish, menthe) and top dressing, weeding & thinning operations under optimum soil moisture for enhancing crop growth in 30 days duration toria crop. Complete harvesting & threshing operations of matured soybean & finger millets crops during this week.
- In Sub humid sub tropic of Uttarakhand, farmers are advised continue sowing of vegetable pea, mustard and land preparation for sowing of wheat. Supplemental irrigation should be done after earthen up and weed remove in crops like brinjal, chilli, lady's finger. Ploughing of early planted fruit crop and other plant and after ploughing apply recommended fertilizer as per age of the plant. Planting of cauliflower, brinjal and chilies sapling may be undertaken.
  - In Hill zone in Uttarakand, farmers are advised to continue sowing of vegetable pea. Farmers are advised for sowing of high yield variety of toria, wheat, vegetables. mustard after harvesting of kharif crops.
  - Farmers in Central plain Zone of Uttar Pradesh, are advised to complete harvesting/threshing of rice and groundnut crop. Complete the planting of sugarcane. Intercropping of wheat, raya, toria, gobhi sarson, pea, gram, potato etc. can be done successfully in this crop. Berseem sowing should be completed during this period. Also sowing lucerne, oats, senji crop may be done.
  - In North Eastern Plain Zone of Uttar Pradesh, framers are advised to start field preparation and sowing of maize, musterd, pea, lentil & gram. Also continue sowing of toria, leafy vegetables/tuber crops and harvesting of maturity paddy.
  - In Bundelkhand Zone of Uttar Pradesh, farmers are advised to give irrigation to vegetable crops. Undertake sowing of wheat, gram, peas, lentil and mustard. Harvest fruit crops.
  - In Western Plain Zone of Uttar Pradesh, farmers are advised for sowing of wheat, potato, maize, pea, masoor, vegetables (like onion, tomato, raddish, carrot, palak, cauliflower, cabbage etc.) and planting of sugarcane.
  - In Sub-Montane & Low Hills Sub-Tropical Zone and Mild Hills Sub Humid Zone of Himachal Pradesh, farmers are advised to continue nursery sowing of early variety of pea, raddish, turnip, corrionder, cabbage, Knol khol, broccoli, parsley, lettuce, fennel and cauliflower. It is optimum time for planting of wheat crop, oats and barley in high altitudes. Sowing of gram and lentil should be completed in lower areas. Also potato sowing in lower hills may be done.
  - In the Mild Hills Sub Humid Zone of Himachal Pradesh, attack of fruit borer is observed in bhindi and brinjal, for control spray carbaryl 50 WP @2g per litre of water or Endosulphan @1.5ml per litre of water. Mark the San Jose Scale infested apple trees and spray them with durmet @2ml/l.
  - Farmers of Mid hill sub humid zone of Nauni are advised to start coating of lime on the trunk of temperate fruits upto 2-3 ft from ground. Also, complete the sowing of early variety of pea and direct sowing of root crops may be carried out.
  - Farmers in Delhi are advised to make an arrangements for harvesting mature rice crop. Undertake sowing of gram, oat, barseem and lentil during this week. Sowing of pea should not be delayed as late sowing reduces the seed yield. Sowing of potato should completed as soon as possible. Sowing of garlic can be done in raised bed. Sowing of Nantes group of carrot, European group of radish such as Pusa Mridula, Japanese White and Pusa Himani, Crimson Globe cultivar of beetroot and Snowball cultivars group of turnip can be done this week. This is suitable time for sowing of sarson saag, bathua, radish, spinach, fenugreek, coriander, turnip. Weather is suitable for sowing of *rabi* onion. Transplanting of mature seedlings of cauliflower, cabbage, broccoli and tomato may also be done in raised bed.
  - In Central Plain Zone of Punjab, farmers are advised to start sowing of wheat varieties namely, PBW 621, DBW-17, PBW-502, PBW-343, WH-542, HD 2967 and durum wheat WHD 943,PDW 314, PDW 291, PDW-274 and PDW-233 under irrigated conditions and PBW-527, PBW-175 under rainfed conditions from last week of October. Complete the planting of sugarcane in the first fortnight. Intercropping of wheat, raya, toria, gobhi sarson, pea, gram, potato etc. can be done successfully in this crop.
  - This is best time of sowing of Kabuli gram (GLK 25104, L 550 & BG-1053) in Punjab except humid areas of Gurdaspur, Hoshiarpur and Ropar till 10th November under irrigated conditions.
  - In Undulating Plain Zone of Punjab, farmers are advised to complete sowing of Barseem as early as possible. Sow varieties of gram PBG 5 and PBG-1 which has resistance to gram blight. Prepare field for sowing of Gobhi sarson. Start sowing of recommended varieties of Lentil. Harvest the crop matured moong and mash crop. Complete the planting of sugarcane as early as possible. Starts sowing of recommended varieties of wheat. Start sowing of garlic and root vegetable crops. Undertake transplanting of cole (veg) crops. This is best time for sowing of nursery of chilli and brinjal.
  - In Western Zone of Punjab, farmers are advised to undertake sowing of raya and gobhi sarson. In order to get higher yields from first cutting, sow barseem or lucerne in mixture with oats and sarson. This is the right time for transplanting of main season varieties of cauliflower and cabbage. Start sowing radish, turnip and Carrot. Start sowing nursery of tomato.

- Farmers in Eastern Zone of Haryana are advised to prepare the field and sowing of mustard crop with certified seeds. Do the Picking of cotton crop when the dew is dried up. Farmers are advised to start the harvest of ripened bajra and guar crop and threshing.
- In semi arid plain zone of east Rajasthan to control the blight in tomato spray Mencozeb @ 2 gm.
- In semi arid eastern plain zone of east Rajasthan to protect already sown mustard crop from painted bug & saw fly, farmers are advised to broadcast quinalphos 1.5 % or methyl parathion 2% dust @ 20-25 kg per hectare.
- In Arid Western Plain Zone Bikaner of West Rajasthan, farmers are advised to prevent attack of termite in gram, apply Quinolphos 1.5% powder @ 25kg/ha at the time of last ploughing. To control soil borne diseases like wilt and root rot, apply Trichoderma @ 4kg/ha with FYM/compost after pre sowing irrigation.
- In Arid Western Plain Zone Jodhpur of West Rajasthan, farmers are advised to control BLB in chilly by spraying streptomycin 250 mg in 3 gm/lit water.
- In southeastern humid plain zone of East Rajasthan, farmers are advised to control painted bug in mustard spray powder of methyl parathion 2% @ 25kg/ha. To control blast spray tricyclozel 0.1%. To control the blast in rice crop spray tricyclozel 0.1%.
- In southern humid plain zone of east Rajasthan in cotton to control sucking pest spray imidacloprid 17.8 SL@ 150-200ml/ha or dimethoate 30 EC @ 1 lit/ha and to control wilt spray cobalt chloride 100 ppm solution.
- In Transitional plain zone of Inland Drainage, farmers are advised to control leaf curl & mosaic in Papaya uproot & burn the affected plants.
- Constant monitoring of lady finger, chilli and cucurbitaceous crops against attack of mite, jassid and hopper is advised in Delhi. If insect population is more than ETL spraying of ethion 50 EC @ 1.5 - 2 ml per litre of water is advised to control mite and spraying of dimethoate 30 EC @ 2 ml/litre of water against jassid and hopper is advised.
- There is mild attack of hopper and moderate to severe attack of leaf folder on paddy crop in Western Zone of Haryana. Farmers are advised to spray the crop with 250 ml monocrotophos or dusting of methyl parathion (Folidol) @ 10 kg/acre.
- **Animal Husbandry**
  - In Uttarakhand, farmers are advised to maintain proper cleanliness in animal sheds for avoiding incidence of diseases. Farmers are advised to use Iron case in poultry house for birds. It will give more eggs & will increase feed efficiency of birds. Proper care should be taken for cattle because the chance of foot mouth disease is more. 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 cattle and hens/bird should be during this period.
  - In Western plain Zone of Punjab, farmers are advised to provide dry bedding to young calves.
  - In semi-arid eastern plain zone farmers are advised to feed pregnant cow & buffaloes an extra amount of 2 kg concentrate feed before 2 month of Parturition. After parturition feed 2 kg Jeggary, 1/2 kg pearl millet grains, 100 gm fenugreek, 20 gm Ajowan, 50 gm salt and 40 gm mineral mixture daily.
  - In Intermediate zone of Jammu & Kashmir, vaccination of animals against FMD 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.
- **Horticulture :**
  - In the Mild Hills Sub Humid Zone of Himachal Pradesh, for the control of Scab, pre-mature leaf fall, sooty-blotch & Fly speck and Alternaria blight diseases in apple, farmers are advised to spray 600 gm Propineb (antracol) or 700 ml Mancozeb Flowable per 200 liters of water. Spray Ziram @ 600 gram per 200 liters of water 20-25 days before fruit harvesting.
  - In 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 Intermediate zone of Jammu & Kashmir, for control of leaf curl and Stigmata blight on peach/plum/apricot/almond, spray copper oxychloride (0.3%) or captan (0.2%) before leaf fall.
  - In Eastern plain zone of East Rajasthan, farmers are advised to mango, guava & pomegranate may be attacked by mealy bug insect. Hopper of this bug suck sap of tender leaves of these trees. To control this mix quinalphos 1.5 % @ 50-100 gm per tree in soil at a depth of 10-25 cm.
  - In Transitional plain zone of Inland Drainage of east Rajasthan farmers are advised to control leaf curl & mosaic in Papaya uproot & burn the affected plants and spray Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 ml per litre water.
  - In Arid Western Plain Zone(Bikaner) farmers are advised to avoid heavy irrigation in ber to prevent fruit drop at this time of fruiting. Spray Monocrotophos 36 SL @ 0.04 % at the pea grain size stage of ber fruit.
  - In Arid Western Plain Zone(Jodhpur) as there is starting of fruiting stage of ber, farmers are advised to apply urea per plant as per the age of ber fruit and also apply irrigation.

- In Irrigated North Western plain zone of Rajasthan, farmers are advised to give regular irrigation to kinnow fruit.
- In arid western plain and semi-arid eastern plain zone of Rajasthan, farmers are advised to spray Dimethoiate 30 EC at recommended dose to control mosaic disease in papaya.
- **Apiculture**
  - In Intermediate zone of Jammu & Kashmir, provide ample space for queen bee by giving drawn comb. Week colonies may be provided sealed brood from strong one to equalize the strength of all the colonies. Stimulating feeding of sugar, syrup should be given for expansion of brood area, if needed at the start of the month. Queenless colonies should be united with strong ones. (Sulphur dusting should be avoided in temperate regions).
  - In Sub Tropical Zone of Jammu & Kashmir, week colonies may be provided sealed brood from strong ones. Provide ample space to queen for eggs by giving drawn comb.
- **Floriculture**
  - In valley temperate zone of Jammu and Kashmir, regular check out the stored bulbs of tulip and other planting material to avoid damage. Mowing of lawn should be followed regularly. Sow the seeds of spring annuals as early as possible if not sown till now. Collect the seeds of summer annuals. Stop irrigation in gladiolus and liliium field. Preparation of land for spring flowering annuals should be followed.
  - Farmers of the mid hill sub humid zone of Himachal Pradesh are advised to harvest the chrysanthemum and marigold flowers. Planting of Liliium bulbs in low and mid hills can also be done.

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

- **Realised Rainfall:** Most of the districts in Tamil Nadu, Alappuzha, Kollam and Thiruvananthapuram in Kerala and Chittoor in Rayalaseema received rainfall during last week. No significant rainfall occurred over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over Tamilnadu, Coastal & North and South Interior Karnataka, Telangana, north & south coastal Andhra Pradesh, Rayalaseema and Kerala during next 24 hours and decrease thereafter.
- **Warning:** Heavy rainfall would occur at one or two places over north Coastal Andhra Pradesh and Coastal & north interior Karnataka during next 48 hours and over Telengana, Rayalaseema and south interior Karnataka during next 24 hours.
- **Advisories:**
  - As rain/thundershowers would occur at many places over Tamilnadu, Coastal & North and South Interior Karnataka, Telangana, north & south coastal Andhra Pradesh, Rayalaseema and Kerala during next 24 hours, postpone irrigation to the standing crops.
  - Due to cyclonic storm 'NILAM', rainfall occurred at most / many places over Tamil Nadu during 30 – 31 October along with heavy rainfall at one or two places. Waterlogging has been observed in the crop fields particularly in rice over coastal districts along with high wind speed. Farmers are advised to arrange for extensive drainage facilities to avoid waterlogging and crop damage. After cessation of rains, undertake spraying of 1% urea + 0.5% zinc sulphate in rice for recovery of crop. Provide mechanical support for field / horticultural crops wherever feasible to prevent lodging due to strong winds.
  - Farmers in Kerala are advised for mulching to conserve soil moisture in coconut and arecanut fields.
  - In North Dry Zone in Karnataka, sowing of sunflower, safflower, rabi jowar, chickpea and wheat may be completed. In North East Dry Zone, farmers may undertake sowing of rabi sorghum.
  - Farmers in the Eastern Dry zone of Karnataka are advised to take up inter cultural operations in late sown crops and top dress with urea, take up normal agricultural operations for the standing crops and repair bunds and drainage system to avoid stagnation. The farmers are also advised to make soak pits/trenches for perennial horticulture crops near the base of the crops to conserve moisture. Avoid irrigation and spraying of chemicals for next five days and avoid water stagnation in new plantations.
  - Farmers in the North East Transition zone of Karnataka are advised to go for planting of sugarcane by taking 9 months old sugarcane sets and carry out the nipping operation (35 - 40 days after sowing) in bengal gram, as it helps in spreading of the crop and produce more off side branches.
  - Due to low to medium rainfall forecasted, farmers in the Coastal Zone of Karnataka are advised to undertake precautionary measures while harvesting paddy crop or postpone harvesting of paddy crop for the next couple of days. Farmers are also advised to raise nursery bed for brinjal and other solanaceous crops.
  - Moderate amount of rainfall has been received at many places during the previous week in the North Dry Zone of Karnataka. Taking advantage of this rainfall, sowing of rabi crops may be completed as early as possible and sowing of sunflower in wider row spacing (120-135 cm) may be taken by October end. Harvesting of pearl millet (bajra), groundnut and maize may be taken up after five days, since there is possibility of light to moderate amount of rainfall at many places during the coming five days.

- In the North Transition zone of Karnataka , farmers are advised not take any sprays during next five days, since moderate rainfall is expected in the coming days.
- Farmers in the Southern Transition zone of Karnataka are advised to give one protective irrigation to maize, since it is under stress.
- As heavy rainfall is forecasted, farmers in the North East Dry Zone of Karnataka are advised to withhold sowing of rabi sorghum, continue sowing of rabi safflower, horse gram and bengal gram avoiding rainy days.
- Since North East monsoon is going to intensify in the Problem Area Zone of Kerala, harvesting has to be completed at the earliest for reducing lodging of paddy and subsequent economic loss. The harvested paddy should be properly covered with plastic sheet to protect from rainfall. In areas where crop is already harvested plan for taking next crop, the land should be ploughed thoroughly incorporating the crop residues and inundated water for decomposing. Mulch the coconut basins with green/dry leaves. This help to add organic matter to the soil and to reduce the soil temperature.
- In the Northern Zone of Kerala farmers are advised to harvest the first crop of paddy quickly on days of clear sky. It is time to prepare nursery for the second crop. To get healthy seedlings apply dried and powdered farm yard manure @1Kg/sq. meter of the nursery at the time of final ploughing and incorporate thoroughly. To prevent diseases in early stages soak the seeds in Bavistin solution. Iron toxicity is found in paddy fields of midland lateritic belts of Kerala. Apply lime/dolomite as per requirement after soil analysis.
- Farmers of High altitude zone of Kerala are advised to plough the inter spaces for controlling the weed growth and enhancing the infiltration of rain during NE monsoon in coconut and arecanut crops.
- Farmers of the southern zone of Kerala are advised to complete planting of Mundakan crop this month. To control fungal and bacterial diseases dip the basal portion in Pseudomonas solution. Drain the field if the crop is in tillering stage. In coconut plantations farmers are advised to continue the rain water harvesting and start mulching of palm to conserve the moisture.
- Since moderate to heavy rainfall is expected in next five days, farmers in the Cauvery Delta Zone of Tamil Nadu are advised to postpone dressing of fertilizers to samba and basal application to thaladi paddy and provide adequate drainage facilities to drain the expected excess rainwater.
- Farmers in the North Eastern Zone of Tamil Nadu are advised to drain out excess water from the paddy field.
- As rainfall is expected in coming days, farmers in the Western Zone of Tamil Nadu are advised to postpone irrigation in cow pea crop. During booting stage continuous inundation of 5cm and above leads to advancement in root decay and leaf senescence, and reduction in the number of filled grains per panicle. Hence provide adequate drainage facilities to drain excess water in the field.
- As heavy rainfall is expected in the coming days, farmers in the South Zone of Tamil Nadu are advised to provide adequate drainage to the fields in order to avoid water stagnation due to heavy rains and do gap filling and thinning when soil moisture content is optimum for maintaining the required population under rainfed conditions.
- Farmers in the North Western Zone of Tamil Nadu are advised make drainage facilities in the field to avoid rainwater stagnation in places where groundnut is in harvesting stage, thereby prevent spoilage of seeds due to germination, cover harvested onion and fodder sorghum with polythene sheets to protect from rain, since cyclonic storm is likely to have impact on the rainfall.
- As there has been enough rains during the past few days and also due to heavy rainfall forecast, Farmers in the High Altitude Hilly Zone of Tamil Nadu are advised are advised to ensure field sanitation and drainage.
- Farmers in the High rainfall Zone of Tamil Nadu are advised undertake ploughing of fields and interspaces of perennial crops for effective harvesting of rain water, planting operation for banana, clove, nutmeg, black pepper and rubber, fertilizer application for banana and pepper, sow crops seeds between the interspaces of rubber and provide proper drainage facilities for vegetables and other horticultural crops should to avoid water stagnation.
- Farmers in High altitude tribal zone of Andhra Pradesh are advised to maintain 5 cm of standing water in rice crop. Crop should not face water stress at panicle initiation, flowering and milk stages.
- Farmers in the Krishna Godavari zone of Andhra Pradesh are advised to complete the sowing of rabi blackgram/greengram/redgram and take up sowing of chick pea. Farmers in the Prakasam district of Andhra Pradesh are advised to take up direct sowing of paddy with short duration varieties.
- In some of the mandals of Anantpur district of Scarce Rainfall zone of Andhra Pradesh crops castor and cotton are suffering from moisture stress. Farmers are further advised to complete sowing of Bengal gram and take up sowing of rabi groundnut by utilizing the residual soil moisture due to recent rainfall occurred. They are further advised to take up harvesting of kharif groundnut when sufficient moisture is available in the root zone
- Farmers in the Southern Telangana zone of Andhra Pradesh are advised to take up sowing of chickpea and safflower under residual moisture conditions in rainfed areas and rabi crops like groundnut, sunflower and maize under irrigated dry conditions.

- Farmers in the Northern Telangana zone are advised to harvest the matured sugarcane crop and wrapping and propping of canes should be done sugarcane crop which are 6-7 months old.
- Farmers of Eastern Dry Zone of Karnataka are advised to spray of fungicide & pesticide (need based) if the incidence of pest and diseases exceeds threshold level of crops. For leaf roller pest spray Monocrotophos @ 1.5ml/litre or Quinalphos @ 2ml/litre of water. In redgram spray of pesticide Methomil 40 S.P 2.0gm/litre for control of leaf Webber/ folders. For the control of wilt, drench with carbendiazime 2gm/litre.
- Pod borer was noticed in pigeon pea crop in the North East Transition zone of Karnataka. Farmers are advised to spray ovicidal insecticide such as profenophos 2 ml or Thiodicarb 0.6g or Methomyl 0.6g per litre of water, If the crop is in 50 % flowering stage, neem based insecticide @ 2ml per liter of water in the next stage and NPV 0.75 ml per liter of water, if the pod borer is big in size for effective control of pod borer.
- Farmers in the North Dry zone of Karnataka are advised to undertake plant protection measures, since there is possibility of light to moderate rainfall in the coming days.
- Leaf spot-black spots and rust in groundnut, sucking pests and white fly in Bt.cotton, woolly aphid in sugarcane, early leaf blight in tomato, fruit borer in chilli/ tomato/ brinjal and root grub in sugar-cane is noticed in the North Transition zone of Karnataka. Farmers are advised to apply Carbendazim 500 g / ha (or) Mancozeb 1 kg/ha to control leaf spot, spray Mancozeb 1 kg/ha (or) Chlorothalonil 1 kg / ha (or) Tridemorph 500 ml to control rust, Acetamprid 20 SP @ 0.2 g/lit of water to control sucking pests and Triazophos 40 EC @ 1.5 ml/lit of water for white fly, mancozeb @ 2 g/L or cuprous oxide @ 2.5 g/L to control early leaf blight.
- Farmers in the North East Dry zone of Karnataka are advised to monitor the incidence of stem borer, leaf folder, blast and sheath blight and undertake plant protection measures if noticed.
- Wherever sunflower is sown, irrespective of the stage of the crop (before flowering) viral symptoms are observed in the North East Dry Zone of Karnataka. Farmers are advised to insect should be managed by spray dimethoate (1.7 ml) or Oxydemeton Methyl @ 1.5ml/litre of water to check further spread of thrips (Known as one among the major Viral disease transmitter).
- Farmers in the Problem Area Zone of Kerala are advised to monitor the incidence of leaf roller and bacterial leaf blight disease and rice bug in paddy and budrot diseases in coconut, dieback and leaf fall diseases in nutmeg.
- In the northern zone of Kerala, drying of inflorescence and dropping of immature nuts are wide spread in arecanut farms. Spray Contaf® (1ml dissolved in 1litre of water). Within a week apply Bordeaux mixture also. Keep vigilance on appearance and spread of Mahali disease. Do not allow water stagnation anywhere in the fields, including drainage channels. Apply 1 to the basins, not less than 500g per palm. To prevent disease onset, apply Bordeaux mixture on inflorescences. If disease appeared, spray Akomin® (3ml dissolved in one litre water).
- Farmers of High altitude zone of Kerala are advised leaf axil filling with sand and carbaryl for controlling red palm weevil and Rhinoceros beetle in coconut plantations and in arecanut it is advised to spray 1% Bordeaux mixture or copper oxy chloride (4 gm/ litre) to control mahali and bud rot diseases. To control spindle bug it is advised to spray crowns with carbaryl 50 WP (3 gm per litre). The spray should reach the leaf axils.
- Farmers of the Central Zone of Kerala are advised to apply of bleaching powder @ 5 kg/ha in the irrigation water at different places is recommended in paddy for checking the spread of Bacterial leaf blight particularly in the kresak stage.
- Farmers in the North Eastern Zone of Tamil Nadu are advised to apply propiconazole insecticide 2 ml per liter water for paddy crops affected with stem borer.
- Since there are chances of spreading of foliar diseases due to sudden high humidity, farmers in the High rainfall Zone of Tamil Nadu are advised to spray fungicides.
- Cutworm is noticed on the paddy field of Northern Telangana zone of Andhra Pradesh. Farmers are advised to irrigate the field and spray in the evening hours with any of the following combinations, Dichlorvos @ 1.0 ml + Quinalphos @ 2.0 ml (or) Chlorpyrifos @ 2.5 ml + Dichlorvos @ 1.0 ml lit-1 of water.
- Blast, Sheath blight and Sheath rot was noticed in rice crop in the North Coastal Zone of Andhra Pradesh. Spray tricyclozole @ 0.6 g/l for blast, Hexacanzole @ 2ml/lit (or) for sheath blight and Validamycin @ 2 ml/l for sheath rot. Rust and wilt was noticed in sugarcane. For control Rust of Spray tridemorph @ 1 ml/l on and for wilt drain out excess water if stagnated in the field.
- Incidence of leaf spot and grey mildew is noticed on the cotton crop in the Southern Telangana Zone of Andhra Pradesh. To control Leaf spot spray Copper-Oxy-Chloride @ 30 g and Plantomycin @ 2 g per 10 litres of water and Grey mildew and spray wettable sulphur @ 3 g per litre of water.
- Farmers are advised to apply potassium fertilizers to reduce the incidence of bacterial leaf blight in rice in the Krishna Godavari zone of Andhra Pradesh and Mealy bug incidence is observed on the cotton and for the control spray the infested plants with acephate @ 2g/prophenofos @ 3 ml/l of water.
- **Livestock**
- Farmers in the Eastern Dry zone of Karnataka are advised to take up Silkworm and poultry rearing houses to maintain optimum room temperature. Care should be taken against the rapid increase in afternoon air temperature and decrease in relative humidity.

- Due to sudden raise in temperature, farmers in the Coastal zone of Karnataka are advised to sprinkle water on cattle body, provide shade for maintaining temperature and maintain required amount of moisture in the vermi-compost pits.
- Due to heavy rain along with high wind-speed, farmers in the North Eastern Zone of Tamil Nadu are advised to house animals in well constructed sheds, protect the young animals from chillness and rain, avoid stagnation of water nearby animal shed and clean the bushes to avoid multiplication of flies so that vector born diseases like anaplasmosis, theileriosis, babesiosis and trypanosomiasis can be prevented.
- Due to the formation of deep depression in the Bay of Bengal and subsequent cyclone formation, rain is expected in the North Western Zone of Tamil Nadu. Hence, poultry farmers are advised to make drainage facility on both sides of the raised poultry houses to prevent mixing of rainwater and litter material.
- Farmers in the Southern and Northern Telangana zone of Andhra Pradesh are advised to vaccinate against ET and Hemorrhagic Septicemia in Cattle, Buffaloes and Black Quarter in Cattle
- Farmers in the Scarce rainfall zone of Andhra Pradesh are advised to treat the cattle for Foot and mouth disease by applying potassium permanganate on lesions in the mouth and sulphur treatment.
- Farmers in the High Rainfall Zone of Kerala are advised to undertake proper sanitation of the cattle shed with sodium bicarbonate/Lime. Breeding of the mosquito has to be prevented around the shed. Store the feed from excess moisture to prevent fungal infestation.

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

- **Realised Rainfall:** No significant rainfall occurred in the State during last week.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Madhya Pradesh from tomorrow and at a few places thereafter. Rain/thundershowers would occur at a few places over Chhattisgarh during next 24 hours and increase thereafter.
- **Advisories:**
  - Farmers in Madhya Pradesh and Chhattisgarh are advised to provide irrigation to the standing crops as there was no rainfall during last week.
  - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised that if cracks occurred in the rice field, give irrigation. They are also advised to harvest soybean, mung, and urd crops at this stage. To avoid loss of soil moisture, field should be immediately prepared for the planting of chickpea, lentil, mustard, and linseed crops. Seeds should be treated with fungicides before sowing. In pulse crops, seeds should be inoculated with Rhizobium bacteria. Also use recommended amount of fertilizers at the time of sowing in these crops. As minimum temperature decreasing this is proper time for sowing of pea, nursery preparation of cabbage, cauliflower and onion, planting of spinach, fenugreek, garlic and coriander.
  - Farmers in Jhabua Hills Zone of Madhya Pradesh are advised to arrange inputs for *rabi* crops like seed, fertilizers and chemicals as soon as possible. Tillage operation should be done in fallow field. After cleaning of stored *rabi* seed, test the germination percentage of seed. Give irrigation to cotton crop if there is moisture stress condition. Apply fertilizers in chilli, capsicum, tomato, papaya, onion etc. and irrigate. Farmers are also advised to prepare nursery for *rabi* onion cultivation. This is suitable time for sowing of carrot, radish, pea, methi, palak and transplant tomato, brinjal, cauliflower and other vegetables etc.
  - Farmers in Gird Zone of Madhya Pradesh are advised to prepare fields for *rabi* crops. Apply irrigation to toria crop. Land preparation should be done for sowing of wheat. Harvest urad, moong, bajara and soybean crops.
  - Farmers in Bundelkhand region of Madhya Pradesh are advised to sow chickpea, lentil, linseed and mustard in already prepared field also treat the seed with fungicide Captan or thairum @ 2g/kg and thereafter use the rhizobium culture. They are also advised to use mulch to enhance germination after the sowing of coriander and garlic. Farmers advised to complete the sowing of early reddish, fenugreek, spinach, turnip, corianders and mustard for vegetable purpose in this week. Farmers in Bundelkhand region of Madhya Pradesh are advised to undertake sowing of wheat in irrigated areas. Farmers are advised for nursery sowing of onion in raised bed system during this week.
  - Farmers in Vindhya Plateau of Madhya Pradesh are advised to sow irrigated wheat and sugarcane. Farmers are advised to sow pigeonpea and potato crops with irrigation facilities. Prepare nursery for onion and garlic crop.

- Farmers in Nimar valley zone in Madhya Pradesh are advised to use pheromone trap in sugarcane field for the control of pyrilla and shoot borer.
- Present weather conditions are suitable for sowing of nursery of early varieties of cabbage, tomato, brinjal, chilli etc. in a raised nursery of about 6 inch with proper drainage system in Chhattisgarh Plain Zone. Present weather conditions are suitable for sowing of niger, winter black gram and lobia, hence it is advised to complete the sowing at the earliest. Farmers are also advised for the preparation of the land for *rabi* crop. After the harvesting of the rice crop sow gram and lathyrus. Farmers are advised to harvest the matured crop of soybean and groundnut.
- Farmers are advised for land preparation in the upland slopy fields in Chhattisgarh Plain Zone for sowing of horse gram during second fortnight of this month and transplanting of vegetables crops with proper drainage system.
- Farmers in Bastar Plateau Zone in Chhattisgarh are advised to prepare field and undertake sowing of cowpea and *kharif* vegetables like bottle gourd, bitter gourd, 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.
- If the nursery of vegetables like chillies, brinjal and cucurbitaceous vegetables and other winter season vegetables is ready in Bastar Plateau Zone in Chhattisgarh, proper drainage measures should be adopted from the beds and seedlings should be planted in the beds.
- In North Hill Zone of Chhattisgarh, farmers are advised to prepare the land for sowing of wheat and sugarcane.
- Farmers in Malwa Plateau Zone of Madhya Pradesh, there may be attack of leaf minor on vegetable crops. Apply rogor or confidore @ 1ml/ lit.
- Infestation of case worm in rice field may be observed in Bastar Plateau Zone in Chhattisgarh, spray Chlorpyrifos 20 Ec @ 2 ml/ litre of water. Attack of bacterial leaf blight is being observed in rice and minor millet crops, spray Tricyclazole 3 grams+ Bavistin 15 grams.

#### **Animal Husbandry & Poultry**

- Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to arrange vaccination of the animals to prevent from Foot and Mouth disease. Use potassium permanganate @ 5 ml per liter of water to clean the infected parts, as a precautionary measure.
- Farmers in Jhabua Hills of Madhya Pradesh are advised to vaccinate their cattle for FM disease. For control of Ranikhet disease in bird vaccinate them by F-1 or Lasota vaccine.
- Farmers in Bundelkhand region of Madhya Pradesh are advised that onset of winter is likely to be started due to which chances of spread of mouth and foot disease will be there. Hence, vaccinate against the disease.

## Annexure I

### Major Crops

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

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

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

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

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

- Sugarcane (new *suru*) (active tillering in Madhya Maharashtra and Marathwada), sugarcane (new *adsali*) (early tillering), sugarcane (new pre seasonal) (planting), *kharif* rice (grain maturity / harvesting)

in early maturing and mid late variety, grain formation / maturity in late variety in Konkan, Kolhapur division and grain formation / maturity in East Vidarbha Division), cotton (boll formation / maturity / picking), groundnut (pod maturity / harvesting), red gram (secondary branching / flowering/pod formation), *rabi* jowar (sowing / germination/early vegetative in Madhya Maharashtra and Marathwada), safflower (germination/early vegetative in Madhya Maharashtra and Marathwada ), maize (germination / early vegetative in Madhya Maharashtra and Marathwada), gram (sowing/germination/primary branching) in Maharashtra.

- Cotton (boll formation / maturity / picking), groundnut (harvesting), *kharif* rice (harvesting), sugarcane (vegetative / elongation), new sugarcane (planting), sesamum, castor (harvesting), new castor (sowing / germination), winter vegetables (sowing / transplanting), mustard (sowing), tobacco (nursery / transplanting) in Gujarat.

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

- Wheat, Oats, Barley (sowing), Vegetables [bhindi, cucurbits], mirch, brinjal (maturity/harvesting), apple(harvesting/new planting), radish, arbi, amaranthus, turmeric, dhaincha, chari, bajra, barley, red and white clover, bell pepper, garlic, ginger, coriander, knol khol, cabbage, cauliflower, lettuce (vegetative/maturity), maize(harvesting), pea, raddish, turnip, coriander, cabbage, Knol khol, broccoli, parsley, lettuce, fennel and cauliflower (sowing), lentil, gram (sowing) in Himachal Pradesh.
- Rice (grain filling stage), cauliflower, cabbage, broccoli and tomato (Transplanting), coriander, spinach and radish (vegetative), carrot, pea & garlic (sowing), gram, mustard (sowing) maize (cob formation), sugarcane (vegetative), cotton (boll formation), sugarcane (vegetative) in Delhi.
- Chilli, capsicum, cauliflower, broccoli (vegetative/fruitletting/harvesting), sugarcane (planting), papaya (planting), sunflower (early vegetative / vegetative), maize (Normal sown -reproductive stage, maize (cob maturity/harvesting), early sown- cob maturity/harvesting stage, very late sown- silking stage), lobia, sunhemp, cowpea, jowar for green fodder (vegetative/1<sup>st</sup> cutting), garlic, cucurbits, okra(seedling), French bean, rice: (Irrigated- maturity/harvesting), *kharif* pulses(seed formation/ maturity), potato (sowing), radish (sowing), cabbage, cauliflower (nursery sowing), carrot, turnip (sowing), knol-khol, cole crops (transplanting), mustard (sowing/emergence), barley, pulses (sowing), toria (vegetative), vegetables {Methi early bunching and kasuri methi, spinach}(sowing), *rabi* oilseeds (sowing/emergence), Wheat: (Sowing) in Berseem (Sowing)in Jammu & Kashmir.
- Wheat (land preparation/sowing), rice (harvesting), finger millets (harvesting), groundnut, sorghum, urad, moong, rajma(grain maturity/ harvesting), arhar and ginger (vegetative), soybean (harvesting), maize(harvesting), autumn sugarcane, mustard, yellow serson, karan Rai, brinjal, chilli, lady's finger, barley, oat, pea, chick pea, potato, lentil, vegetable (sowing) in Uttarakhand.
- Wheat (land preparation/sowing), rice (harvesting), sugarcane (vegetative growth/ripening), cotton(flowering), soyabean (harvesting), urd (harvesting), sunflower, jowar, bajra, (harvesting), arhar(flowering/maturity), maize(harvesting), groundnut (pegging/maturity), wheat, chana, pea, masoor, alsi, barseem, jai(sowing), vegetables like onion, garlic, radish, carrot, coriander (sowing) in Uttar Pradesh.
- Rice (maturity / harvesting), 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 (cob formation) in Punjab.
- Rice (maturity / harvesting ), 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/ vegetative), cotton (Desi kapas, B.T. kapas, soft kapas, American Cotton) (boll formation/maturity), pearl millet, jowar and bajra mixed with guar, Sudan grass, oats, sorghum etc. for green fodder (vegetative/fruitletting/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), green gram, cowpea (pod formation/pod maturity) and groundnut (pod formation/pod maturity), short duration moth and guar (pod formation/pod maturity), moong (vegetative), kinnow (fruiting), rice (grain formation / maturity), oilseeds (sowing/emergence), wheat, mustard, gram, potato (sowing) in Rajasthan.

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

- Sugarcane (planting), rice (grain filling), Early planted Paddy (Harvesting), late planted paddy (maturity/harvest), sunflower (vegetative/flowering), groundnut (pod development/harvest), cowpea (vegetative), red gram(bud initiation /flowering stage) pigeon pea (flowering/pod formation), bajra (harvesting), soybean (harvesting), maize (grain filling/harvest), desi cotton (vegetative), cotton (flowering/boll formation) and chilli (fruiting), Rabi crops- sorghum (sowing), wheat (sowing), bengal gram(sowing/branching), safflower (sowing) in Karnataka.
- Sugarcane (June planted) (formative/grand growth/ cane formation), vegetables (all stages), rice (panicle initiation/flowering/ milking stage), ragi ( maturity / harvesting), castor (capsule maturation/ I st picking stage), late sown groundnut (Pod formation/pod filing), maize (harvesting), red gram (vegetative), Bt. cotton (vegetative /flowering/boll development) and jowar (vegetative) in Andhra Pradesh
- Pepper (flowering), coconut (flowering/nut development), irrigated banana (harvesting/ planting), cardamom (planting/harvesting), rubber (tapping), vegetables (harvesting/planting), virippu paddy (harvesting), mundakan paddy (transplanting/early vegetative), sugarcane (grand growth) in Kerala.
- Kuruvai rice (harvesting), Late Samba rice (nursery sowing), samba rice (tillering), thaladi (transplanting), rainfed maize (flowering), sorghum (sowing), cow-pea (sowing/germination), rainfed groundnut (flowering), pulses (vegetative), cotton (vegetative) , new maize crop (vegetative), vegetables (sowing/vegetative) in Tamil Nadu.

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

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

## Annexure II List of Varieties

### Assam

**Cauliflower:** Early Kunwari, Pusa Katki, Pusa Deepali.

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

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

**Radish:** Pusa Desi, Pusa Himani, Pusa Chetki.

**Carrot:** Nantes, Pusa Kesar and Chantenay.

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

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

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

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

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

**Wheat :** Sonalika, UP 262, K 7410, WH 291 and HDR-77.

### Manipur

**Cauliflower:** White Shot.

**Pea:** Arkel, Azad Pea.

### Meghalaya:

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

**Cabbage:** H-139 and Pride of India.

**Cauliflower:** Pusa Meghna, Pusa Sharad and Meghalaya Local.

**Broccoli:** Puspa, Aiswarya and Fiesta.

### Tripura:

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

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

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

**Broccoli:** Everest, Ayeshwaria.

**Pea:** Arkel, Arka Ajit, TRCP- 8, 9.

**Cowpea:** Kashi Kanchan.

**Rabi maize:** HQPM- 1.

**Sesame:** T – 12, 4.

**Lentil:** WBL – 58.

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

### Orissa

**Cowpea:** SEB-2, Pusa Barsati.

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

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

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

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

**Groundnut:** Smruti and JL-24.

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

### West Bengal:

**Cauliflower:** Kanwari, Jowhar, Moti, Early Patna.

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

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

**Sugarcane :** Co- 7218, Co- 527, Co- 1148, Co- 6203 etc

### **Jharkhand:**

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

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

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

**Tomato:** Pusa Ruby, Swarna Sampda, Swarn Lalima.

**Cabbage:** Golden Acre, Pride of India, Early Drum Head.

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

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

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

**Linseed:** Sweta, Shubhra, T-397.

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

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

### **Bihar**

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

**Peas:** Ratna, Aparna, Harbhajan, Malbai, Malviya mator 15, Harbhajan, Arpana and Pusa Prabhat.

**Lentil:** BR 25, Pant L 406, 639, Malika, Arun.

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

**Rai:** Baruna, Pusa Bold and Kranti.

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

**Sarson:** Rajendra Sarson-1, Swarna etc.

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

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

**Potato:** Kufri Lalima, Kufri Kuber, Kufri Alankaar, Khufri Jyoti, Khufri Chandramukhi, Ranjendra Aloo1, 2 And 3, Khufri Badshah.

**Oyster mushroom:** Sejour Kaju, Florida.

### **Himachal Pradesh :**

**Wheat:** HPW-89,147 VL-738 and HS-240

**Barley:** HBL-316 and Dolma

**Oat:** Palampur-1

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

**Cucumber :** Kiyani seedless/243, Matgaura, Maliniseeded

**Pea:** Ageta – 6 or Arkal pea

**Raddish :**Japani white and early mino white

**Turnip :** PTWG-1,

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

**Knol khol :** White Bina,

**Broccoli :** Palm kanchan, Palam vichitra and palam samridhi.

### **Jammu & Kashmir**

**Potato :** Kufri Badshah, K. Jyoti

**Radish:** P.Reshmi, Japanese White, Minowase

**carrot:** Pusa Kesar,P.Yamdagani, Nantes, Chaman

**Turnip:** PTWG,

**Garlic:** Local, large segmented, Agrifound Paravati

**Onion** (Pusa Red ,N-53, Agrifound Dark Red & Agrifound Light Red)

**Knolkhol** (King of Market and White Vienna)

**Spinach:** prickly seeded

**Methi :** Pusa early bunching and kasuri methi

Gobi sarson: GSS-1, GSL-2 & DGS –1.

**Mustard:** KOS-1, KS-101

**Peas:** Bonnevillea, AP-1, AP-3  
**Onion var.** Pusa Red, Punjab Selection  
**Barley:** Ratna, Jyoti, sonu  
**Mustard:** RLM-514, 619, 198, Kranti, Varuna, Pusa Basant, Pusa Bahar, RH-30, RSPR-01, RL 1359  
**Gram:** C-235, K-468, Gourav, PBG-1, SCS-3  
**Wheat :** Irrigated- PBW-550, PBW-502, PBW-621-50, DBW-17, Raj-3077, RSP-303, HD-2967, HD-2687  
**Unirrigated:** PBW-396 VL-738 and PBW-175 under the rainfed conditions. VL-738, VL-804, HS-240 under irrigated and rainfed areas. HD-1553, HS-277, VL- 616 & SKW-196.  
**Lentil:** L-9/12 and PL-406, **Pea:** T-163, PG-2 and Rachna.  
**Berseem:** Mescavi, Pusa Giant, BL-1 and Vardan

### **Punjab & Haryana**

#### **Punjab :**

**Wheat:** PBW 621, DBW-17, PBW-502, PBW-343, WH-542, HD 2967 and durum wheat WHD 943, PDW 314, PDW 291, PDW-274 and PDW-233

**Radish:** Punjab Safed, Punjab Pasand and Japanese White .

**Turnip:** L-1

**Carrot:** Selection 21 and PC-34

**Gram:** PBG 5 and PBG-1

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

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

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

#### **Delhi**

**Wheat:** H.D. 2687, H.D. 2851, H.D. 2894, H.D. 2967, D.B.W.-17.

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

**Carrot:** Pusa Rudhira and Pusa Kesar.

**Sarson Saag:** Pusa Saag-1;

**Bathua:** Pusa Bathua-1

**Radish:** Japani White, Hill queen, French Radish;

**Spinach:** All Green, Pusa Bharti;

**Coriander:** Pant Haritama, Hybrids;

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

**Potato:** Kufri Badshah, Kufri Bahar, Kufri Anand, Chipsona-1, Chipsona-2, Chipsona-Pea : Pusa Pragati, Arkel, Azad Matar-3, Pant Matar-3 and Bournville

**Fenugreek:** Pusa Kasuri

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

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

**Oat:** - J.H.O-822, O.L.-9, Pusa oat-5 ,

**Barseem :** Vardan, Buland Barseem-1, Masakavi,

**Lentil:** Pusa Masoor -5 (L-4594).

#### **Rajasthan**

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

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

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

**Mustard:** Jay Kisan (Bio-902), Rajat- P. C. R. -7 R.H. – 30, R.H.-819, G.M.-2, Uravashi, Pusa bold, Aravali- I.N. 393, R.N.505, Ashirwad – 48, R.G.N.- 145, R.G.N.-73, R.G.N.-13 Gobi sarson (GSL-1, DGS-1), T-59, RGN- 48,

**Gram:** G.N.G. 663 (Vardhan), G.N.G 469 (Samrat), G.N.G 1581 (Gangaur), Gram (Rainfed area): C-235, RSG-44, 945, 807, RSG-888, C-235, H-208 and GNG-146, K-468, Gourav and PBG-1 . Early pea: Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6., Pea: T-163, PG-2, Rachna, HFP-3  
**Kabuli Chana:** G.N.G 1499 (Gauri) and G.N.G 1292  
**Wheat:** Raj-3077, Raj-3765, Raj-3777, Raj-1482 & Lok-1 Improved varieties : GW-273, GW-322, Raj-3777, Raj-3765, HI-8498, Raj 4037, Barley: R.D.-2035, 2552, 2592, 2052, 2660, 2035, 2503, 2508 etc.

### Uttar Pradesh

**Rai :** Narebdra rai 8301, Rohini, Vaibhav, Varuna(Ta 59)

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

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

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

**Chana :** KWR-108, JG-16, JGK-1(kabuli), pusa-256, radhe, PG-114, type-3, k-468, JD-1168, WR108.

**Pea:** Indira, JP-850, malviya matar-15, rachana malviya matar-2, panta matar-5, JP-885.

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

**Alsi:** bokar, Lakshmi-27, padmini, parvati

**Sugarcane:** GD1168, WR 108, Radhe, JG 315

**Wheat :** C-306, K-8027, K-8962, K-9465, Malviya-533, HD-3338, UP-2383, 2338, HD-2687, K-9107, PBW-502, SCW 468, WH-147, K-9006, HD-2888.

**Sarson:**Varun type-59, Rohini, Urvashi, Vaibhav, Maya, Narendra suvarna rai-8, Narendra agate rai-4.

### Uttarakhand

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

**Toria:** PT-303, PT-507.

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

**Barley :** Jyoti, Vijaya or Jagrati etc. ;

**Oat :** UPO-212, UPO-94, JHO-822, UPO-50 or Kent etc.

**Wheat:** irrigated UP-2572, UP-2584, UP-1109, VL-802, VL-804, VL-738, VL-719, VL-421, HS-240. un-irrigated : VL-616, HS-277, VL-829 etc.

**Masoor:** VL masoor-4, Panta masoor-5, VL masoor-1, VL masoor-203, PRB-502, PRB-507, PRB-701.

**Mustard :** Varuna, Vardan, Rohini etc and For Pea V.L.Ageti matar-7, Vivek Matar-3,

**Potato:** Kufri Chandramukhi, Kufri Jyoti, Kufri Anand, Kufri Jawahatr, Kufri Satlaj, Kufri Ashok etc.

### Madhya Pradesh

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

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

**Lentil:** RVL-31, JL-2

**Maize:** JVM -421, JM-16

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

**Sugarcane:** KO-J-N- 86572, KO-J-N- 86141.

### 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

### Gujarat:

**Gram:** Gujarat Gram-2 or Gujarat Gram-3, Dahod Yellow or Chafa or ICCV-10 or PG-1 or Gujarat gram-1.

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

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

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

**Cauliflower:** Pusa Early, Pusa Dipali, Pusa Kartiki, Early Kuvari for early maturity and Pusa synthetic, Early Snowball, Snowball for medium duration, Jyayant Snowball, super Snowball, Snowball-13.

**Carrot:** Patan Local, Pusa Kesar and Pusa Chamdagni.

**Onion:** Talaja Red, Nashik Red, Pusa Red, Pusa White, N 53, H 48.

**Cabbage:** Kranti, Golden Acaire Pride of India, Coppen Market.

**Raddish:** Pusa Hemadri, White ICL, Japanees White, Pusa Rashmi , Pusa Chetaki.

**Brinjal:** Guj. Brinjal-6, P.L.R. 1, Junagadh Lambagoal, Mahicco- 11,16.

### **Maharashtra**

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

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

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

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

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

**Carnation flowers:** Sun Rise, Pink Dona, Domingo or Master.

**Irrigated gram:** Vikas, Vishwas, Phule G-12, Vijay, Vishal or Virat varieties for Madhya Maharashtra.

**Rainfed gram varieties:** Akash, Vikas, Vishwas for Madhya Maharashtra.

**Irrigated gram varieties:** Vishal and Dig Vijay variety for Marathwada region.

**Rainfed wheat:** Panchvati, N-5439 or N-8223 for Pune region.

### **Karnataka- Rabi**

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

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

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

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

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

### **Kerala:**

**Banana:** Robusta, Poovan, Njalipoovan, Palayankodan.

### **Tamilnadu:**

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

### **Andhra Pradesh:**

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

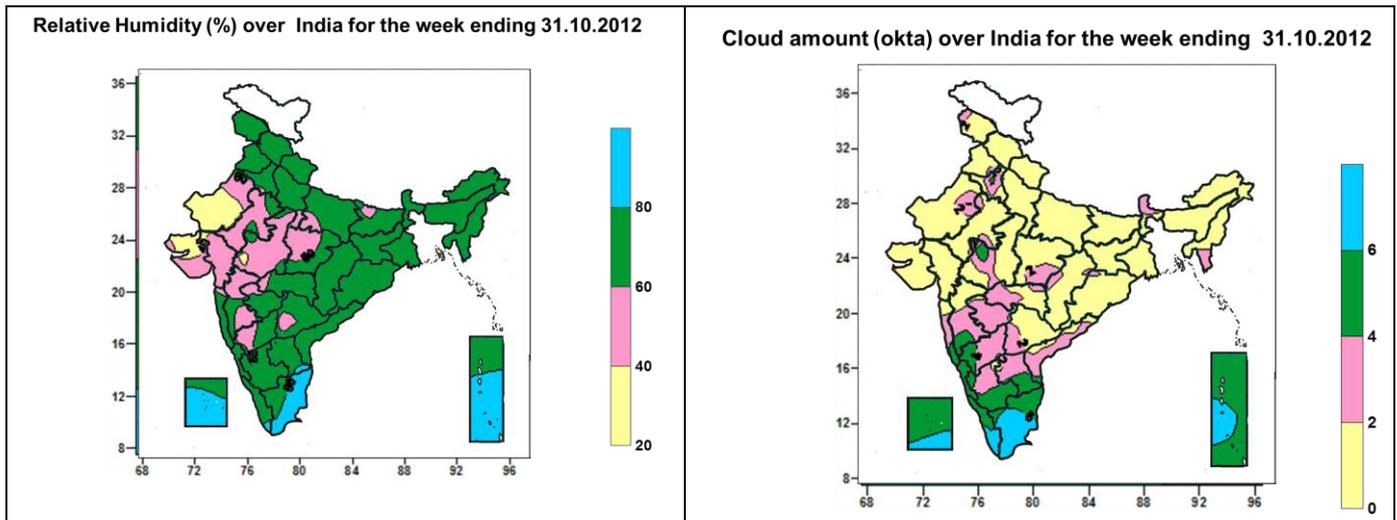
**Blackgram**-LBG 752, PU 31, T9, LBG 20, LBG 645, LBG 685, LBG 709, LBG 623

**Chick pea**- Annegeri, JG-11, LBeg-7/KAK-2, ICCV-10

**Paddy**- short duration varieties NLR 34449/ MTU 1010

### Annexure III

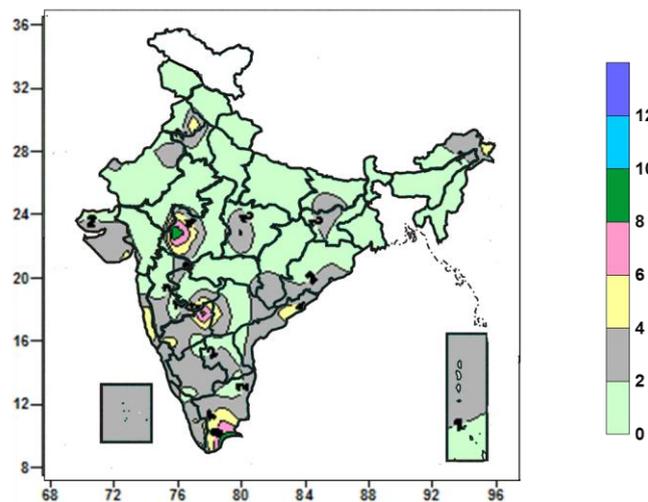
## Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 31.10.2012



Relative humidity ranged between 60 to 80 % over most parts of Coastal Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Bihar, Orissa, Tamil Nadu, Kerala, 40 to 60% over many parts of East Rajasthan, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, some parts of West Rajasthan, East Madhya Pradesh, Bihar, Maharashtra, Telanagana, 20 to 40% over many parts of West Rajasthan, some parts of Saurashtra & Kutch, 60 to 80 % over remaining parts of the country.

Cloud amount 6 okta and above over most parts of Tamil Nadu, Kerla, some parts of Lakshadweep, Andaman & Nicobar Islands, 4 to 6 okta over many parts of Coastal Karnataka, Lakshadweep, Andaman & Nicobar Islands some parts of Tamil Nadu, Kerla, Raylaseema, North & South Interior Karnataka, Madhya Maharashtra, Konkan & Goa, West Madhya Pradesh, 2 to 4 okta over many parts of Sikkim Maharashtra, Coastal Andhra Pradesh, North Interior Karnataka, Some parts of Jammu & Kashmir, Punjab, Delhi, Haryana, Sub-Himalyan West Bengal, Tripura, Rajasthan, Madhya Pradesh, Chattisgarh, Telangana, Raylaseema, South Interior Karnataka and 0 to 4 okta over remaining parts of the country.

### Wind speed (knots) over India for the week ending 31.10.2012



Wind speed ranged between 4 to 8 knots at parts of West Madhya Pradesh, Marathwada, North Interior Karnataka, Konkan & Goa, Coastal Andhra Pradesh, Tamil Nadu, 2 to 4 knots over many parts of Saurashtra & Kutch, Maharashtra (except Vidarbha), South India, Andaman & Nicobar islands, some parts of Punjab, Rajasthan, Bihar, Jharkhand, Arunachal Pradesh, Coastal Orissa, Chattisgarh, Madhya Pradesh, Gujarat, 0 to 2 knots over some parts of Andaman & Nicobar islands, Coastal Andhra Pradesh, Madhya Pradesh and Bihar and most of the parts of Chattisgarh, Jharkhand, West Bengal, U.P., Gujarat, Rajasthan, Punjab, Haryana, Himachal Pradesh, Delhi, Uttarakhand and North Eastern Region of country.

