



# *National Agromet Advisory Service Bulletin*



*Friday 11<sup>th</sup> November 2016*

*(For the period 11<sup>th</sup> to 15<sup>th</sup> November 2016)*



*Issued by*

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

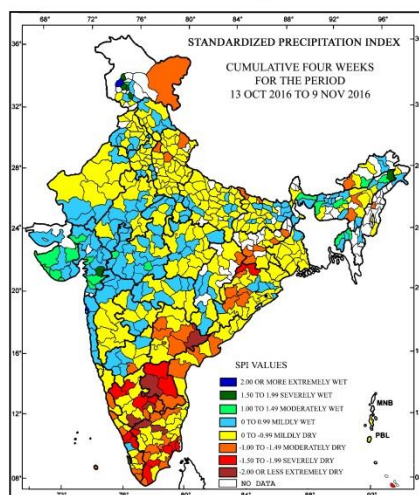
**Weblink For**

**District AAS Bulletin:** <http://www.imdagrimet.gov.in/node/3545>

**State Composite AAS Bulletin:** <http://www.imdagrimet.gov.in/node/3544>

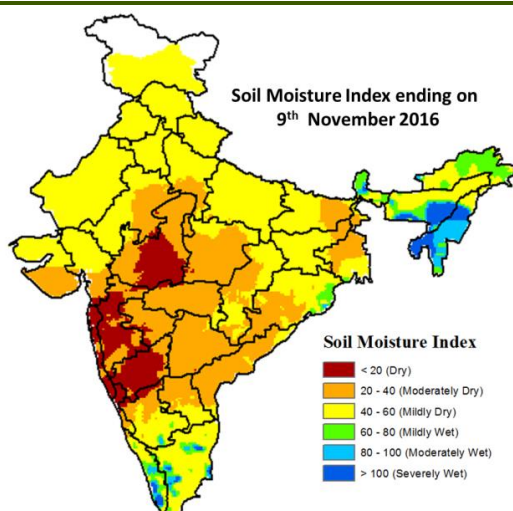
## Standardised Precipitation Index Four Weekly for the 13<sup>th</sup> October to 9<sup>th</sup> November 2016

MINISTRY OF EARTH SCIENCES  
INDIA METEOROLOGICAL DEPARTMENT  
HYDROMET SECTION, PUNE



- Extremely/severely wet conditions experienced in few districts of Jammu & Kashmir; Tinsukia district of Assam; Narmada district of Gujarat Region; Mumbai Suburban district of Konkan & Goa.
- Extremely/Severely dry conditions experienced in Sundargarh district of Odisha; Anantapur, Cuddapah, Kurnool districts of Andhra Pradesh; Khammam district of Telangana; Nilgiri, Pudukkottai, Salem, Thanjavur, Tirunelveli, Tiruvarur, Virudhunagar districts of Tamil Nadu; Bangalore Rural, Chamarajanagar, Davangere, Mysore, Shimoga, Tumkur, Chickballapur districts of Karnataka; Malappuram, Palakkad districts of Kerala.
- Moderately dry conditions experienced in many districts of Telangana; few districts of Andhra Pradesh; West Kameng district of Arunachal Pradesh; Nagaon district of Assam; Jaintia Hills district of Meghalaya; Kohima district of Nagaland; Bolangir, Boudhgarh, Jharsuguda, Kalahandi, Kandhamal districts of Odisha; Dhanbad, Dumka, Gumla, Ranchi, Simdega districts of Jharkhand; West Champaran, Sitamarhi districts of Bihar; Bijnor, Saharanpur districts of Uttar Pradesh; Chamoli, Champawat districts of Uttarakhand; Ladakh (Leh) district of Jammu & Kashmir; Jashpur district of Chhattisgarh; Dindigul, Kanyakumari, Nagapattinam, Ramanathapuram, Theni, Trichy, Vellore, Krishnagiri districts of Tamil Nadu; Udupi, Koppal, Kolar, Ramanagara districts of Karnataka; Kozhikode, Kollam, Trivandrum, Idukki, Kasargod districts of Kerala.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

## Soil Moisture Index for the week ending on 9<sup>th</sup> November 2016

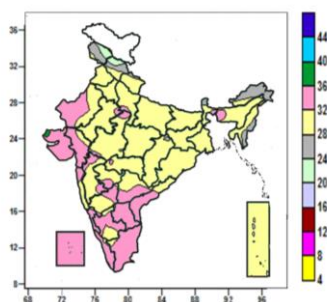


- Soil moisture index indicates severely and moderately wet condition in some parts of North-East Region, Kerala and Tamil Nadu. Mild wet condition in many parts of Sikkim and some parts of Arunachal Pradesh, Assam & Meghalaya, Odisha, Tamil Nadu and Kerala. Moderate dry/dry condition in many parts of Madhya Pradesh, Maharashtra, Telangana, Andhra Pradesh, North Interior Karnataka and some parts of Bihar, West Bengal, Odisha, Chhattisgarh, East Rajasthan, Gujarat. Rest of the country shows mild dry condition.



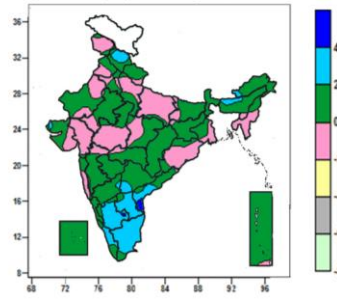
**Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 09.11.2016**

**Actual Mean Maximum Temperature (°C) in India for the week ending 09.11.2016**



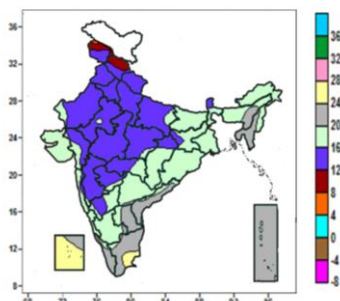
- Mean maximum temperature was between 36 to 40°C over isolated pocket of Kutch.
- Mean maximum temperature was between 28 to 36°C over rest of the Country except many parts of Himachal Pradesh, Jammu & Kashmir, Arunachal Pradesh, Sikkim, Mizoram, some parts of Manipur and isolated pockets of Uttarakhand and Assam, where it was between 20 to 28°C.

**Mean Maximum Temperature (°C) Anomaly in India for the week ending 09.11.2016**



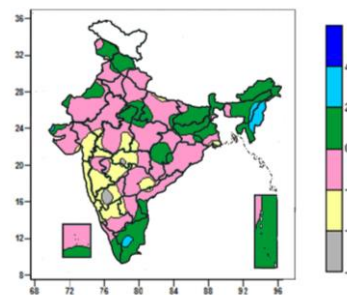
- Mean maximum temperature was above normal by 4 to 6°C over isolated pockets of Coastal Andhra Pradesh, South Interior Karnataka and Rayalaseema.
- Mean maximum temperature was above normal by 2 to 4°C over many parts of Himachal Pradesh, Rayalaseema, South Interior Karnataka, Tamil Nadu, some parts of Assam, Telangana, Coastal Andhra Pradesh, Kerala and isolated pockets of Arunachal Pradesh, Kutch and North Interior Karnataka.
- It was normal to near normal over rest of the country.

**Actual Mean Minimum Temperature (°C) in India for the week ending 09.11.2016**



- Mean minimum temperature was between 4 to 8°C over isolated pocket of Jammu & Kashmir.
- Mean minimum temperature was between 8 to 12°C over some parts of Jammu & Kashmir and Himachal Pradesh.
- Mean minimum temperature was between 12 to 16°C over Punjab, Uttarakhand, Haryana & Delhi, Sikkim, West Uttar Pradesh, West Madhya Pradesh, many parts of East Uttar Pradesh, Rajasthan, Gujarat Region, East Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, some parts of Jammu & Kashmir, Himachal Pradesh, Jharkhand, Chhattisgarh, Konkan, North Interior Karnataka and isolated pocket of Bihar.
- Mean minimum temperature was between 16 to 24°C over rest of the country except many parts of Lakshadweep, some parts of Tamil Nadu and isolated pocket of East Rajasthan, where it was between 24 to 28°C.

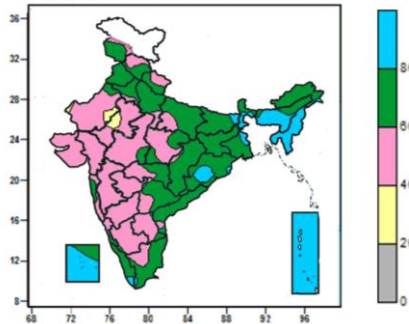
**Mean Minimum Temperature (°C) Anomaly in India for the week ending 09.11.2016**



- Mean minimum temperature was above normal by 2 to 4°C over Nagaland, Manipur, some parts of Mizoram, Assam and isolated pocket of Tamil Nadu.
- Mean minimum temperature was normal to near normal over rest of the country except Konkan & Goa, many parts of Gujarat Region, Madhya Maharashtra, Marathwada, Vidarbha, Karnataka, Rayalaseema and isolated pockets of East Uttar Pradesh, Gangetic West Bengal, East Rajasthan, East Madhya Pradesh, Saurashtra and Coastal Andhra Pradesh, where it was below normal by 2 to 6°C.

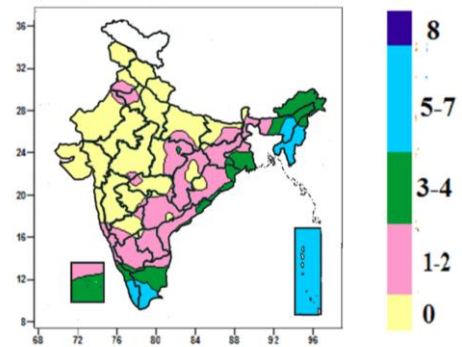
**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 09.11.2016**

**Relative Humidity (%) over India for the week ending 09.11.2016**



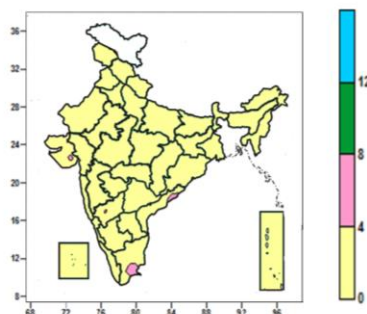
- Mean Relative Humidity was above 80% over Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Andaman & Nicobar Islands, many parts of Sub-Himalayan West Bengal, Assam, Lakshadweep, some parts of Odisha and isolated pockets of Bihar, Jharkhand, Gangetic West Bengal, Kerala and Tamil Nadu.
- Mean Relative Humidity was between 60 to 80% over Sikkim, Punjab, many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Haryana & Delhi, Uttar Pradesh, Bihar, Jharkhand, Arunachal Pradesh, Gangetic West Bengal, Chhattisgarh, Odisha, Vidarbha, Telangana, Coastal Andhra Pradesh, Tamil Nadu, Kerala, some parts of Madhya Pradesh, Sub-Himalayan West Bengal, Assam, Konkan, Coastal Karnataka, Lakshadweep and isolated pockets of West Rajasthan, South Interior Karnataka and Rayalaseema.
- Mean Relative Humidity was between 40 to 60% over rest of the country except some parts of Rajasthan where it was between 20 to 40%.

**Cloud amount (okta) over India for the week ending 09.11.2016**



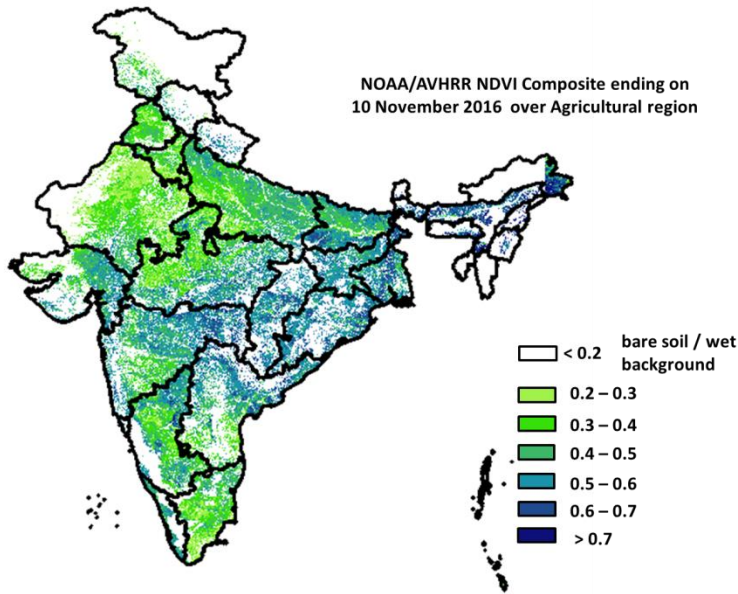
- Sky remained generally cloudy (5-7okta) over Manipur, Mizoram, Tripura, Andaman & Nicobar Islands, many parts of Kerala, some parts of Assam & Meghalaya, Nagaland and Tamil Nadu.
- Sky remained partly cloudy (3-4 okta) over Arunachal Pradesh, many parts of Gangetic West Bengal, Nagaland, Lakshadweep, some parts of Assam & Meghalaya, Odisha, Coastal Andhra Pradesh, Kerala, Tamil Nadu and isolated pockets of East Madhya Pradesh, Jharkhand, South Interior Karnataka.
- Sky remained mainly clear/clear sky(1-2 okta/0 okta) over rest of the country.

**Wind speed (knots) over India for the week ending 09.11.2016**



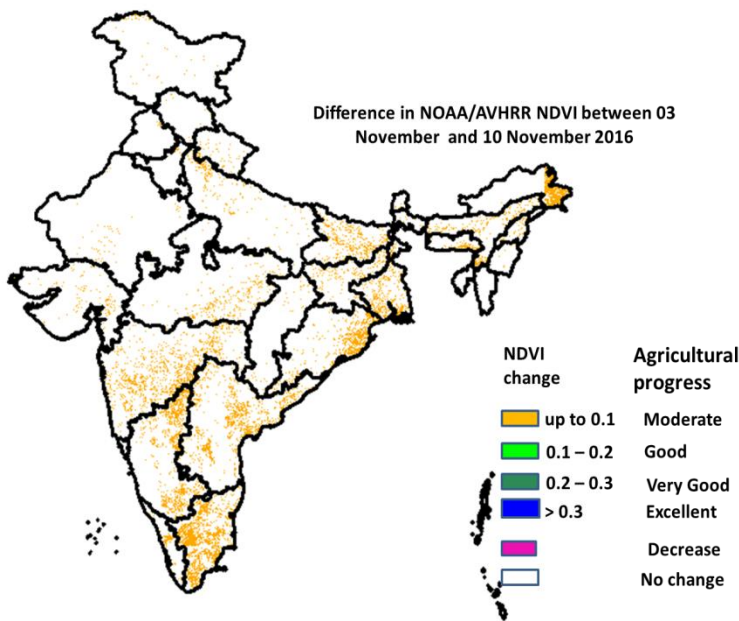
- Mean wind speed was between 0 to 4 knots over the country except isolated pockets of Saurashtra, North Interior Karnataka, Coastal Andhra Pradesh and Tamil Nadu, where it was between 4 to 8 knots.

**NOAA/AVHRR NDVI composite ending on 10<sup>th</sup> November 2016 over Agricultural region of India**



- Agricultural vigour is very good in east M.P, Bihar, Odisha, West Bengal, Vidarbha region, patches in Karnataka, Kerala, Telangana, North Andhra Pradesh, Gujarat and North-east where NDVI value are > 0.7, Agriculture vigour is good in Uttar Pradesh, remaining parts of Gujarat, where NDVI varies from 0.5 to 0.7. NDVI is moderate in Rajasthan, Punjab, Haryana, west M.P, Madhya Maharashtra, southern region of Andhra Pradesh, Karnataka and Tamil Nadu (NDVI 0.3 to 0.5).

**Difference in NOAA/AVHRR NDVI between 3<sup>rd</sup> and 10<sup>th</sup> November 2016**



- Moderate progress in NDVI was observed in patches in Maharashtra, Gujarat, Karnataka, Bihar, West Bengal, Odisha, Andhra Pradesh and Tamil Nadu.

- NOAA/AVHRR NDVI composite maps for the week ending on 10<sup>th</sup> November 2016 for different States are given in Annexure II.

## Weather Forecast for next 5 days valid upto 0830 hours of 16<sup>th</sup> November 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Minimum temperatures very likely to rise by 1-2°C over northwest India during next 48 hours and fall by 2-3°C thereafter.
- No significant change in temperatures over Madhya Maharashtra and Konkan & Goa during next 24 hours and rise by 2-3°C thereafter.
- No significant change in minimum temperatures over east India during next 24 hours.
- Shallow to moderate fog likely to occur at isolated pockets over Indo Gangetic plains from 12 November onwards.

### 5 Day Rainfall Forecast (MID DAY) 11<sup>th</sup> November 2016

Met Sub-divisions	11 Nov	12 Nov	13 Nov	14 Nov	15 Nov
1. Andaman & Nicobar Islands	ISOL	ISOL	SCT	SCT	FWS
2. Arunachal Pradesh	DRY	DRY	DRY	ISOL	ISOL
3. Assam & Meghalaya	DRY	DRY	DRY	DRY	DRY
4. N.M.M. & T.	ISOL	DRY	DRY	DRY	DRY
5. S.H. West Bengal & Sikkim	DRY	DRY	DRY	DRY	DRY
6. Gangetic West Bengal	DRY	DRY	DRY	DRY	DRY
7. Odisha	DRY	DRY	DRY	DRY	DRY
8. Jharkhand	DRY	DRY	DRY	DRY	DRY
9. Bihar	DRY	DRY	DRY	DRY	DRY
10. East Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
11. West Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
12. Uttarakhand	DRY	ISOL	DRY	DRY	DRY
13. Haryana, Chd & Delhi	DRY	ISOL	DRY	DRY	DRY
14. Punjab	DRY	ISOL	DRY	DRY	DRY
15. Himachal Pradesh	ISOL	ISOL	DRY	DRY	DRY
16. Jammu & Kashmir	ISOL	ISOL	DRY	DRY	DRY
17. West Rajasthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	DRY	DRY	DRY	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	DRY	DRY	DRY	DRY	DRY
25. Marathwada	DRY	DRY	DRY	DRY	DRY
26. Vidarbha	DRY	DRY	DRY	DRY	DRY
27. Chhattisgarh	DRY	DRY	DRY	DRY	DRY
28. Coastal Andhra Pradesh	DRY	DRY	ISOL	ISOL	ISOL
29. Telangana	DRY	DRY	DRY	DRY	DRY
30. Rayalaseema	DRY	DRY	ISOL	ISOL	ISOL
31. Tamil Nadu & Puducherry	ISOL	ISOL	SCT	SCT	ISOL
32. Coastal Karnataka	DRY	DRY	DRY	ISOL	ISOL
33. North Interior Karnataka	DRY	DRY	DRY	ISOL	ISOL
34. South Interior Karnataka	DRY	DRY	ISOL	ISOL	ISOL
35. Kerala	ISOL	ISOL	SCT	SCT	SCT
36. Lakshadweep	DRY	DRY	ISOL	ISOL	ISOL

#### % Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

### Weather Warning during next 5 days

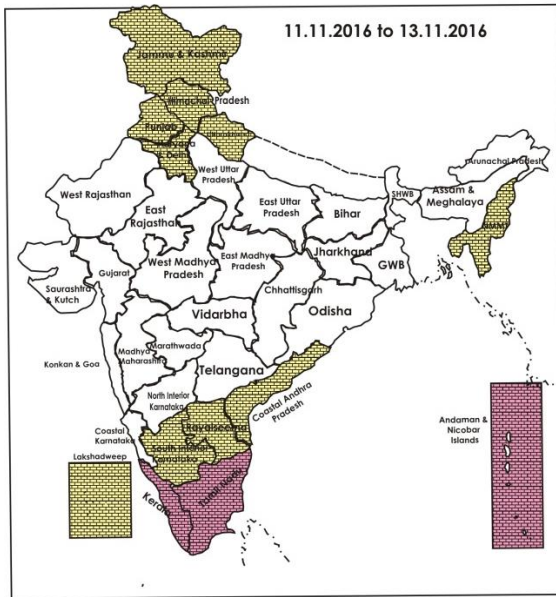
- No weather warning during the period.

### Weather Outlook for subsequent 2 days from 16<sup>th</sup> to 18<sup>th</sup> November 2016

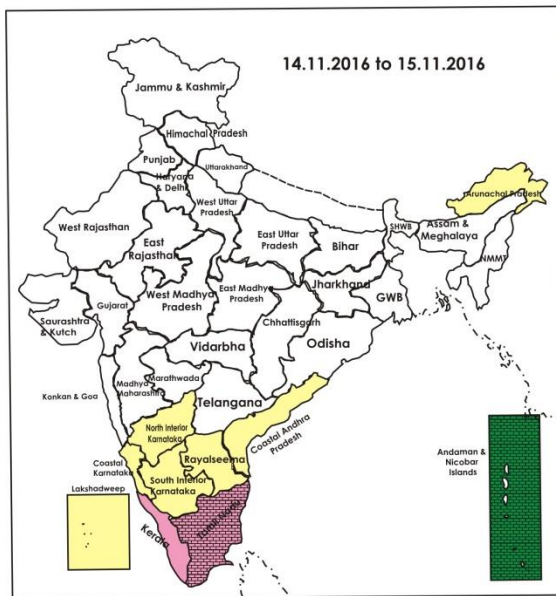
- Rain very likely at many places over extreme south peninsular India; at a few places over rest south peninsular India and Andaman & Nicobar Islands.
- A feeble western disturbance likely to affect Western Himalayan Region from 15<sup>th</sup> November onwards.



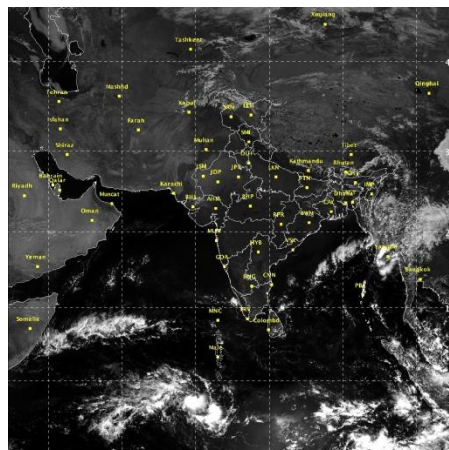
## Weather Forecast Map (valid upto 0830 hours 16<sup>th</sup> November 2016)



- Most places
- Most/Few places/Dry
- Most/ Few places
- Most / Many places
- Most/Many / Isolated places
- Most / Isolated places
- Most / Many/ Few places
- Most / Few / Isolated places
- Most/Many places/ Dry
- Most / Isolated places/ Dry
- Many places
- Many / Few places
- Many / Isolated places
- Many / Few / Isolated places
- Many / Few places/ Dry
- Many / Isolated places/ Dry
- Many places/ Dry
- Few places
- Few / Isolated places
- Few / Isolated places/ Dry
- Few places/ Dry
- Isolated places
- Isolated places/ Dry
- Dry



## Satellite image dated, 11.11.2016, 0600 UTC



### Salient Advisories

- In **Ahmednagar, Jalgaon, Nasik and Pune** districts of **north Madhya Maharashtra**, minimum temperature is prevailing below **10<sup>0</sup>C**, apply light irrigation to banana during night time and make smoke around the field early in the morning to avoid scorching. Cover the banana bunch with 6% perforated white plastic bag and also apply irrigation to grapes in **Marathwada** region and Nasik district to protect from low temperatures. Apply light irrigation in the evening or during night time and make smoke around the field early in the morning to rabi crops in Pune district.
- As rain/thundershowers likely at **many places** over **Andaman & Nicobar Islands** on 15<sup>th</sup> Nov., do not apply irrigation, application of plant protection measures and fertilizers to the standing crops like rice and vegetables.
- Continue land preparation for transplanting of *Thaladi* season rice in Cauvery Delta Zone and Southern Zone and continue sowing of millets, pulses and oil seeds in Western Zone and Southern Zone of **Tamil Nadu**.
- Continue transplanting of *Mundakan* rice and land preparation for sowing of Uma variety rice in **Kerala**.
- Continue sowing of wheat in **Rajasthan, Jammu & Kashmir, Punjab, Haryana & Delhi** and **Uttar Pradesh**.
- Continue sowing of chickpea, safflower, *rabi* maize, groundnut and sorghum in **Telangana** and complete sowing of Bengal gram, chickpea, safflower and wheat in **North Interior Karnataka**.
- Continue sowing of mustard, pea, gram, lentil, potato and maize in **Bihar** and **Jharkhand**, mustard, pea and wheat in **Chhattisgarh** and **Madhya Pradesh**, mustard and Bengal gram in **North Saurashtra** and **North Gujarat**.
- Continue sowing of rapeseed, mustard and planting of potato in **Assam** and in Hill Zone, undertake nursery raising of *Boro* rice. Continue planting of potato and pea in **Meghalaya**.
- Continue sowing of gram, pea and mustard in **East Uttar Pradesh**. Continue sowing of mustard, raya and gram in **Haryana**.
- As dry weather is prevailing, apply irrigation in vegetables, jowar and safflower in **Madhya Maharashtra** and **Marathwada**, in banana and lemon orchards in **Gujarat**, in vegetables in **Madhya Pradesh**, in mustard in **Rajasthan** and in vegetables and sugarcane in **Punjab** and **Haryana**.
- In Scarce Rainfall Zone of **Rayalaseema**, due to dry weather, moisture stress has been observed in castor (capsule development stage) and cotton (boll formation to boll bursting) crops in Ananthapuram district. Irrigate the crop to protect from moisture stress.
- As dry weather would prevail during the period, continue harvesting of rice in **Maharashtra, Chhattisgarh** and **Jharkhand**, rice and pulses in **Jammu & Kashmir** and **Uttarakhand**.
- In Western Zone and Western Plain Zone of **Punjab**, due to foggy weather there are chances of early blight disease in potato, spray Indofil M-45 @ 500-700 g or Copper Oxochloride 50 WP/Mark copper @ 750- 1000 g/acre in 250-350 litres of water before the appearance of disease followed by 5 more sprays at 7 days interval.
- In **Punjab** and **Himachal Pradesh**, keep animals in shed during night time to save them from low night temperature.
- As night temperatures are very likely to continue appreciably below normal over **Madhya Maharashtra, Vidarbha** and **Konkan & Goa** during next 24 hours, provide artificial heating through lightening of electric bulb to the 2 - 25 days old chick wherever there is significant decrease in minimum temperature.



## Detailed Zonewise Agromet Advisories

**SOUTH INDIA [TAMIL NADU, TELANGANA, ANDHRA PRADESH, KARNATAKA, KERALA]**



**Banana**



**Rice**



**Sugarcane**



**Red gram**

- **Realised Rainfall:** Rainfall occurred in Srikakulam district of Coastal Andhra Pradesh, Ernakulam, Kollam, Kottayam, Palakkad, Pathanamthitta and Thiruvananthapuram districts of Kerala and Chennai, Dindigul, Kanyakumari, Karaikal, Nagapattinam, Perambalur, Ramanathapuram, Tirunelveli, Tiruppur, Tiruvarur, Toothukudi and Virudhunagar districts of Tamil Nadu. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - **Andhra Pradesh:**
    - In High Altitude Tribal Zone, continue harvesting of cotton.
    - In Krishna Godavari Zone, continue sowing of *rabi* black gram, *rabi* Bengal gram and *rabi* green gram.
    - In Scarce Rainfall Zone of Rayalaseema, due to dry weather, moisture stress has been observed in castor (capsule development stage) and cotton (boll formation to boll bursting) crops in Ananthapuram district. Irrigate the crop to protect from moisture stress. Continue sowing of Bengal gram in Black soils and complete harvesting of groundnut, bajra and korra; In Ananthapuram district, continue sowing of safflower and land preparation for sowing of *rabi* groundnut.
    - In Chittoor, Nellore and Kadapa districts of Southern Zone, undertake proper seed treatment for groundnut sowing under irrigation, continue transplanting of rice and while transplanting leave 20 cm row for every 2 m for better aeration and light penetration in the crop field.
    - In Nellore district of Southern Zone, prevailing weather conditions are congenial for incidence of fruit and shoot borer in brinjal. To control, reduce the use of nitrogenous fertilizers, use potash fertilizers and spray Spinosad @ 0.3ml/litre of water or Rynoxypyr @ 60ml/acre.
    - In Kurnool district of Scarce Rainfall Zone of Rayalaseema, leaf folder incidence was noticed in August sown rice crop. To control, apply Chlropyriphos @ 2.5ml/litre or Acephate @ 1.5g/litre or Kartap Hydrochloride @ 2g/litre or Flubendamide @ 0.25 g/litre of water.
    - In North Coastal Andhra Pradesh, prevailing weather conditions are congenial for incidence of sheath rot and false smut in rice. To control, spray Mancozeb @ 3 g/litre of water.
    - In the Krishna Godavari Zone, prevailing high temperature coupled with humidity may cause bacterial attack on rice which leads to leaf drying from margins and then total drying. This can spread through the irrigation water. Chemicals may not be able to control the disease. To manage, undertake nitrogen application. If intensity is more than 5 % stop the Nitrogen application.
  - **Telangana:**
    - In North Telangana Zone, undertake sowings of *rabi* maize, sorghum, groundnut and sunflower under irrigated dry conditions duly treating the seed with fungicides and continue sowing of chickpea under residual soil moisture conditions in black soils. Cotton crop is under slight moisture stress condition. Give one irrigation to protect the crop from the stress.
    - In Adilabad, Khammam, Karimnagar and Nizamabad districts of North Telangana Zone, incidence of false smut was noticed in rice. To control, spray Propiconazole @ 1 ml/litre of water.
    - In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), incidence of sheath rot and neck blast is noticed in rice. To control sheath rot, spray Carbendazim @ 1 g or Propiconazole @ 1.0 ml/litre of water and to control neck blast, spray Tricyclazole @ 0.6 g or Isoprothiolane @ 1.5 ml per litre of water.
  - **Kerala:**
    - In the Northern Zone, continue transplanting of *Mundakan* rice, mulching in coconut basins and planting of bananas.
    - In Pathanamthitta district of Southern Zone, continue harvesting of 6 month old ginger.
    - In Idukki and Wynad districts of High Altitude Zone, undertake mulching in pepper and arecanut fields and continue harvesting of pepper, cardamom and ginger.
    - In the Problem Area Zone, ensure proper moisture in nutmeg fields and continue land preparation for sowing of rice(Uma variety).
    - In the Northern Zone, apply Bordeaux mixture (1%) to the inflorescences and leaves of arecanut to prevent mahali disease on a non rainy day.

- In the Central Zone, there is a chance of white fly in banana field. To control, apply Imidacloprid or Confidor @ 5 ml /10 litres of water on a non rainy day.
- In the Problem Area Zone, spray 1% Bordeaux mixture or spray Azoxystrobin (Heritage) @ 0.1% or Tebuconazole (Folicur) @0.1% or Difenoconazole (Polyscore) @ 0.1% soon after the appearance of the initial symptoms of sigatoka disease in bananas. Cut and burn severely affected leaves before spraying on a non rainy day.
- In Thiruvananthapuram district in Southern Zone, prevailing weather conditions may favour the incidence of sheath blight and sheath rot in rice which leads to water soaked lesions and drying of leaves. This will adversely affect the emergence of panicle and results in chaffy grains. Spray Bavistin @ 200 g/Tilt (Propiconazol) @150 ml/ 200 litres of water on a non rainy day.
- **Tamil Nadu:**
- In Ariyalur, Perambalur, Thanjavur, Thiruvarur and Trichy districts of Cauvery Delta Zone, continue land preparation for transplanting of Thaladi season rice.
- In the Western Zone, considering the anticipated dry spell and cool weather, chillies can be pruned to 50 cm height from the ground level. Anticipating rainfall in the next week, Bengal gram in clay soil and horse gram in red soil may be sown especially under dry land. Already sown dry land crops like sorghum, minor millets and groundnut may be given hand weeding and hoeing between the available soil moistures.
- In the Southern Zone (Kannivadi), since there is a less chance for rainfall and the maize crop is in vegetative growth stage, apply micro nutrients like Zinc sulphate @10kg/acre or Millet mixture @ 5 kg per acre and 25 kgs of Magnesium Sulphate per acre on cotton on a non rainy day.
- In Thoothukudi, Virudunagar and Tirunelveli districts of South Zone, stem weevil incidence is noticed in cotton due to prevailing weather condition. To manage stem weevil, spray Carbaryl 10% DP @ 25 kg/ha or Carbofuran 3% CG @ 33.3 kg/ha on a non rainy day.
- In the Southern Zone (Kannivadi), incidence of white fly/sucking pests is noticed in cotton and other vegetable crops due to prevailing slight cloudy weather. To control, use, 'Yellow Sticky trap' @ 10 traps per acre on a non rainy day.
- In the North Western Zone, leaf folder incidence is noticed in rice. To control, release *Trichogramma chilonis* egg card @ 2cc/acre on a non rainy day and repeat at 7 days interval thrice.
- In the High Rainfall Zone, spray Carbendazim @1g /litre of water mixed with wetting agent to control leaf spot disease in banana, Metalaxyl @ 0.1% to control wilt disease in pepper and Malathion 50 EC @ 500 ml/ha to control the earhead bug in rice on a non rainy day.
- **Karnataka:**
- Continue harvesting of matured rice in Coastal Zone and Hill Zone. Second top dressing of fertilizers is recommended for horticulture and spice crops in Hill Zone.
- Undertake harvesting of sugarcane, coconut and arecanut and in Southern Transition Zone.
- Complete sowing of wheat, Bengal gram and planting of sugarcane in Bidar district of North East Transition Zone. Provide irrigation to pigeon pea, sugarcane and vegetable crops.
- Complete harvesting of maize and groundnut in Bengaluru Rural, Bengaluru Urban, Ramnagara, Chikaballapura and Kolar districts of Eastern Dry Zone.
- Provide irrigation to cotton, red gram, maize, sunflower crop in North East Dry Zone. Carry out the nipping operation (35 - 40 days after sowing) in Begal gram; it helps in spreading of the crop and produces more side branches.
- Complete sowing of wheat, safflower, chickpea under irrigated condition in Dharwad, Belagavi and Haveri districts of North Transition Zone. Complete harvesting of maize. Undertake intercultural operation in 25 - 30 days old *rabi* sorghum crop to control the weeds and for moisture conservation. Apply irrigation to *rabi* crops where irrigation is possible.
- Continue sowing of cotton under irrigated condition in Central Dry Zone.
- Apply irrigation to already sown *rabi* crops in Vijayapura, Bagalkote and Gadag districts of North Dry Zone. Continue sowing of chickpea (dry land and irrigated), wheat (irrigated), Dicocum wheat.
- There is chance of to attack of stem borer in ginger, turmeric and cardamom in Hill Zone; for control, spray Monocrotophos @ 1.2 ml or Chloropyriphos @ 2 ml/litre of water. For control of tea mosquito in cashew, spray Monocrotophos @ 1ml/litre of water or Dimethoate @ 2ml/litre of water.
- Suitable varieties for sowing are given in Annexure III.
- ❖ **Animal Husbandry**
- In Scarce Rainfall Zone of Rayalaseema of Andhra Pradesh, vaccinate sheep in time against sheep pox and keep them in dry sheds.
- In Telangana, prevailing weather conditions are congenial for the occurrence of Ranikhet disease in poultry, Hemorrhagic Septicemia and FMD in Cattle/Buffaloes. To prevent the diseases, vaccinate the livestock and also against sheep pox in sheep/goat.
- In the North Eastern Zone of Tamil Nadu, necessary repair/maintenance works may be undertaken to avoid leakage of rain water through animal shed roof as well as stagnation of rain water around the sheds. To control fluke infestation, animal should not be allowed to graze near ponds and lakes.
- In the Southern Zone, due to moderate humid conditions, mastitis disease may affect the milch animals. Clean the

udder with 1% Potassium Permanganate solution before and after milking.

- In the Western Zone of Tamil Nadu, moisture free feed may be given to dairy animals, cattle and poultry.
- Vaccinate the livestock for Black Quarter and foot and mouth diseases in North East Transition Zone and North East Dry Zone in Karnataka. Maintain proper ventilation for proper free circulation of air in the sheds. In Southern Dry Zone, maintain optimum room temperature in silkworm and poultry rearing houses.

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



**Banana**



**Rice**



**Cauliflower**



**Land preparation/Sowing**

- **Realised Rainfall:** Rainfall occurred in Lower Dibang Valley, Tawang and Tirap districts of Arunachal Pradesh, Cachar, Golghat, Hailkandi Karbi Anglong, Karimganj, N.C.Hills and Nowgaon, districts of Assam, East Khasi Hills district of Meghalaya, Aizwal, Lunglei, Saiha and Serchhip districts of Mizoram, Chandel, Imphal East, Imphal West and Thoubal districts of Manipur, Dimapur, Kephire, Kohima, Mokokchung, Phek and Wokha districts of Nagaland and all district of Tripura. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - **Assam, Meghalaya & Arunachal Pradesh:**
    - In Dhemaji, Lakhimpur, Sonitpur, Dibrugarh, Golghat, Jorhat and Sibsagar districts of Upper Bramhaputra Valley Zone of Assam, continue sowing of toria, pea, linseed, lathyrus and planting of potato. Continue harvesting of matured *Sali* rice.
    - In Karimganj, Hailakandi and Cachar districts of Barak Valley Zone of Assam, continue nursery raising for winter vegetables and planting of potato.
    - In Karbi Anglong and NC Hills districts of Hill Zone of Assam, continue nursery raising of winter vegetables and transplanting of early cauliflower and sowing of onion. Continue land preparation for sowing of lentil, rapeseed and mustard and land preparation and planting of potato. Undertake nursery raising of *Boro* Rice.
    - In Marigaon and Nagaon districts of Central Bramhaputra Valley Zone of Assam, continue sowing of *rabi* pulses, rapeseed and mustard, nursery sowing of brinjal, cole crops, early radish and land preparation and sowing of wheat. Also continue land preparation and planting of potato.
    - In Barpeta, Bongaigaoin, Dhubri and Goalpara districts of Lower Bramhapurtra Valley Zone of Assam, continue sowing of pumpkin, radish, tomato, onion, planting of potato and nursery preparation of cabbage, cauliflower and sowing of lentil, oats, rapeseed and mustard. Undertake harvesting of matured *Sali* rice.
    - In North Bank Plain Zone of Assam, continue land preparation and sowing of rapeseed/mustard. Continue planting of potato. Undertake harvesting of matured *Sali* rice, green gram and black gram.
    - In Arunachal Pradesh, cover bunches of banana with bunch covers or sacks or locally available materials to protect from cold/frost. Complete nursery sowing of winter vegetables and sowing of pea, black gram and green gram at the earliest.
    - In Meghalaya, continue nursery sowing/transplanting of cauliflower/cabbage/broccoli, planting of potato and sowing of pea. Also continue harvesting of matured Upland rice, *Sali/kharif* rice, soybean and groundnut.
    - In Hill Zone of Assam, spray Rogor 0.05% against shoot borer in turmeric and ginger.
    - In Upper Bramhaputra Valley Zone of Assam, due to favourable weather conditions, there is chance of attack of Gundhi bug in *sali* rice at milky stage. To control, Malathion 5% dust @ 2.5 kg/bigha of land is recommended. Holding fires around the field at night hours will also reduce the gundhi bug population.
    - In North Bank Plain Zone, Central Bramhaputra Valley Zone and Barak Valley Zone of Assam, to control rice bug on *Sali* rice at flowering/ grain formation stage, undertake dusting with 5% Malathion dust @ 20 kg per ha. Also to control the aphid and saw fly in rapeseed/ mustard at vegetative stage, spray Dimethoate (Rogar) @ 1 ml/litre of water.
    - In Arunachal Pradesh, undertake drenching with 0.05% Dichlorvos at base of citrus plant for rectification of trunk-borer. Spray Sulfox @ 2 g/litre water against powdery mildew on black gram & green gram at vegetative stage.
    - In Meghalaya, apply Bordeaux mixture (5:5:50) or Captan @ 1.5 g/l of water against leaf spot disease and also spray/ drench 1% Bordeaux mixture or Dithane M- 45 (2.5g/l) to prevent rhizome rot in ginger/turmeric.
  - **Nagaland, Manipur, Mizoram and Tripura:**
    - In Nagaland, toria and linseed should be sown as second crop utilizing the residual moisture in the field after the harvest of early to medium duration paddy varieties. Sow zero tillage lentil and pea after rice by opening small



furrow between rice stubbles. Continue harvesting of TRC/WRC rice and transplanting of winter vegetables like cauliflower, cabbage, chilli, tomato, brinjal etc. Continue sowing of toria and *rabi* maize.

- In Manipur, continue sowing of garden pea and nursery raising and transplanting of cole crops/onion and for planting of potato. Continue land preparation for sowing rapeseed/mustard and pea. Continue harvesting of *kharif* rice, soybean, groundnut and black gram/rice bean.
- In Mizoram, continue harvesting of *khasi* mandarin/acid lime, passion fruit, banana. Continue nursery sowing of onion.
- In Tripura, continue land preparation for planting of potato, land preparation and sowing of sesame. Continue harvesting of *Aman* rice. Continue sowing of *rabi* maize.
- In Manipur, to control leaf blotch & leaf spot in ginger/turmeric, application of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/litre) is also recommended.
- In Mizoram, apply insecticide like Imidacloprid 0.5 ml or Phosolone 1.5 ml or Acephate 1.0 g or Dimethoate 2 ml/litre of water against banana rhizome weevil disease in banana.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Animal Husbandry**

- In Arunachal Pradesh, undertake disinfecting the animal/bird sheds with lime powder/ bleaching powder/ 4% NaOH at regular interval.
- In Lower Brahmaputra Valley Zone of Assam, to protect poultry from cold, gunny bags or plastic sheath curtains should be installed on the side walls of shed and bedding material (litter) should be increased by six inches. Care should be taken not to restrict ventilation.

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



**Maize**



**Mustard**



**Rice**



**Land preparation/Sowing**

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
  - **Maharashtra:**
    - In Konkan, continue harvesting of late maturing rice varieties in morning hours. Provide seed treatment of Thiram @ 3g/kg for seeds of vegetables and marigold. Utilizing available residual moisture undertake sowing of wal and mustard. Continue intercultural operations and application of fertilizers in vegetable fields and in mango, cashew and sapota orchards.
    - In Madhya Maharashtra, in Ahmednagar, Jalgaon, Nasik and Pune districts of north Madhya Maharashtra, minimum temperature is prevailing below 10<sup>0</sup>C, apply light irrigation to the banana during night time and make smoke around the field early in the morning to avoid scorching. Cover the banana bunch with 6% perforated white plastic bag. Apply light irrigation in the evening or during night time and make smoke around the field for *rabi* crops early in the morning in Pune district. Also apply irrigation to grapes in Nasik district to protect from low temperature. Continue harvesting of late maturing rice in morning hours in Western Ghat Region. As dry weather is prevailing, apply protective irrigation to vegetable crops, jowar and safflower.
    - In Marathwada, apply irrigation to grapes to protect from low temperature. As dry weather is prevailing, apply protective irrigation to vegetable crops, jowar and safflower. Undertake sowing of Lucerne, Oat, Berseem fodder crops. Continue picking fully opened cotton bolls. Do not apply irrigation during boll bursting. Complete sowing of wheat by 15<sup>th</sup> November. Before sowing provide seed treatment under shed with Azospirillum + PSB (Phosphorus soluble bacteria) @ 250 g/10 Kg of seeds. Complete sowing of chickpea.
    - In Vidarbha, continue harvesting of already matured *kharif* rice. Complete sowing of wheat by 15<sup>th</sup> November. Before sowing provide seed treatment under shed with Azospirillum + PSB (Phosphorus soluble bacteria) @ 250 g/ 10 Kg of seeds. As dry weather is prevailing, apply protective irrigation to vegetable crops. Continue picking fully opened cotton bolls. Do not apply irrigation during boll bursting.
    - In Western Maharashtra Scarcity zone, there may be incidence of blight in onion; spray Fipronil 5 EC @ 15 ml or Carbosulphan 25 EC @ 10 ml or Profenophos 50 EC @ 10 ml + Mancozeb @ 25 g or Carbendanzim @ 10 g or Chlorothalonil @ 25 g + Sticker @ 10 ml per 10 litres of water using knapsack spray pump.
    - Due to cold and humid weather condition in Marathwada, there may be incidence bacterial blight on turmeric crop; spray of Mancozeb @ 20 g per 10 litre of water.
  - **Gujarat:**
    - Continue land preparation for sowing of wheat, maize and cumin in Middle Gujarat Zone. Continue harvesting of

groundnut and matured bajra crops.

- Apply irrigation in lemon orchard at regular interval to prevent fruit cracking and for fast development of fruits; continue sowing of chickpea, wheat, mustard, garlic, cumin, onion, coriander, pea (vegetable purpose) and carrot; undertake thinning in mustard in Rajkot, Amreli, Jamnagar and Surendranagar districts of North Saurashtra Zone.
- Carry out picking of matured cotton bolls during morning hours and picking of matured castor in South Saurashtra Zone. Undertake sowing of wheat, gram, cumin, garlic and coriander.
- Apply irrigation in banana orchards by preparing ring around the plant in South Gujarat Zone.
- Continue sowing of wheat, mustard, gram, *rabi* fennel, cumin, fenugreek, lucerne, planting of potato in North Gujarat Zone. Continue transplanting of cabbage, cauliflower, brinjal, tomato, onion, continue sowing of carrot and radish in North Gujarat Zone and North West Zone. Continue picking of matured pods of pigeon pea and matured cotton bolls; carry out intercultural operations in castor and fennel; continue harvesting of matured fruits of custard apple in North Gujarat Zone and North West Zone. Undertake sowing of wheat, cumin; continue sowing of mustard, gram in North West Zone.
- In South Gujarat Heavy Rainfall Zone, continue sowing of *rabi* pulses (Indian bean, gram, green gram), sweet corn, off season okra and planting of sugarcane.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Animal Husbandry**

- Keep animal shed hygienic and clean to avoid flies and mosquitoes in Gujarat State.
- As night temperatures are very likely to continue appreciably below normal over Madhya Maharashtra, Vidarbha and Konkan & Goa during next 24 hours, provide artificial heating through lightening of electric bulb to the 2 - 25 days old chick wherever there is significant decrease in minimum temperature.

### EAST INDIA [JHARKHAND, BIHAR, ODISHA, WEST BENGAL & SIKKIM, ANDAMAN & NICOBAR ISLANDS]



**Red gram**



**Okra**



**Maize**



**Rice**

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands, Balasore, Bhadrak, Cuttack, Jagatsinghpur, Jajpur, Kendrapara and Puri districts of Odisha, East Midnapore, Howrah, Kolkata and 24 Pargana North and South districts of Gangetic West Bengal. Weather remained mainly dry/dry over rest of the region.

- **Advisories:**

- **Odisha:**

- In Western Undulating Zone, cover the vegetable nursery to protect from cold. Irrigate the vegetable seedling nursery during evening hours. Complete sowing of mustard, gram and nursery sowing of onion.
- In East and South Eastern Coastal Plain Zone, continue sowing of mustard, green pea in fallow uplands and nursery raising of cole crops such as cabbage and cauliflower.
- In Mayurbhanj and Keonjhar districts, continue sowing of green pea in fallow uplands and nursery raising of tomato, cauliflower and cabbage.
- In North Eastern Coastal Plain Zone, prevailing cloudy weather with high humidity will increase the incidence of blast and sheath blight of *kharif* rice. To control it spray Tebuconazole + Trifloxystrobin 75WG @ 200g/ha in 500 litres of water or spray Tricyclazole @ 0.5g/litre of water.
- In Kalahandi and Nuapara districts of Western Undulating Zone, sucking pests like aphids, jassids infestation may occur in cotton crop at square formation to flowering stage. Spray Buprofezin 2ml/litre water for controlling sucking pests.
- In Mid Central Table Land Zone, high humidity with low night temperature condition is favourable for spread of blast disease in rice. To control, spray Tricyclazole @ 0.5g/litre of water. To control leaf folder and stem borer above ETL, spray Deltamethrin +Triazophos @ 2ml/litre of water or Prophenophos 50 EC @ 2 ml/litre of water and use 200 litre/acre. Undertake plant protection methods.
- In Kalahandi and Nuapara districts of Western Undulating Zone, sucking pests like whitefly, GLH, thrips, BPH infestation was noticed in rice. Spray Imidacloprid 17.8% SL 50ml or Buprofezin 25%SC 400 ml or Flonicamide 50% WG 80g mixing with 200 litres of water for one acre crop area.

- **West Bengal:**

- In Burdwan, Murshidabad, Nadia, North 24 Parganas districts of New Alluvial Zone, continue sowing of mustard and raising of seedling for late varieties of cauliflower and cabbage. In late sown *Aman* rice, maintain 2-3 cm standing water in the fields. Undertake harvesting of early transplanted *Aman* rice. Continue sowing of winter

vegetables. Continue land preparation for *rabi* crops.

- In Purba Midnapore and South 24-parganas districts of Coastal Saline Zone, continue re-sowing of seeds of cabbage, cauliflower and tomato.
- In Laterite and Red Soil Zone, complete harvesting of matured rice crop and keep the rice bundles in the field for few days for sun drying. Complete the field preparation for potato/wheat crops before first fortnight of November. Prepare the fine seedbed for sowing of cabbage/cauliflower crops.
- In Malda & Dakshin Dinajpur districts, undertake land preparation for sowing of wheat & mustard after completing the harvesting of rice crop. Prepare seed bed for sowing of brinjal, before sowing of seed it may be treated with *Tricoderma viride*. For paira sowing of lentil, broadcast 10 kg of lentil seeds/bigha, three weeks before harvesting of rice.
- In Coastal Saline Zone, in prevailing weather condition green leaf hopper and gundhi bug may attack in *Aman* rice at milking stage. For green leaf hopper use light trap or spraying Acephate @1g/litre of water or Thiamethoxam @ 0.5g/litre of water and for gundhi bug apply Chlorpyrifos dust or Sevidol dust @ 3.5kg/bigha at afternoon hours.
- In New Alluvial Zone, in the prevailing humid weather, there is a chance of spread of sheath blight in rice. For control, spray Carbendazim @1.5 g/litre of water. In case of stem borer attack, spray Carbosulfan 25 EC @ 2ml/litre or Profenphos 40% + Cypermethrin 4% @ 1ml/litre of water. To prevent fungal leaf-spot disease in vegetables, apply 2.5 gm Mancozeb 80% or 'Chlorothalonil 75 WP' mixed with one litre of water.
- In Old Alluvial Zone, prevailing weather condition is favourable for attack of false smut in *Aman* rice. To control false smut of rice, spray Chlorothalonil 75 W.P @ 2ml/litre of water at evening hour. To control chilli leaf curl and vector of sucking pest, spray Buprofezin 25% @ 2ml/litre of water.

#### ▪ **Andaman and Nicobar Islands:**

- As rain/thundershowers likely at many places over Andaman & Nicobar Islands on 15<sup>th</sup> Nov., do not apply irrigation, application of plant protection measures and fertilizers to the standing crops.
- In North, Middle & South Andaman, Plough the raised bed of BBF for sowing of bhindi and undertake seed treatment with *Trichoderma viride* @ 4 g/kg or *Pseudomonas* @ 10 g/kg of seed. Apply 20 g zinc phosphide by mixing with 20 g vegetable oil and 960 g broken rice and do 2-3 times pre-baiting without any poison to control rodent in the rice field in clear weather. Clear the channels in rice field to avoid stagnation of water.
- In Nicobar, Clean the community coconut garden and with the use of fallen organic material prepare vermi-compost.

#### ▪ **Bihar:**

- In Araria, Katihar, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, continue sowing of pulses like mustard, lentil, pea, sunflower and rai. Before sowing seeds must be treated with Carbendazin @ 2g/kg of seed. Undertake land preparation for sowing of potato. Transplanting of mature seedlings of cauliflower, cabbage, broccoli may also be done in raised bed.
- In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, continue sowing of potato, garlic, kidney beans, gram, maize, pea, carrot, lentil and land preparation for sowing of whea and nursery sowing of *rabi* onion. Complete the harvesting and threshing of rice crop.
- In South Bihar Alluvial Zone, continue planting of potato and transplanting of cauliflower, cabbage and tomato, sowing of carrot may be done in raised bed. Continue field preparation for sowing of other *rabi* crops. Ploughing and planking should be done properly to conserve the moisture in the soil.
- In North East Alluvial Zone, humidity & temperature conditions are favourable for fruit and shoot borer infestation in okra and brinjal, apply Emamectin benzoate @ 1g/2 litre or (Profenfos 40% EC+ Cypermethrin 4% EC) @ 2.5 ml/litre of water.

#### ▪ **Jharkhand:**

- In South Eastern Plateau Zone, in fallow uplands, continue sowing of mustard. Before sowing, treat the seed with Bavistin @ 2 g per kg of seed. Continue planting of potato and nursery raising of Onion.
- In Western Plateau Zone, continue harvesting of matured rice. In harvested fields, continue land preparation and sowing of wheat, lentil, gram, green pea and planting of potato.
- In Central and North Eastern parts of Jharkhand, continue sowing of gram and planting of potato.
- In South Eastern Plateau Zone, present weather is conducive for occurrence of pests like hairy caterpillar on groundnut crop. So, in early stage of caterpillar, apply Dichlorvos @ 0.5 ml per litre of water. For control of adult caterpillar, provide bamboo perch in the fields for predatory birds.
- In South Eastern Plateau Zone, low land rice crop are at milky stage and this stage is susceptible to the attack of gundhi bug. To control the insects, dusting of Chlorpyrifos/Quinolophos/Methyl Parathion dust @ 10 kg per acre is recommended.
- In South Eastern Plateau Zone, there may be attack of leaf eating and sucking pests in pigeon pea, for control, spray Monochrotophos @ 1 ml per litre of water by mixing Teepol @ 0.5 ml per liter of water.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Animal Husbandry**

- In Jharkhand, weather is favourable for Foot and Mouth Disease (FMD), vaccinate FMD vaccine to the cattle with the consultation of veterinary doctor. Also due to decrease in temperature, PPR Disease may increase in Goat & Sheep. farmers are advised to vaccinate their animal with PPR vaccine @ 1ml S/C.



- In Old Alluvial Zone of West Bengal, keep animals in covered shed to protect from low temperature during night.

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



*Maize*



*Rice*



*Mustard*



*Land preparation/Sowing*

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
  - **Madhya Pradesh:**
    - In Indore and Ujjain districts, continue field preparation for sowing of wheat and nursery preparation for early winter vegetables and onion. Continue transplanting cauliflower and cabbage and sowing of gram. Continue sowing of coriander.
    - In Gwalior, Bhind, Morena, Guna, Ashoknagar and Shivpuri districts, continue sowing mustard and planting of potato. Continue sowing of pea and gram. Continue field preparation for sowing of wheat.
    - In Chhindwara and Betul districts, continue nursery preparation for tomato, chilli, brinjal, cabbage, cauliflower and sowing of garlic, coriander etc. Continue sowing of mustard, linseed, safflower and wheat.
    - In Vindhya Plateau Zone, continue nursery preparation for winter vegetables like brinjal, chilli, cabbage, cauliflower, tomato and onion and sowing of green pea, lentil and garlic. Continue sowing of wheat and gram.
    - In Tikamgarh, Chhatarpur and Datia districts, continue seed bed preparation for sowing of onion. Continue sowing of lentil, pea, potato and garlic. Complete sowing of chickpea, mustard and linseed. Complete sowing of early maturing varieties of wheat and undertake sowing of wheat in irrigated areas. Apply irrigation and plant protection measures in vegetables.
    - In Jhabua, Alirajpur and Dhar districts, continue nursery preparation for winter vegetables, sowing of mustard and gram. Continue sowing of non irrigated and semi irrigated varieties of wheat and planting of potato. Continue sowing of pea and garlic and coriander.
    - In Jabalpur, Rewa, Satna districts, continue sowing of mustard, gram, lentil and pea. Continue nursery preparation for cauliflower and cabbage. Continue field preparation for sowing of wheat. Undertake harvesting of late maturing varieties of rice.
    - In Nimar Valley Zone, for control of pod fly in pigeon pea, spray Profenophos-50 or Dimethoate-30 @ 50ml/ Pump (10 Pump/acre) at 50% flowering stage.
    - In Grid Zone, in the present weather, there are chances of attack of pod borer in red gram, spray Triazophos @ 750 ml/hectare dissolved in 500-600 litres of water.
  - **Chhattisgarh:**
    - In North Hill Zone, continue transplanting of winter vegetables like cauliflower, cabbage, chilli, tomato, brinjal etc., complete sowing of mustard, linseed, green pea and potato. Continue sowing of garlic.
    - In Chhattisgarh Plain Zone, continue nursery sowing of cauliflower, cabbage, KnolKhol, tomato, brinjal, chillies and capsicum.
    - In Bastar Plateau Zone, continue harvesting of matured rice and sowing of pea. Continue sowing of oilseeds, pulses and wheat.
    - In Chhattisgarh Plain Zone, late maturing rice can be affected by cut worms, spray Malathion @ 100 ml dissolved in 500 litres of water per hectare.
    - Suitable varieties for sowing are given in Annexure III.
  - ❖ **Animal Husbandry**
    - In Chhattisgarh, provide concentrate feed to milch animals mixed with dry and green fodder and insure for enrich diet having protein, carbohydrate, fat, vitamins etc. Protect cattle and poultry against low temperature.
    - In Madhya Pradesh, provide green fodder, fresh and clean water to cattle. Provide light during night time in poultry house.



*Mustard*



*Maize*



*Rice*



*Land preparation/Sowing*

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
  - **Rajasthan:**
    - In East Rajasthan, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, Continue sowing of wheat, barley, gram. Continue thinning operation in mustard crop. Continue weeding and hoeing operation in vegetables. Continue nursery sowing of chilli, brinjal and tomato for *rabi* season.
    - In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, Continue sowing of cumin, barley and wheat. In Jaisalmer and Bikaner districts, undertake sowing of cumin, isabgol and fenugreek. At the time of sowing treat the cumin and fenugreek seed by Carbendazim @ 2 g per kg seed.
    - In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, Undertake land preparation for sowing of wheat and apply 2.5 to 5 t/ha FYM and 25 kg/ha Quinalphos 1.5% dust at last ploughing. Undertake sowing of potato, cluster bean. Continue weeding and thinning operations in mustard crop within 20-25 days after sowing. Apply irrigation to 35 days old mustard crop. Apply 35 kg urea/acre as top dressing after 3-4 days of irrigation.
    - In Dungarpur and Banswara districts of Southern Humid Plain Zone, Continue sowing of mustard, gram and *rabi* maize. In gram, for control of wilt & root rot, treat soil with Trichoderma enriched FYM, treat seed with Trichoderma @ 8 g/kg seed or Carbendazin @ 2.5g/kg seed, for control of termite treat seed with Chlorpyrifos 20 EC @ 8 ml/kg seed in gram.
    - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, undertake land preparation for sowing of wheat. Continue sowing of spinach, pea and garlic. Undertake nursery sowing of cauliflower, cabbage & *rabi* onion
    - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, Continue sowing of jou, wheat, mustard and gram. Undertake harvesting of matured sugarcane in Sriganganagar district.
    - In East Rajasthan, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, prevailing weather condition is congenial for attack of bagrada in late sown mustard crop, for control apply dusting of Methyl Parathion @ 25 kg per hectare.
    - In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali, Jaisalmer and Bikaner districts, prevailing weather condition is congenial for attack of painted bug and saw fly in mustard crop, for control broadcast Methyl Parathion 2 % @ 20 kg per hectare.
    - In Semi-Arid Eastern Plain Zone, Jaipur, Ajmer, Tonk and Dausa districts, prevailing weather condition is congenial for attack of painted bug and saw fly in mustard crop, for control broadcast Quinalphos 1.5 % or Malathion 2% dust @ 20 to 25 kg per hectare.
    - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of pyra in sugarcane, for control spray Dimethoate 30 EC @ 1 litre per hectare.
  - **Jammu & Kashmir:**
    - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, continue sowing of wheat under rain fed/irrigated condition as per availability of moisture. Complete sowing of oats in lower hills/plains. Continue sowing of mustard, gram and pea. Continue sowing of berseem as fodder for animals. Undertake land preparation for transplanting of onion crop.
    - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue harvesting of basmati rice when 80 per cent grains in panicle turns to golden colour. Continue sowing of wheat varieties under irrigated conditions and unirrigated/rain fed conditions. Continue sowing of mustard and lentil in irrigated as well as rain fed areas where sufficient moisture is available in soil. Undertake nursery sowing of vegetables like cauliflower and cabbage.
    - In Cold Arid Zone of Jammu and Kashmir, continue harvesting of Chinese cabbage, palak, pakchoi and lettuce in protected structures. Proper irrigation should be applied at 7-10 days intervals in the green houses. Cover the trenches and low tunnels with polythene in the night to avoid loss due to sudden temperature dip below (-9<sup>0</sup> C). Direct seed sowing of spinach, turnip & radish can be done in greenhouses.
    - In Cold arid Zone of Jammu and Kashmir, farmers are advised to plough their field to retain more moisture during the winter months. It will also help in the uprooting of the weeds & decomposition of crop residues.

- In Valley Temperate Zone of Jammu and Kashmir, continue sowing of wheat, oats, peas where the field is ready. Complete sowing of brown sarson within this week. Continue sowing of methi, coriander and spinach. Undertake planting of garlic and pran.
- **Uttarakhand:**
  - In Udham Singh Nagar district of Bhabar and Tarai Zone, standing crops like paddy, soybean, urad, moong, groundnut and sesame (til), sown in the *kharif* season should be harvested without any delay, so that sowing of *rabi* crops can be started. Late sowing variety of rai and mustard can be sown in the month of November. Continue sowing of pulse crops like gram, lentil and pea in irrigated condition. Continue sowing of wheat in unirrigated areas. Complete sowing till the end of this month. Continue sowing of berseem.
  - In Nainital district of Bhabar and Tarai Zone, continue preparation of field for sowing of *rabi* crops. Continue sowing of early variety of wheat. If rai plants are ready for transplanting then these plants should be transplanted at a distance of 50cm X 40cm in the evening. Undertake sowing of the seeds of Agrifound Light Red onion variety in the irrigated valleys.
  - In Tehri Garhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, continue sowing of wheat in high altitude region. Continue nursery raising of onion crop. Undertake harvesting of pea. Undertake cultivation of mushroom crop. Continue sowing of carrot, spinach, methi, dhanian and radish. Give light irrigation to all vegetable crops.
  - In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, complete harvesting of short and medium maturing varieties of paddy. Continue sowing of gram, lentil and pea. Weather condition is suitable for sowing of *rabi* maize and potato crop.
- **Himachal Pradesh:**
  - In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, complete sowing of mustard, gram, lentil in lower region and continue sowing of gobhisarson, early pea, and early wheat in lower region. Continue timely sowing of wheat, barley and oat. Continue sowing of turnip and radish in lower rain fed areas. Continue nursery sowing of Chinese cabbage and direct sowing of radish, carrot, broccoli, lettuce and onion. Continue sowing of potato in lower and mid hill regions. Complete sowing of berseem, lucerne and oats for fodder. Continue sowing of dingri mushroom in closed room, maintain temperature of 25-28<sup>o</sup>C and relative humidity of 80-85 % for good crop. Continue nursery sowing of cauliflower (late group), cabbage, knol khol, broccoli and chinese cabbage and direct sowing of radish, carrot, turnip, palak, methi, carrot, broccoli, lettuce in mid hill areas. Continue transplanting of mid season cauliflower in low hill areas.
  - In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, complete harvesting of matured potato, oat crops. This is the appropriate time to sow spinach, coriander and china cabbage in Polyhouse for winters.
  - In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, present weather is conducive for fall of leaves in apple trees, for control spray mixture of Mancozeb @ 500 gm and Carbendazim @ 100 g in 20 litres of water at 20 days interval.
  - In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Bilaspur, Solan, Shimla and Sirmaur districts, Continue sowing of pea in low and mid hill region. Prepare nursery beds for sowing of alestromeria. Undertake sowing of cole crops i.e. cabbage, cauliflower, broccoli, brussel's sprout, knoll-khol and chinese cabbage.
  - In Mild Hills Sub-Humid Zone of Himachal Pradesh, in Kullu and Mandi districts present weather is conducive for attack of woolly apple aphid in apple trees for control spray Ektara @ 200 g or Marshal @ 200 ml.
- **Punjab, Haryana and Delhi:**
  - In Western Zone of Punjab, complete sowing of long duration variety of wheat by 4<sup>th</sup> week of November. Continue transplanting of 4-6 weeks old seedlings of cabbage, mid season cauliflower, Chinese cabbage and broccolli. Apply irrigation in transplanted vegetables once a week. Undertake sowing of English radish, turnip, carrot, tomato and chilli and seed bed preparation for onion.
  - In Punjab, in Ferozepur and Faridkot districts, complete planting of autumn sugarcane. Intercropping of wheat, raya, toria, gobhisarson, pea, gram, potato, cabbage, radish, garlic etc. can be done with the sugarcane crop. Undertake picking of matured bolls of cotton. Complete sowing of wheat till 15<sup>th</sup> November.
  - In Undulating Plain Zone, continue sowing of wheat and gram. Continue sowing of raya under irrigated conditions. Continue transplanting of cauliflower and cabbage and continue sowing of other seasonal vegetables with available soil moisture. Irrigate the vegetable crops at regular interval as per crop need as dry weather is expected in coming days.
  - In Western Zone of Haryana, undertake field preparation and sowing of wheat under optimum soil moisture condition and complete sowing of mustard, raya and gram. Complete picking of cotton crops after sunrise.
  - In Eastern Zone of Haryana, continue sowing of wheat. Complete harvesting of matured rice crop. Apply irrigation in vegetables and sugarcane as per requirement. Undertake harvesting of early varieties of sugarcane.
  - In Western Semi-Arid Zone of Delhi, continue sowing of wheat. Complete sowing of gram and pea. Continue planting of potato and *rabi* onion. Continue transplanting of mature seedlings of cauliflower, cabbage, broccolli and tomato. Undertake sowing of Sarson saag, radish, spinach, fenugreek, coriander and turnip.
  - In Western Zone and Western Plain Zone of Punjab, due to foggy weather there are chances of early blight disease in potato, spray Indofil M-45 @ 500-700 g or Copper Oxychloride 50 WP/Mark copper @ 750- 1000 g/acre in 250-350 litres of water before the appearance of disease followed by 5 more sprays at 7 days interval.



#### ▪ **Uttar Pradesh:**

- In Central Plain Zone of Uttar Pradesh, continue sowing of gram, pea, mustard, maize, linseed and garlic, planting of sugarcane, potato, colocasia, turmeric. Continue sowing of lentil, wheat. Undertake sowing of barley, oat, sorghum. Continue nursery sowing of onion. Continue transplanting of mid season brinjal, cauliflower, cabbage, tomato and capsicum. Continue sowing of winter vegetable like spinach, fenugreek, coriander, carrot, radish, tomato, vegetable pea etc. Continue nursery sowing of cabbage. Continue sowing of berseem for fodder crop. Continue sowing of gram/pea/lentil as intercropping in new orchard. Apply irrigation in toria crop.
- In Eastern Plain Zone of Uttar Pradesh, continue harvesting of matured paddy. Undertake sowing of wheat, jou. Continue sowing of mustard. Continue sowing of garlic, coriander, fenugreek, radish, spinach. Continue sowing of potato, vegetable pea.
- In Western Plain Zone of Uttar Pradesh, complete harvesting of matured rice crop. Undertake planting of winter sugarcane and potato, mustard, gram, pea, wheat etc. as intercrop. Continue planting of potato. Continue land preparation/sowing of wheat. Continue sowing of *rabi* onion, before sowing seeds should be treated with Captan @ 2.5 g/kg of seeds. Continue transplanting of matured seedlings of cauliflower, cabbage, broccoli and tomato in raised beds.
- In North Eastern plain Zone of Uttar Pradesh, continue sowing of *rabi* maize, lentil, mustard, pea, gram and wheat.
- In Bundelkhand Zone of Uttar Pradesh, Continue sowing of linseed, mustard, vegetable pea, gram, pea and lentil in irrigated areas. Continue sowing of jou and wheat. Continue transplanting of late sowing brinjal, chilli, tomato, cabbage, cauliflower. Continue sowing of radish, cabbage, carrot, coriander.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of painted bug in toria, for control, spray Monocrotophos 36 % SL @ 500 ml in 600 to 700 litres of water per hectare or Chloripyriphos 20% EC @ 1 litre in 600 to 700 litres of water per hectare.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of saw fly or hairy caterpillar in mustard, for control, spray Malathion 50 EC @ 1.5 litres in 600 to 700 litres of water per hectare or Quinalphos 25 % EC @ 1.25 litres in 600 to 700 litres of water per hectare.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Horticulture**

- In Western zone of Punjab, continue planting of fruit plants like mango, sweet orange, mandarin, lime, lemon, litchi, guava, loquat and papaya.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of bruchid insects in guava, for control apply Dichlorophos @ 1ml per litre of water in pores of girdled stem and filled up the pores with soil.
- In Irrigated North Western Plain Zone of Rajasthan, there may be fruit drops in kinnow fruits, for control spray mixture of Carbendazim 50 WP @ 1 g per litre of water or Propineb 70 WP @ 2 g and Gibbrellic acid @ 20 mg per litre of water.
- In Himachal Pradesh, continue land preparations for planting of strawberry and undertake picking in tea at 8 days interval to maintain the quality and productivity. Undertake lopping of shade trees in tea orchards.
- In Himachal Pradesh present weather is conducive for the attack of leaf minor in new growth of citrus, for control spray Matasystox or Malathion @ 10 ml in 10 litres of water.
- In Nainital district of Bhabar and Tarai Zone of Uttarakhand, in high hills, pruning of temperate fruit trees like apple, pear, peach, plum etc. should be started. Layout and digging of pits should be started for the transplanting of apple and other seed bearing fruit seedlings in winter season.

#### ❖ **Apiculture**

- In Himachal Pradesh, as temperature has fallen and expected to fall further, so give the winter packing immediately to colonies. Check the colonies for nector and give artificial food to honey bees as there is scarcity of flowers during these days. And keep colonies in sun on clear day.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, give artificial sugar feeding in the ratio of 2:1. Reduce wasp attack by reducing the entrance of hives, destruction of wasp nest giving baits.

#### ❖ **Animal Husbandry**

- In Himachal Pradesh, weather is conducive for the attack of ticks and mites in animals, for control spray butox @ 2 ml per litre of water on animal body /skin and butox @ 1 to 3 ml per litre of water in cowsheds.
- In Nainital district of Bhabar and Tarai Zone, vaccination of FMD (Foot and Mouth Disease) should be given to the animals. Foot and Mouth Disease is identified by red eyes, high fever, less productivity and food taken capacity, Mouth ulcers, wound in foot due to delay in the treatment of animals. Infected animals should be separated from healthy animals.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, Nomads are advised to vaccinate and deworm their flocks in order to avoid the economic losses caused by viral and parasitic diseases.
- In Punjab and Haryana, keep animals in shed during night time to save them from low night temperature.

#### ❖ **Poultry**

- In Himachal Pradesh, ensure plenty of drinking water to the poultry birds, proper space for egg laying of birds and provide 14 to 16 hours light including day light. Normal feeding schedule should be continued and add mineral in the diet if stress is observed. Present weather is conducive for the spread of IBD and Ranikhet disease,

follow recommended schedule of vaccination for new lot of layers chicks. As temperature is falling, make the arrangements for protection from cold in the poultry houses.

**Districtwise realised rainfall and % departure for past three weeks is given below in Annexure I**

### Annexure I

#### Week by week Rainfall Distribution

Sub-Divisions	26.10.16		02.11.16		09.11.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Arunachal Pradesh</b>						
Anjaw	**	**	**	**	**	**
Changlang	0.0	-100	0.6	-94	19.7	-12
Dibang Valley	0.0	-100	7.0	-28	14.0	-30
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	0.0	-100	0.0	-100	0.2	-98
Kurung Kumey	**	**	**	**	**	**
Lohit	0.0	-100	0.0	-100	13.2	53
Lower Dibang Valley	0.0	-100	0.0	-100	23.6	18
Lower Subansari	**	**	**	**	**	**
Papumpare	0.0	-100	0.0	-100	1.2	-73
Tawang	3.0	-89	0.0	-100	60.0	545
Tirap	0.0	-100	0.0	-100	24.8	84
Upper Siang	0.0	-100	15.4	93	0.0	-100
Upper Subansari	0.0	-100	27.0	214	0.0	-100
West Kameng	0.0	-100	0.0	-100	0.0	-100
West Siang	0.0	-100	6.3	-16	0.6	-96
<b>Assam&amp;Meghalaya</b>						
<b>Assam</b>						
Baksa	0.0	-100	0.0	-100	0.0	-100
Barpeta	0.0	-100	0.0	-100	0.0	-100
Bongaigaon	0.0	-100	0.0	-100	0.0	-100
Cachar	0.6	-98	37.6	68	64.7	528
Chirang	0.0	-100	0.0	-100	0.0	-100
Darrang	**	**	**	**	**	**
Dhemaji	0.0	-100	0.0	-100	3.0	-52
Dhubri	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	0.0	-100	0.0	-100	14.8	143
Goalpara	0.0	-100	0.0	-100	0.0	-100
Golaghat	0.0	-100	0.9	-95	34.8	462
Hailakandi	0.0	-100	36.6	120	98.0	870
Jorhat	0.0	-100	0.0	-100	15.8	113
Kamrup(Rural)	0.0	-100	0.0	-100	0.0	-100
Kamrup(Metro)	0.0	-100	3.2	-67	0.2	-96
Karbi Anglong	0.1	-99	15.0	205	85.0	1317
Karimganj	0.0	-100	12.8	-56	241.8	306
Kokrajhar	0.0	-100	0.0	-100	0.0	-100
Lakhimpur	0.0	-100	0.0	-100	3.1	-50

Morigaon	0.0	-100	20.8	160	2.8	-52
N.C.Hills	0.0	-100	6.4	-94	180.7	921
Nagaon	0.0	-100	2.5	-73	62.8	657
Nalbari	0.0	-100	0.0	-100	0.0	-100
Sonitpur	1.0	-95	0.0	-100	0.1	-98
Sibsagar	0.0	-100	0.0	-100	19.7	319
Tinsukia	0.0	-100	0.0	-100	17.2	97
Udalgiri	0.0	-100	0.0	-100	2.4	-50
<b>Meghalaya</b>						
East Garo Hills	0.0	-100	77.7	994	0.0	-100
East Khasi Hills	0.8	-98	33.9	31	23.9	91
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100
Ribhoi	6.4	-58	4.6	-74	5.1	1
South Garo Hills	0.0	-100	31.0	356	1.0	-86
West Garo Hills	0.0	-100	0.0	-100	0.0	-100
West Khasi Hills	0.0	-100	23.0	35	6.0	-10
<b>NMMT</b>						
<b>Mizoram</b>						
Aizwal	20.7	-37	42.2	10	88.7	235
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	8.8	-74	5.0	-82	32.5	57
Mamit	**	**	**	**	**	**
Saiha	42.0	73	36.0	24	36.0	29
Serchhip	0.0	-100	**	**	91.7	341
<b>Manipur</b>						
Bishnupur	**	**	**	**	**	**
Chandel	0.0	-100	19.0	-49	47.0	238
Churachandpur	**	**	**	**	**	**
Imphal east	7.8	-67	48.4	85	57.4	278
Imphal west	0.0	-100	53.0	121	24.4	64
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	8.0	-54	9.0	-59	66.0	424
Ukhrul	**	**	**	**	**	**
<b>Nagaland</b>						
Dimapur	0.0	-100	6.5	-59	65.1	135
Kephire	8.0	-21	23.0	128	48.0	340
Kohima	4.3	-80	20.5	-2	66.2	456
Longleng	**	**	**	**	**	**
Mokokchung	3.0	-60	9.0	-61	20.0	35
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	1.0	-95	26.0	24	63.0	429
Tuensang	**	**	**	**	**	**
Wokha	1.0	-95	11.0	-29	128.0	324
Zunheboto	**	**	**	**	**	**
<b>Tripura</b>						



Dhalai	0.0	-100	0.0	-100	115.8	764
NorthTripura	0.0	-100	17.6	-27	153.9	913
SouthTripura	0.0	-100	28.4	24	188.2	1054
West Tripura	0.0	-100	6.0	-74	195.8	1454
<b>Himachal Pradesh</b>						
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Chamba	0.0	-100	0.0	-100	0.0	-100
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Kangra	0.0	-100	0.0	-100	0.0	-100
Kinnaur	0.0	-100	0.0	-100	0.0	-100
Kullu	0.0	-100	0.0	-100	0.0	-100
Lahaul and Spiti	0.0	-100	0.0	-100	0.0	-100
Mandi	0.0	-100	0.0	-100	0.0	-100
Shimla	0.0	-100	0.0	-100	0.0	-100
Sirmaur	0.0	-100	0.0	-100	0.0	-100
Solan	0.0	-100	0.0	-100	0.0	-100
Una	0.0	-100	0.0	-100	0.0	-100
<b>Punjab</b>						
Amritsar	0.0	-100	0.0	-100	0.0	-100
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.0	-100
Faridkot	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	0.0	-100	0.0	-100	0.0	-100
Ferozpur	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	0.0	-100	0.0	-100	0.0	-100
Hoshiarpur	0.0	-100	0.0	-100	0.0	-100
Jalandhar	0.0	-100	0.0	-100	0.0	-100
Kapurthala	0.0	-100	0.0	-100	0.0	-100
Ludhiana	0.0	-100	0.0	-100	0.0	-100
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	0.0	-100	0.0	-100	0.0	-100
Patiala	0.0	-100	0.0	-100	0.0	-100
Ropar	0.0	-100	0.0	-100	0.0	-100
Sangrur	0.0	-100	0.0	-100	0.0	-100
Mohali	0.0	-100	0.0	-100	0.0	-100
TarnTaran	0.0	-100	0.0	-100	0.0	-100
<b>Haryana,Chd,Delhi</b>						
<b>Haryana</b>						
Ambala	0.0	-100	0.0	-100	0.0	-100
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.0	-100	0.0	-100
Faridabad	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	0.0	-100
Gurgaon	0.0	-100	0.0	-100	0.0	-100
Hissar	0.0	-100	0.0	-100	0.0	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	0.0	-100

Katihal	0.0	-100	0.0	-100	0.0	-100
Karnal	0.0	-100	0.0	-100	0.0	-100
Kurukshetra	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	0.0	-100	0.0	-100	0.0	-100
Mewat	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	0.0	-100	0.0	-100
Panchkkula	0.0	-100	0.0	-100	0.0	-100
Panipat	0.0	-100	0.0	-100	0.0	-100
Rewari	0.0	-100	0.0	-100	0.0	-100
Rohtak	0.0	-100	0.0	-100	0.0	-100
Sirsa	0.0	-100	0.0	-100	0.0	-100
Sonepat	0.0	-100	0.0	-100	0.0	-100
Yamunanagar	0.0	-100	0.0	-100	0.0	-100
<b>Delhi</b>						
Central Delhi	0.0	-100	0.0	-100	0.0	-100
East Delhi	0.0	-100	0.0	-100	0.0	-100
New Delhi	0.0	-100	0.0	-100	0.0	-100
North Delhi	0.0	-100	0.0	-100	0.0	-100
North East Delhi	0.0	-100	0.0	-100	0.0	-100
North West Delhi	0.0	-100	0.0	-100	0.0	-100
South Delhi	0.0	-100	0.0	-100	0.0	-100
South West Delhi	0.0	-100	0.0	-100	0.0	-100
West Delhi	**	**	**	**	**	**
<b>Jammu &amp; Kashmir</b>						
Anantnag	0.0	-100	0.0	-100	0.0	-100
Badgam	0.0	-100	0.0	-100	0.0	-100
Bandipore	**	**	**	**	**	**
Baramula	0.4	-96	0.0	-100	0.0	-100
Doda	0.0	-100	0.0	-100	0.0	-100
Ganderbal	0.0	-100	0.0	-100	0.0	-100
Jammu	0.0	-100	0.0	-100	0.0	-100
Kargil	**	**	**	**	**	**
Kathua	0.0	-100	0.0	-100	0.0	-100
Kistwar	**	**	**	**	**	**
Kulgam	0.0	-100	0.0	-100	0.0	-100
Kupwara	3.8	-48	0.0	-100	0.0	-100
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	0.0	-100	0.0	-100	0.0	-100
Rajouri	0.0	-100	0.0	-100	0.0	-100
Ramban	0.0	-100	0.0	-100	0.0	-100
Reasi	0.0	-100	0.0	-100	0.0	-100
Samba	0.0	-100	0.0	-100	0.0	-100
Shopian	**	**	**	**	**	**
Srinagar	0.0	-100	0.0	-100	0.0	-100
Udhampur	0.0	-100	0.0	-100	0.0	-100
<b>East Madhya Pradesh</b>						
Anuppur	0.0	-100	0.0	-100	0.0	-100

Balaghat	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	0.0	-100	0.0	-100	0.0	-100
Chindwara	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	0.0	-100	0.0	-100
Dindori	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.0	-100
Katni	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.0	-100	0.0	-100
Panna	0.0	-100	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	0.0	-100
Sagar	0.0	-100	0.0	-100	0.0	-100
Satna	0.0	-100	0.0	-100	0.0	-100
Seoni	0.0	-100	0.0	-100	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	0.0	-100	0.0	-100
<b>West Madhya Pradesh</b>						
Agar	0.0	-100	0.0	-100	0.0	-100
Alirajpur	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	0.0	-100	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	0.0	-100	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100
Hoshangabad	0.0	-100	0.0	-100	0.0	-100
Indore	0.0	-100	0.0	-100	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.0	-100	0.0	-100
Khargone	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100
Morena	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.0	-100
Rajgarh	0.0	-100	0.0	-100	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100
Sehore	0.0	-100	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100

Shivpuri	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.0	-100
<b>Chhattisgarh</b>						
Balod	0.0	-100	0.0	-100	0.0	-100
Baloda Bazar	0.0	-100	0.0	-100	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100
Bastar	0.0	-100	0.1	-99	0.0	-100
Bemetara	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.0	-100	2.0	-63	0.0	-100
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Dantewara	0.0	-100	0.0	-100	0.0	-100
Dhamtari	0.0	-100	0.0	-100	0.0	-100
Durg	0.0	-100	0.0	-100	0.0	-100
Gariaband	0.0	-100	0.0	-100	0.0	-100
Janjgir	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100
Kabirdham	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	0.0	-100
Kondagaon	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100
Mungeli	0.0	-100	0.0	-100	0.0	-100
Narayanpur	0.0	-100	2.0	-69	0.0	-100
Raigarh	0.0	-100	0.0	-100	0.0	-100
Raipur	0.0	-100	0.0	-100	0.0	-100
Rajnandgaon	0.0	-100	0.0	-100	0.0	-100
Sukma	0.0	-100	0.0	-100	0.0	-100
Surajpur	0.0	-100	0.0	-100	0.0	-100
Surguja	0.0	-100	0.0	-100	0.0	-100
<b>East Uttar Pradesh</b>						
Allahabad	0.0	-100	0.0	-100	0.0	-100
Ambedkar Nagar	0.0	-100	0.0	-100	0.0	-100
Azamgarh	0.0	-100	0.0	-100	0.0	-100
Bahraich	0.0	-100	0.0	-100	0.0	-100
Ballia	0.0	-100	0.0	-100	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100
Banda	0.0	-100	0.0	-100	0.0	-100
Barabanki	0.0	-100	0.0	-100	0.0	-100
Basti	0.0	-100	0.0	-100	0.0	-100
Chandauli	0.0	-100	0.0	-100	0.0	-100
Deoria	0.0	-100	0.0	-100	0.0	-100
Faizabad	0.0	-100	0.0	-100	0.0	-100
Farrukhabad	0.0	-100	0.0	-100	0.0	-100
Fatehpur	0.0	-100	0.0	-100	0.0	-100
Gazipur	0.0	-100	0.0	-100	0.0	-100
Gonda	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	0.0	-100	0.0	-100	0.0	-100



Hardoi	0.0	-100	0.0	-100	0.0	-100
Jaunpur	0.0	-100	0.0	-100	0.0	-100
Kannauj	0.0	-100	0.0	-100	0.0	-100
Kanpur City	0.0	-100	0.0	-100	0.0	-100
Kanpur Dehat	0.0	-100	0.0	-100	0.0	-100
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	0.0	-100	0.0	-100	0.0	-100
Kushi nagar	0.0	-100	0.0	-100	0.0	-100
Lucknow	0.0	-100	0.0	-100	0.0	-100
Maharajganj	0.0	-100	0.0	-100	0.0	-100
Mau	0.0	-100	0.0	-100	0.0	-100
Mirzapur	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
RaiBareilly	0.0	-100	0.0	-100	0.0	-100
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100
Sant Kabirnnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	0.0	-100
Shrawasti	0.0	-100	0.0	-100	0.0	-100
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100
Sitapur	0.0	-100	0.0	-100	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	0.0	-100
Sultanpur	0.0	-100	0.0	-100	0.0	-100
Unnao	0.0	-100	0.0	-100	0.0	-100
Varanasi	0.0	-100	0.0	-100	0.0	-100
<b>West Uttar Pradesh</b>						
Agra	0.0	-100	0.0	-100	0.0	-100
Aligarh	0.0	-100	0.0	-100	0.0	-100
Auraiya	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.0	-100	0.0	-100
Baghpat	0.0	-100	0.0	-100	0.0	-100
Bareilly	0.0	-100	0.0	-100	0.0	-100
Bijnor	0.0	-100	0.0	-100	0.0	-100
Bulandsahar	0.0	-100	0.0	-100	0.0	-100
Etah	0.0	-100	0.0	-100	0.0	-100
Etawah	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	0.0	-100	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	0.0	-100
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Jalaun	0.0	-100	0.0	-100	0.0	-100
Jhansi	0.0	-100	0.0	-100	0.0	-100
Jotiba Phule Nagar	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100
Lalitpur	0.0	-100	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100
Mainpuri	0.0	-100	0.0	-100	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100

Meerut	0.0	-100	0.0	-100	0.0	-100
Moradabad	0.0	-100	0.0	-100	0.0	-100
Muzaffarnagar	0.0	-100	0.0	-100	0.0	-100
Pilibhit	0.0	-100	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100
Saharanpur	0.0	-100	0.0	-100	0.0	-100
Shahjahanpur	0.0	-100	0.0	-100	0.0	-100
<b>Uttarakhand</b>						
Almora	0.0	-100	0.0	-100	0.0	-100
Bageshwar	0.0	-100	0.0	-100	0.0	-100
Chamoli	0.0	-100	2.0	-56	0.0	-100
Champawat	0.0	-100	0.0	-100	0.0	-100
Dehradun	0.0	-100	0.0	-100	0.0	-100
Garhwal Pauri	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	0.0	-100	0.0	-100	0.0	-100
Haridwar	0.0	-100	0.0	-100	0.0	-100
Nainital	0.0	-100	0.0	-100	0.0	-100
Pithorgarh	0.0	-100	0.2	-96	0.0	-100
Rudraprayag	0.0	-100	0.0	-100	0.0	-100
Udham Sing Nagar	0.0	-100	0.0	-100	0.0	-100
Uttarkashi	0.0	-100	0.0	-100	0.0	-100
<b>Bihar</b>						
Araria	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	0.0	-100	0.0	-100
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Banka	0.0	-100	0.0	-100	0.0	-100
Begusarai	0.0	-100	0.0	-100	0.0	-100
Bhabua	0.0	-100	0.0	-100	0.0	-100
Bhagalpur	0.0	-100	0.0	-100	0.0	-100
Bhojpur	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	0.0	-100	0.0	-100
Darbhanga	0.0	-100	0.0	-100	0.0	-100
East Champaran	0.0	-100	0.0	-100	0.0	-100
Gaya	0.0	-100	0.0	-100	0.0	-100
Gopalganj	0.0	-100	0.0	-100	0.0	-100
Jahanabad	0.0	-100	0.0	-100	0.0	-100
Jamui	0.0	-100	0.0	-100	0.0	-100
Kathihar	0.0	-100	0.0	-100	0.0	-100
Khagadia	0.0	-100	0.0	-100	0.0	-100
Kishanganj	0.0	-100	0.0	-100	0.0	-100
Lakhisarai	0.0	-100	0.0	-100	0.0	-100
Madhepura	0.0	-100	0.0	-100	0.0	-100
Madhubani	0.0	-100	0.0	-100	0.0	-100
Monghyar	0.0	-100	0.0	-100	0.0	-100
Muzaffarpur	0.0	-100	0.0	-100	0.0	-100
Nalanda	0.0	-100	0.0	-100	0.0	-100
Nawada	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	0.0	-100	0.0	-100
Purnea	0.0	-100	0.0	-100	0.0	-100

Rohtas	0.0	-100	0.0	-100	0.0	-100
Saharsha	0.0	-100	0.0	-100	0.0	-100
Samstipur	0.0	-100	0.0	-100	0.0	-100
Saran	0.0	-100	0.0	-100	0.0	-100
Sheikpura	0.0	-100	0.0	-100	0.0	-100
Sheohar	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	0.0	-100	0.0	-100
Siwan	0.0	-100	0.0	-100	0.0	-100
Supaul	0.0	-100	0.0	-100	0.0	-100
Vaishali	0.0	-100	0.0	-100	0.0	-100
West Champaran	0.0	-100	0.0	-100	0.0	-100
<b>Jharkhand</b>						
Bokaro	0.0	-100	0.0	-100	0.0	-100
Chatra	0.0	-100	0.0	-100	0.0	-100
Deoghar	0.0	-100	0.0	-100	0.0	-100
Dhanbad	0.0	-100	0.0	-100	0.0	-100
Dumka	0.0	-100	0.0	-100	0.0	-100
East Singbhum	0.0	-100	0.0	-100	0.0	-100
Garhwa	0.0	-100	0.0	-100	0.0	-100
Giridih	0.0	-100	0.0	-100	0.0	-100
Godda	0.0	-100	0.0	-100	0.0	-100
Gumla	0.0	-100	0.0	-100	0.0	-100
Hazaribagh	0.0	-100	0.0	-100	0.0	-100
Jamtara	0.0	-100	0.0	-100	**	**
Khunti	0.0	-100	0.0	-100	0.0	-100
Koderna	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	0.0	-100
Lohardagga	0.0	-100	0.0	-100	0.0	-100
Pakur	0.0	-100	0.0	-100	0.0	-100
Palamau	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	0.0	-100	**	**
Ranchi	0.0	-100	0.0	-100	0.0	-100
Sahebganj	0.0	-100	0.0	-100	0.0	-100
Saraikela	0.0	-100	0.0	-100	0.0	-100
Simdega	0.0	-100	0.0	-100	0.0	-100
West Singbhum	0.0	-100	0.0	-100	0.0	-100
<b>East Rajasthan</b>						
Ajmer	0.0	-100	0.0	-100	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	0.0	-100	0.0	-100



Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.0	-100	0.0	-100
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100
Sikar	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	0.0	-100
Udaipur	0.0	-100	0.0	-100	0.0	-100
<b>West Rajasthan</b>						
Barmer	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.0	-100	0.0	-100
Hanumangarh	0.0	-100	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-100	0.0	-100
Nagaur	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	0.0	-100	0.0	-100
<b>Gujarat Region</b>						
Ahmedabad	0.0	-100	0.0	-100	0.0	-100
Anand	0.0	-100	0.0	-100	0.0	-100
Aravalli	0.0	-100	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Broach	0.0	-100	0.0	-100	0.0	-100
Chhota Udepur	0.0	-100	0.0	-100	0.0	-100
DNH	0.0	-100	0.0	-100	0.0	-100
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	0.0	-100	0.0	-100	0.0	-100
Dangs	0.0	-100	0.0	-100	0.5	-81
Gandhinagar	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.0	-100
Mahisagar	0.0	-100	0.0	-100	0.0	-100
Mehsana	0.0	-100	0.0	-100	0.0	-100
Narmada	0.0	-100	0.0	-100	0.0	-100
Navsari	0.0	-100	0.0	-100	0.0	-100
Panchmahal	0.0	-100	0.0	-100	0.0	-100
Patan	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	0.0	-100	0.0	-100	0.0	-100
Surat	0.0	-100	0.0	-100	0.0	-100
Tapi	0.0	-100	0.0	-100	0.0	-100
Vadodara	0.0	-100	0.0	-100	0.0	-100
Valsad	0.0	-100	0.0	-100	0.0	-100
<b>S K &amp; Diu region</b>						
Amreli	0.0	-100	0.0	-100	0.0	-100
Bhavnagar	0.0	-100	0.0	-100	0.0	-100

Botad	0.0	-100	0.0	-100	0.0	-100
Devbhoomi Dwarka	0.0	-100	0.0	-100	0.0	-100
Diu	0.0	-100	0.0	-100	0.0	-100
Gir Somnath	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	0.0	-100	0.0	-100
Junagarh	0.0	-100	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	0.0	-100
Morbi	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100
<b>Maharashtra</b>						
<b>Konkan &amp; Goa</b>						
Mumbai City	0.0	-100	0.0	-100	0.0	-100
Mumbai Suburban	0.0	-100	0.0	-100	0.0	-100
North Goa	0.0	-100	1.3	-92	0.0	-100
Raigad	0.0	-100	0.0	-100	0.0	-100
Ratnagiri	0.0	-100	0.0	-100	0.0	-100
Sindhudurg	0.0	-100	0.8	-94	0.0	-100
South Goa	0.0	-100	1.4	-92	0.0	-100
Thane	0.0	-100	0.0	-100	**	**
<b>Madhya Maharashtra</b>						
Ahmednagar	0.0	-100	0.0	-100	0.0	-100
Dhule	0.0	-100	0.0	-100	0.0	-100
Jalgaon	0.0	-100	0.0	-100	0.0	-100
Kolhapur	0.0	-100	0.0	-100	0.0	-100
Nandurbar	0.0	-100	0.0	-100	0.0	-100
Nasik	0.0	-100	0.0	-100	0.0	-100
Pune	0.0	-100	0.0	-100	0.0	-100
Sangli	0.0	-100	0.0	-100	0.0	-100
Satara	0.0	-100	0.0	-100	0.0	-100
Solapur	0.0	-100	2.3	-73	0.0	-100
<b>Marathwada</b>						
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Beed	0.0	-100	0.0	-100	0.0	-100
Hingoli	0.0	-100	0.0	-100	0.0	-100
Jalna	0.0	-100	0.0	-100	0.0	-100
Latur	0.0	-100	0.0	-100	0.0	-100
Nanded	0.0	-100	0.0	-100	0.0	-100
Osmanabad	0.0	-100	0.0	-100	0.0	-100
Parbhani	0.0	-100	0.0	-100	0.0	-100
<b>Vidarbha</b>						
Akola	0.0	-100	0.0	-100	0.0	-100
Amraoti	0.0	-100	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100
Buldhana	0.0	-100	0.0	-100	0.0	-100
Chandrapur	0.0	-100	0.0	-100	0.0	-100
Gadchiroli	0.0	-100	0.0	-100	0.0	-100

Gondia	0.0	-100	0.0	-100	0.0	-100
Nagpur	0.0	-100	0.0	-100	0.0	-100
Wardha	0.0	-100	0.0	-100	0.0	-100
Washim	0.0	-100	0.0	-100	0.0	-100
Yeotmal	0.0	-100	0.0	-100	0.0	-100
<b>Odisha</b>						
Angul	0.0	-100	5.2	-45	4.9	-33
Balasore	0.0	-100	66.8	112	56.9	199
Bargarh	0.0	-100	0.0	-100	0.2	-93
Bhadrak	0.0	-100	30.3	0	56.8	176
Bolangir	0.0	-100	0.0	-100	0.0	-100
Boudh	0.0	-100	0.0	-100	0.0	-100
Cuttack	0.0	-100	10.9	-28	20.5	-13
Deogarh	0.0	-100	0.0	-100	0.0	-100
Dhenkanal	0.0	-100	8.5	-47	11.4	-37
Gajapati	0.0	-100	2.2	-63	18.1	-56
Ganjam	0.0	-100	1.4	-95	17.1	-57
Jagatsingpur	0.0	-100	5.8	-82	83.1	123
Jajpur	0.0	-100	16.3	1	34.5	56
Jharsuguda	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	1.9	-91
Kendrapara	0.0	-100	12.6	-22	84.7	84
Keonjhar	0.0	-100	12.1	0	3.3	-71
Khurda	0.0	-100	3.7	-82	11.5	-60
Koraput	0.0	-100	0.0	-100	0.8	-94
Malkangiri	0.0	-100	91.4	631	1.0	-57
Mayurbhanj	0.0	-100	23.6	33	8.9	19
Nawapara	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.0	-100	0.1	-98
Nayagarh	0.0	-100	3.6	-74	2.5	-93
Puri	0.0	-100	0.7	-98	63.2	106
Rayagada	0.0	-100	4.6	-37	0.2	-99
Sambalpur	0.0	-100	0.9	-86	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.0	-100	0.2	-95	0.1	-98
<b>West Bengal &amp; Andaman Nicobar Islands</b>						
<b>A &amp; N ISLAND</b>						
Nicobar	89.0	49	18.4	-72	71.8	-11
North & Middle Andaman	86.6	89	110.2	103	91.2	47
South Andaman	70.1	36	95.0	51	63.3	-8
<b>GWB</b>						
Bankura	0.0	-100	5.1	-54	0.0	-100
Birbhum	0.0	-100	0.5	-96	0.0	-100
Burdwan	0.0	-100	2.8	-72	0.0	-100
East Midnapore	0.0	-100	38.5	21	67.9	630
Hooghly	0.0	-100	20.4	112	12.4	226
Howrah	0.0	-100	38.4	215	37.2	155



Kolkata	0.0	-100	28.9	57	64.3	684
Murshidabad	0.0	-100	2.9	-78	0.0	-100
Nadia	0.0	-100	13.7	0	17.3	541
24 Pargana (N)	0.0	-100	43.0	110	29.5	220
Purulia	0.0	-100	0.7	-92	0.0	-100
24 Pargana (S)	0.0	-100	11.5	-70	37.9	44
West Midnapore	0.0	-100	24.9	108	3.8	-44
<b>SHWB &amp; Sikkim</b>						
Cooch Behar	0.0	-100	0.0	-100	0.0	-100
Darjeeling	0.0	-100	0.0	-100	0.0	-100
East Sikkim	0.0	-99	0.0	-100	0.0	-100
Jalpaiguri	0.0	-100	0.0	-100	0.0	-100
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	**	**	0.0	-100	**	**
North Sikkim	2.1	-95	0.0	-100	0.0	-100
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	0.0	-100	0.0	-100	0.0	-100
West Sikkim	**	**	**	**	**	**
<b>Karnataka</b>						
<b>Coastal Karnataka</b>						
Dakshina Kannada	0.0	-100	20.2	-51	0.0	-100
Udupi	0.0	-100	8.4	-78	0.0	-100
Uttara Kannada	0.0	-100	2.1	-90	0.1	-99
<b>NI Karnataka</b>						
Bagalkote	0.0	-100	0.3	-98	0.0	-100
Belagavi	0.0	-100	0.3	-98	0.0	-100
Bidar	0.0	-100	0.0	-100	0.0	-100
Dharwad	0.0	-100	0.2	-99	0.0	-100
Gadag	0.0	-100	0.0	-100	0.0	-100
Haveri	0.0	-100	0.0	-100	0.0	-100
Kalaburgi	0.0	-100	3.4	-73	0.0	-100
Koppal	0.0	-100	0.0	-100	0.0	-100
Raichur	0.0	-100	0.0	-100	0.0	-100
Vijayapura	0.0	-100	1.9	-87	0.0	-100
Yadgir	0.0	-100	1.3	-94	0.0	-100
<b>SI Karnataka</b>						
Ballari	0.0	-100	3.0	-84	0.0	-100
Bangalore Rural	0.0	-100	10.3	-60	0.0	-100
Bangalore Urban	0.0	-100	2.9	-88	0.0	-100
Chamarajanagar	0.0	-100	3.9	-87	1.3	-94
Chikaballapur	0.0	-100	5.5	-80	1.8	-90
Chikkamagaluru	0.0	-100	4.2	-85	0.0	-100
Chitradurga	0.0	-100	0.2	-99	0.0	-100
Davangere	0.0	-100	0.0	-100	0.0	-100
Hassan	0.0	-100	16.5	-42	0.0	-100
Kodagu	0.1	-99	21.8	-33	1.0	-96
Kolar	0.0	-100	6.0	-78	0.0	-100
Mandya	0.0	-100	5.9	-78	0.0	-100
Mysuru	0.0	-100	17.9	-24	0.0	-100

Ramanagara	0.0	-100	7.6	-73	0.0	-100
Shivamogga	0.0	-100	0.2	-99	1.2	-92
Tumakuru	0.0	-100	1.8	-93	0.0	-100
<b>Kerala</b>						
Alappuzha	74.6	-3	42.6	-43	18.7	-69
Kannur	0.0	-100	16.0	-68	8.2	-72
Ernakulam	34.0	-49	84.2	36	37.8	-21
Idukki	17.6	-79	37.7	-41	9.5	-84
Kasaragod	0.0	-100	22.1	-50	0.0	-100
Kollam	26.6	-68	123.9	44	99.3	32
Kottayam	45.1	-39	55.6	-19	52.6	-17
Kozhikode	4.6	-93	13.5	-78	7.0	-85
Malappuram	16.3	-74	24.8	-60	6.7	-84
Palakkad	6.2	-90	38.9	-37	21.6	-58
Pathanamthitta	19.8	-78	86.7	10	108.3	61
Thiruvananthapuram	12.8	-81	14.6	-77	23.2	-64
Thrissur	14.7	-77	46.7	-29	2.5	-94
Wyand	0.0	-100	23.5	-36	0.0	-100
<b>Tamil Nadu</b>						
Ariyalur	3.2	-94	53.0	30	16.4	-75
Chennai	0.0	-100	32.2	-60	37.6	-63
Coimbatore	2.5	-94	43.5	6	11.6	-77
Cuddalore	2.3	-97	31.2	-44	8.4	-91
Dharmapuri	0.0	-100	1.2	-96	3.4	-90
Dindigul	41.0	-9	44.8	2	23.2	-59
Erode	23.8	-38	5.6	-84	12.5	-71
Kanchipuram	0.0	-100	7.0	-89	7.7	-91
Kanyakumari	9.7	-86	36.2	-37	35.6	-51
Karikal	0.0	-100	36.0	-63	79.4	-54
Karur	7.8	-78	14.9	-49	4.9	-89
Krishnagiri	0.0	-100	7.4	-76	1.1	-95
Madurai	62.3	28	37.2	-25	9.0	-84
Nagapattinam	8.0	-90	32.1	-56	51.5	-57
Namakkal	9.5	-72	2.0	-93	3.3	-91
Nilgiris	0.9	-98	14.4	-72	12.6	-80
Perambalur	7.8	-84	50.3	29	22.8	-53
Puducherry	0.0	-100	11.1	-85	2.9	-98
Pudukottai	21.1	-45	39.8	15	9.5	-77
Ramanathapuram	35.0	-36	27.0	-53	30.0	-52
Salem	6.7	-84	5.9	-83	0.6	-99
Sivaganga	22.6	-55	32.4	-27	5.5	-90
Thanjavur	18.9	-60	29.5	-36	17.1	-77
Theni	30.0	-33	14.7	-69	17.0	-67
Tirunelveli	17.8	-65	32.9	-37	31.7	-54
Tirupur	36.8	-1	51.0	54	27.2	-40
Tiruvallur	0.0	-100	14.1	-78	14.1	-81
Tiruvannamalai	0.0	-100	0.5	-99	4.4	-91
Tiruvarur	4.9	-92	39.0	-23	28.6	-68
Toothukudi	25.0	-48	31.6	-33	23.2	-61

Trichy	31.8	-13	25.3	-26	1.3	-97
Vellore	0.0	-100	5.6	-83	3.1	-91
Villupuram	0.5	-99	3.1	-92	7.0	-88
Virudhunagar	12.4	-73	1.6	-97	27.3	-54
<b>Andhra Pradesh</b>						
<b>Coastal Andhra Pradesh</b>						
East Godavari	0.0	-100	6.4	-77	9.8	-57
Guntur	0.0	-100	1.2	-96	0.5	-98
Krishna	0.0	-100	6.3	-76	1.3	-95
Nellore	0.0	-100	29.9	-64	6.1	-93
Prakasam	0.0	-100	10.2	-79	0.0	-100
Sirkakulam	0.0	-100	8.6	-74	36.9	17
Visakhapatnam	0.0	-100	22.1	-2	2.5	-86
Vizianagram	0.0	-100	10.6	-43	2.0	-89
West Godavari	0.0	-100	11.1	-60	0.3	-99
<b>Rayalaseema</b>						
Anantapur	0.0	-100	1.6	-91	0.1	-99
Chittoor	0.0	-100	5.8	-86	4.5	-88
Cuddapah	0.0	-100	1.1	-96	1.1	-96
Kurnool	0.0	-100	2.0	-87	0.0	-100
<b>Telangana</b>						
Adilabad	0.0	-100	0.0	-100	0.0	-100
Hyderabad	0.0	-100	4.7	-59	0.0	-100
Karimnagar	0.0	-100	0.5	-95	0.0	-100
Khammam	0.0	-100	3.0	-73	0.0	-100
Mehabubnagar	0.0	-100	0.0	-100	0.0	-100
Medak	0.0	-100	0.0	-100	0.0	-100
Nalgonda	0.0	-100	4.7	-66	0.0	-100
Nizamabad	0.0	-100	0.0	-100	0.0	-100
Rangareddy	0.0	-100	2.4	-78	0.0	-100
Warangal	0.0	-100	13.6	18	0.0	-100

Legends

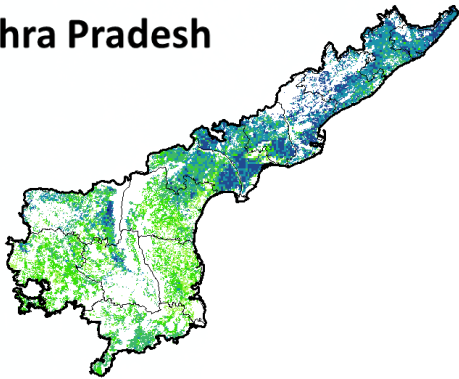
	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall	**	Data not available



Annexure II

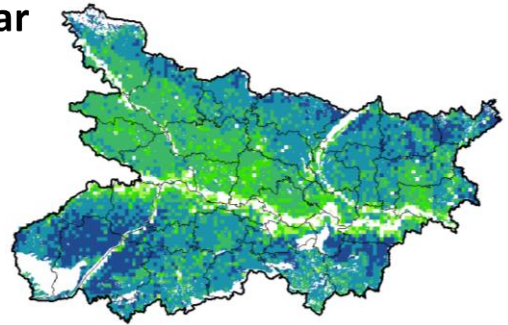
NOAA/AVHRR NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON  
10<sup>th</sup> November 2016 FOR DIFFERENT STATES

**Andhra Pradesh**



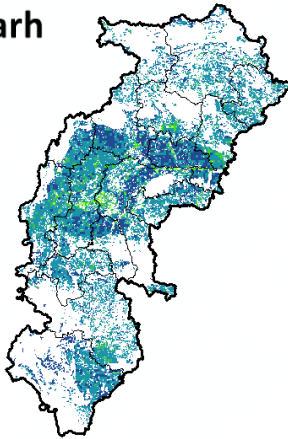
Agriculture vigour is moderate over central and southern part whereas, northern parts show good to very good NDVI in the state of Andhra Pradesh.

**Bihar**



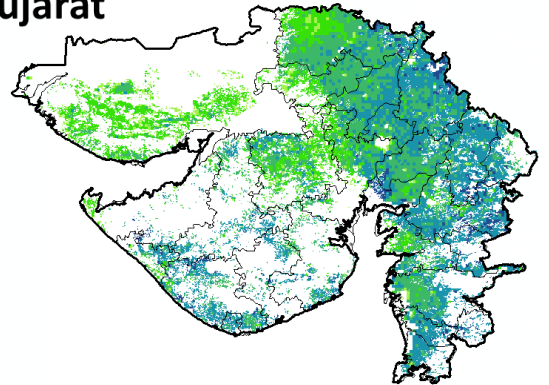
Agriculture vigour is moderate over central parts of Bihar whereas southern and patches in northern part shows good to very good NDVI values.

**Chhattisgarh**



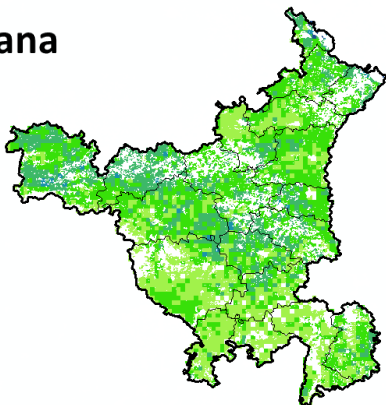
Agriculture vigour is good in southern region whereas, very good vigour is seen in central and northern region of Chhattisgarh.

**Gujarat**



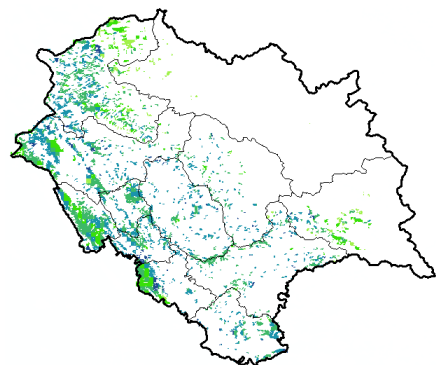
Moderate NDVI values are observed in patches in Kutch region whereas, good to very good NDVI is observed in Saurashtra and Gujarat.

**Haryana**



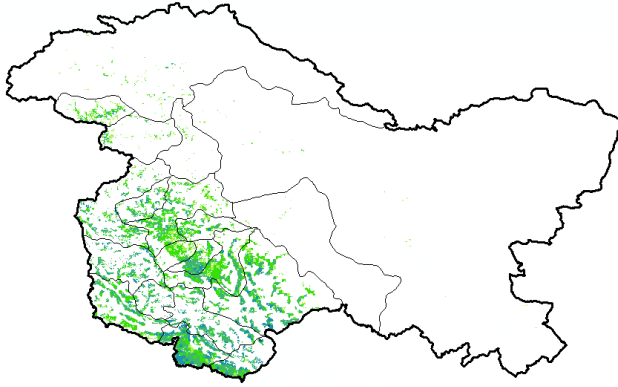
Moderate agriculture vigour is observed over entire state of Haryana.

**Himachal Pradesh**



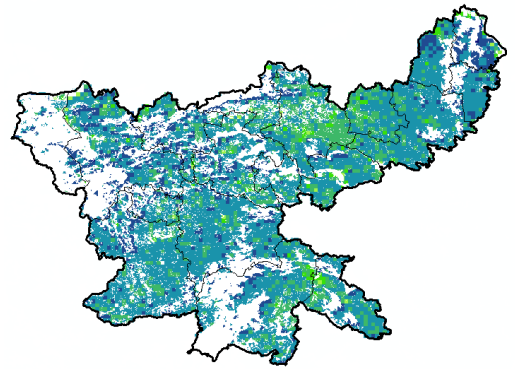
Agriculture vigour is moderate to good over few patches of Himachal Pradesh.

### Jammu & Kashmir



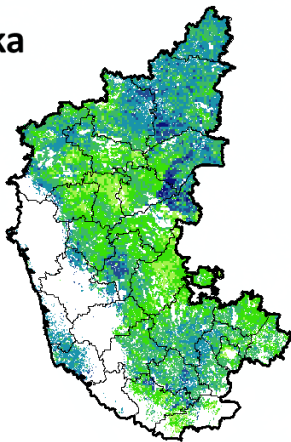
Agriculture vigour is moderate over entire state of Jammu & Kashmir.

### Jharkhand



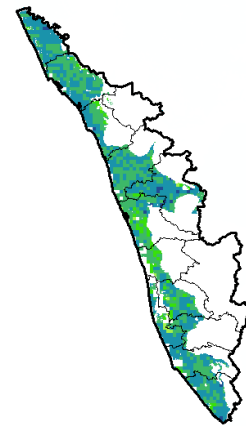
Agriculture vigour is very good over few patches in central region of Jharkhand whereas, remaining states shows good NDVI values.

### Karnataka



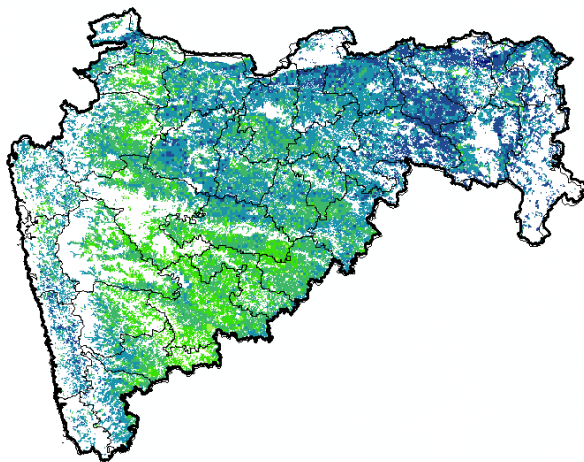
Agriculture vigour is moderate over patches in central region of the state whereas good vigour is observed in the northern and patches in southern regions.

### Kerala



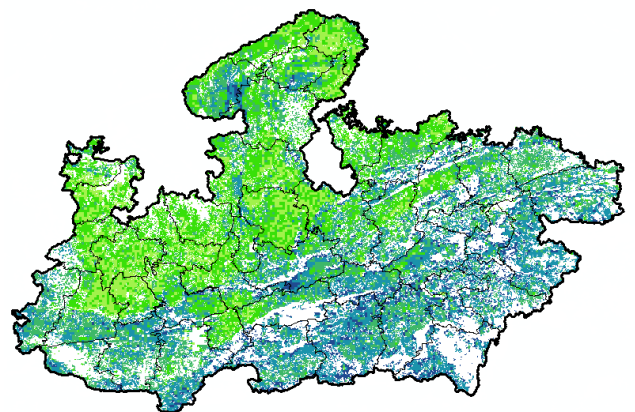
Agriculture vigour is good over entire state of Kerala except central part which shows moderate NDVI values.

### Maharashtra



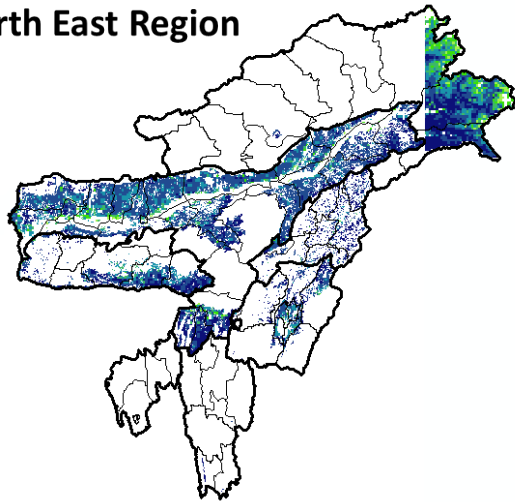
Agricultural vigour is moderate over central Maharashtra whereas, good to very good vigour is observed in the north and eastern regions.

### Madhya Pradesh



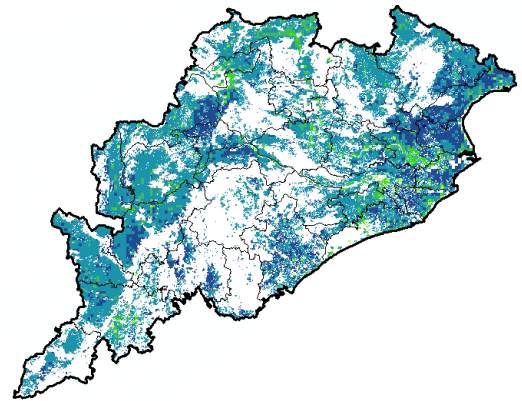
Agriculture vigour is moderate over patches in eastern and northern region of the state of Madhya Pradesh whereas, good & very good vigour is observed over central, western and southern region.

### North East Region



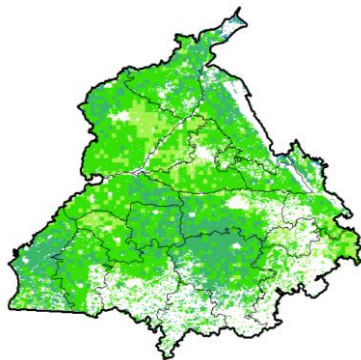
Agriculture vigour is good & very good over north-east states of country.

### Odisha



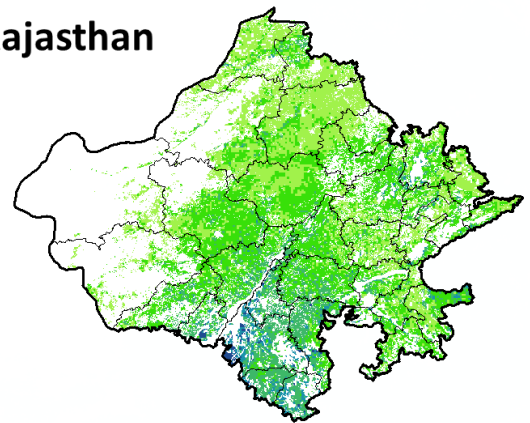
Agricultural vigour is moderate over few patches in coastal region of Odisha whereas, good to very good vigour is observed in entire state.

### Punjab



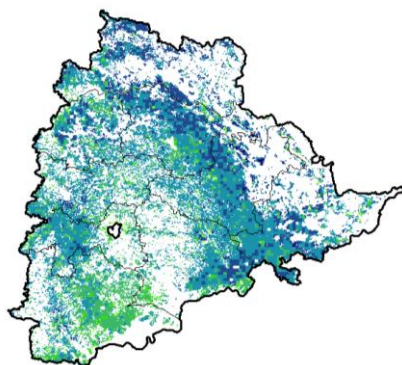
Agricultural vigour is moderate over entire state of Punjab.

### Rajasthan



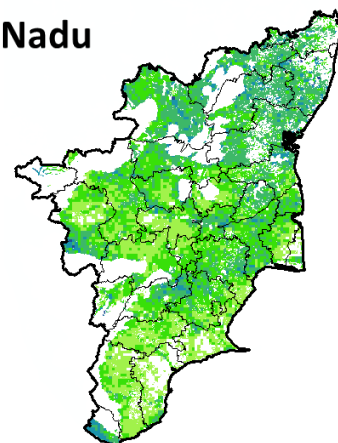
Agriculture vigour is moderate over western and northern Rajasthan whereas, good vigour is observed over southern region.

### Telangana



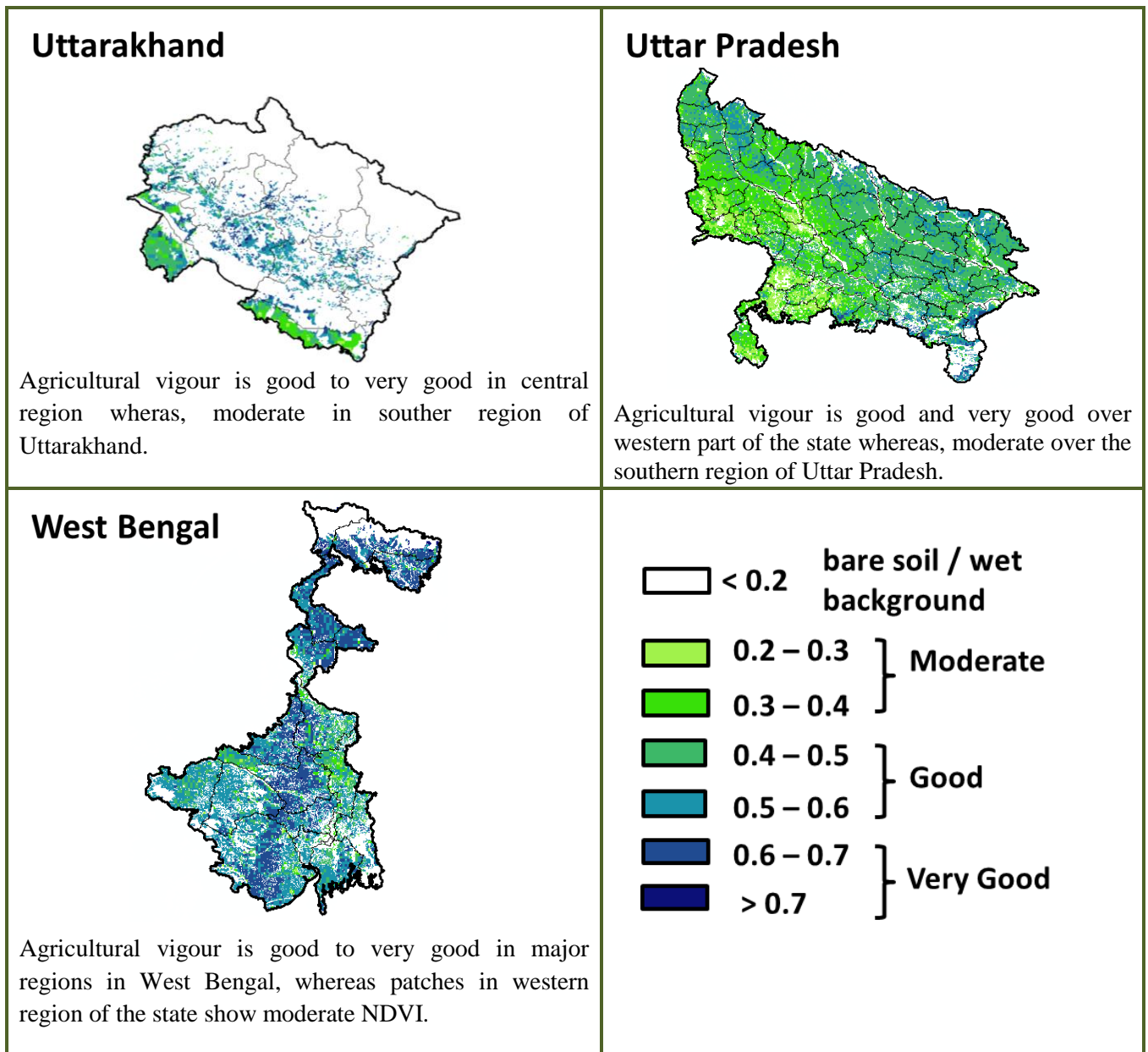
Agriculture vigour is good to very good over entire state of Telangana whereas, moderate vigour is observed in patches in the southern region.

### Tamil Nadu



Agricultural vigour is good in patches in northern part of Tamil Nadu, whereas rest of the part shows moderate NDVI.





\* For New Delhi NOAA/AVHRR NDVI COMPOSITE Map is not available due to some problem in data set.

### Annexure III

- Assam**
- Okra:** Pusa Sawani, Arka Anamika, Parbhdani Kranti.
- Cauliflower :** Early Kunwari, Pusa Ketki, Pusa Dipali.
- Winter brinjal:** Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samra.
- Pumpkin:** Arke Suryamukhi, Arka Chandan.
- Radish :** Pusa Desi, Pusa Chetki.
- Tomato :** Punjab Chuhara, S-12, Punjab Kesri, Pusa Early Dwarf, Sioux, Pusa Ruby, VC- 48-1, Arka Abha (BWR-1), Arka Alok (BWR-5), BT-1, Bilahi-1, Bilahi-2).
- Brinjal :** Cluster, Barbengena, JC-1, Kuchia, Pusa Kranti, Pusa Purple Long (for long varieties).  
Pusa Purple Round, Pusa Vairab, JC-2, BWR-12 (round varieties).
- Potato :** Kufri Chandramukhi, Kufri Jyoti, Kufri Megha, Kufri Badshah, Kufri Sindhuri.
- Onion :** Pusa Red, Pusa Ratnar, Pusa white (Round), Pusa white (Flat), N-53, Agrifound Light Red, Punjab Red Round, Pusa Madhuri, Arka Niketan.
- Cauliflower :** Early Kunwari, Pusa Katki and Pusa Deepali (for early maturity).  
Improved Japanese, Pusa Synthetic, Pusa Snowhall (for mid maturity).  
Snowball-16, Pusa Snowball, K-1 and Hissar 1 (for late maturity)etc.
- Cabbage :** Golden Acre, Pride of India, Pusa Mukta (Sel – 8) (for early maturity).  
Drum Head and Eclipse Drum Head (for late maturity).
- Knol-Khol :** White Vienna (for early maturity).  
Purple Vienna (for late maturity).



### Manipur

**Pea** :Arkel.

### Tripura

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

**Cauliflower**: CFL- 4048, Pusa early synthetic, Kamaya, Suhasihi.

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

**Broccoli**: Everest, Ayeshwaria.

### Odisha

**Green pea**: Rachana, Arkel. and T -163.

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

### Bihar

**Pigeon pea**: Bahar, Pusa-9, Narendra Arher-1, Rajendra Arher-1 and Maalvia-13.

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

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

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

**Niger** : Deomali

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

### Jharkhand

**Mustard**: Shivani, Varuna, Pusa bold, Kranti, Pusa jaikisan , Vardan etc.

**Potato**: Kufri Ashoka, Kufri Pukhraj, Kufri Lalima, Kufri Pushkar and Kufri Kanchan.

**Toria**: BR-23,T.-9, P.T. 303, Panchali and Bhavani.

**Gram**: KAK-2, ICC-2, HK94-134(Kabuli) and Pusa 256, Pusa 372, Pant G-114, KWR 108, ICC 37.

**Lentil**: P.L.- 406, P.L.-639, D.P.L.-15, D.P.I.- 62 etc.

**Green pea**: Arkel or Azad pea.

**Wheat**: HDR-77, K-8027, C-306, Birsa genhu – 3 etc. HDR-77, K-8027, C-306, Birsa genhu – 3 etc.

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

### West Bengal

**Coconut**: Eastcoastal, Hazari

**Banana**:Mortoman, Chapa, Kathali, Singapuri,

**Mustard**:Varuna, Sita and Bhagirathi.

**Jute** : Chaitali, Basudev, Naveen, Sonali, Sobujsona, Shyamali etc.

**Cabbage** :Pride of India, Pusa early, Kranti.

**Cauliflower** : Jawhar moti, Bharat Jyoti, Early banaras.

### Uttarakhand

**Wheat**:HS-562, VL-616, VL-829, VL-802, VL-802

**Onion**:VL-Pyaj-3,Nasik Red,Pusa Red

**Pea**: Vivek 10, Vivek 11, Pant 3,

**Radish**:Meenu early, Japanese white, PusaHimani.

**Carrot**:Pusa Vrishi,

**Rai**:Varuna, Rohini, Krishna, Kanti, Vardan, Vaibhav, Basanti, Narendra, Early rai-4, Urvashi and varieties **Yellow Mustard**: Ragini,

Binoy (B-9), Pant peeli Sarso-1.

### Jammu and Kashmir

**Wheat**: PBW-175, PBW-396, RSP-81(Jitto).

**Pea**: AP-1, Bonnevillea, Rachna and Arkel

**Chickpea**: K-468, Gourav

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

**Berseem**: Vardan, mascavi, pusa giant, BL-1

**Potato**: Kufri Badshah, K.Sinduri, K.Chipsona & K.Sona

**Gram**: C-235, Gaurav, K-468, SCS-3, PBG-1

**Toria**: RSPT-1 and RSPT-2

### Himachal Pradesh

**Cauliflower**: snowball and Giant snowball.

**Radish**:Japanese white, Chinese pink and mino early white

**Turnip**: PTWG-1

**Carrot**:Pusakesar

**Peas** :Mater ageta-6 (early variety).

**Cabbage**:Pride of India, golden achor and hybrid

### East Uttar Pradesh

**Turmeric:** Kasturi, Paspu, Amlapuram, Madhukar, Sugna, Rajendra

**Ginger** -suprabha, suruchi, surbhi and Himgiri

**Urad Bean:** Pant U-19, Azad URD-1, KU 91-2, Shekhar-1, KU-301

**Arahar:** Bahar, Amar, Narendra Arahar-1,2, pusa-2001, pusa-991, pusa-992, parasmanak, UPAS 120.

**Moong:** Type-27, 56

**Toria:** TA-9, Bhawani, PT-30, PT-507, TA-36, PT-303.

**Potato:** Kufarichandramukhi, Kufarisadabahar, or KufriAshoka.

**Mustard:** Narendra ageti, rai-4, Varuna ( T59), Basti ( Pili), rohini, Maya, Narendra swarna-rai-8(pili), Narendra rai ( NDR-8501), vaibhav.

**Kabuli gram:** chamatkar, Puse-1003, Subhra as good varieties.

**Pea:** Rachna, Pantmatar-5, Aparna Malviya Matar-2, Malviya Matar-15, Shikha and Sapna are good varieties.

**Radish:** kalyanpur No.1, Pusa Rashmi, Hisar selection-1, Japani Safed, pusa Chetaki, Pusa Himani, Pusa deshi, Arka Nishant and Jaunpuri.

### West Uttar Pradesh

**Barseem:** V.L.1, V.L.10, maskavi, jai, K-8027, K-9565, Mandakini.

**Baby corn:** M.H.-4.

**Toria:** bhavani

**Mustard:** Urvashi, Rohini, Maya, Giriraj, Vardan, Vaibhav

**Linseed:** Parvati, sharda, Padmini

**Vegetable pea:** Azad-3, Aakril

**Gram:** Zaki-9218, KGD-1168, KWR-108, Uday

**Pea:** KPRM-522, KPRM-400, Vikas, Prakash

**Lentil:** DPL-62, Malika

### Punjab

**Sugarcane:** CoJ-85, CoJ-83, CoJ-64 (early maturing), COH-119, CoJ-88, CoS-8436 for and CoJ-89, CO118, COJ85, COJ64.

**Onion:** Punjab Naroya, Punjab White and PRO 6.

**Radish:** Punjab Pasand and Japanese white.

**Turnip:** L-1.

**Carrot:** Punjab Black Beauty, Punjab Carrot Red and PC-34.

**Tomato:** TH-1, Punjab Ratta, Punjab NR 7, Punjab Chhuhara, Punjab Upma, Castle Rock.

**Okra:** Punjab-8 and Punjab-7

**Cauliflower:** Pusa Snow Ball-1, Pusa Snow Ball K-1

**Wheat:** PBW 725, PBW 677, HD-3086, WH 1105, PBW 621, HD 2967.

**Kabuli gram:** L 552, L 550 & BG-1053.

**Raya:** RLC3, PBR 357, PBR 210, RLC-1, , RLM-619, PBR-91

**Gram:** C 235, HC 5

un-irrigated/rainfed (HC 1)

### Delhi

**Wheat:** H.D. 2687, H.D. 2851, H.D. 2894, H.D. 2967, H.D. 3086, D.B.W.-17

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

**Pea:** Pusa Pragati, Arkel, Azad Matar-3, Pant Matar-3 and Bournville.

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

### East Rajasthan:

**Sorghum:** CSH-6, CSH-9, CSV-10, CSV-15.

TG37-A, DH-86, Pratap Mungfali-1.

**Maize:** Aravali Makka-1, Pratap Makka-1, Pratap Makka-5, Pratap Hybrid Maize-1, Pratap Hybrid Maize-2 and bio-9637.

Hybrid varieties are-MahiDhawal, PEHM- 2, Pratap Hybrid Maize-1, Pratap Makka-3, Pratap Makka-5, Bio-9637, Bio-9681, Pratap HQPM-1, Pratap Hybrid Maize-3, Pratap Makka-9

Ageti-76, Bassi Selected, MahiKanchan

**Greengram:** RMG-62, RMG-268. RMG-492 & RMG-344, IPM-02-3.

**Cowpea:** FS-68, RC-19 and RC-101.

**Moth:** RMO-40, IPCMO-912, RMO-257, RMO-225, RMO-435 (Vikash) (improved varieties)

**Pea (early):** Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6 improved varieties.

**Cauliflower:** Pusa snow ball K-1, Hisar-1, Dania and Selection-7 are improved varieties.

**Carrot:** Pusa Keshar is improved variety.

**Mustard:** Pusa jai kisan, RH-30, Pusa bold, Laxmi, kranti.

**Radish:** Japanese white & hill queen.

### West Rajasthan

**Bhindi:** Ark Anamika, varshauphar, Parbhanikranti, pusamakhmali.

**Groundnut:** HNG-123, HNG-69, ICHG-00440, HNG-10, TG-37 A, Girnar-2, R.G.-425, GG-20, TG-39.

**Narma cotton:** R.S.T.-9, R.S.-810, R.S.-2013, Bikaner narma, R.S.875, Maru Vikas ( Raj. H.H.16)

**BT Narma cotton:** M.R.C.H.6304, M.R.C.H.6025, R.C.H.650, Bioseed-6588, Bioseed-6488, R.C.H.-314, J.K.C.H. 1947, M.R.C.-7017 ( BG-II) or N.E.C.H.6.

**Gram:** c-235, RSG-44, GNG-663( vardan), RSG-888

GNG-469( samrat), GNG\_1581(gangour), for kabulichana-GNG-1499(gouri) and GNG-1292

**Mustard:** RGN-13, RGN-73, Laxmi, Pusa bold, RGN-298, RGN-229, RGN-48, barni (timely sowing) RGN-145, RGN-236 ( for late sowing)

**Radish:** Japanese white & hill queen.

### Madhya Pradesh

**Wheat:** (Irrigated- JW 1203, 1215, HI 1544).

Non irrigated- JW 3288, 3173. HI-1500, HI- 1531, HW-2004, JWS-17.

**Gram:** JG 130, JG 218, JG 11, JG 16,JG 6, JG 315, RVJ 202, JAKI-92-18, RVG-201, RVG-203.

**Garlic:**G 282, 223.

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

**Mustard:** Pusa Jaikisan, RH-749, RH-406, IJ-31, NRCHB-101, RVM- 1, RVM-2.

### Chhattisgarh

**Mustard:**Shiwani, Varuna, Pusa Bold, BR-40.Mustard.

**Toria:**Indira toria-1, Pant toria-30 & T-9.

### Maharashtra

**Jowar :**Maldandi (M-35 – 1), SPV-655, SPV-839, Phule Yashoda, Parbhani Moti, Swati.

**Wheat:** NIAW-301 (Trimbak), NIAW-917 (Tapovan), NIDW-295 (Godavari), Late sowing- NIDW-15 (Panchavati), NIAW- 1495, NIAW-5439, MACS-1967, Ajinta.

For irrigated- NIAW-34, Tapovan, Godavari, Trimbak and PBN – 51.

### Gujarat

**Wheat:** Lok-1, GW-496, GW -503, GW -273, GW -322.

**Mustard:** Gujarat Mustard 1, 2, 3, 4, Varuna.

**Chick pea:** Gujarat chana-2 (Unirrigated), Gujarat chana-3 (irrigated), Dahod Yellow, Chaffa.

**Maize:** Ganga safed -2, GM -6.

**Cumin:** Gujarat cumin-1, GC-2, GC 3 or MC-43.

**Garlic:** Gujarat Garlic-4 or Local, GG- 2,3,4, G-41, 50, 282.

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

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

**Coriander:** Gujarat Coriander-1, Gujarat Coriander-2.

**Pea:** Pusa Pragati.

**Carrot:** Pusa Rudhira, Pusa Kesar.

**Fenugreek:** Gujarat Fenugreek -1.

### Karnataka

**Sorghum:** DSH-4, M-35-1, Muguthi, DSV-4, DSV-5,Maldandi , CSV-29R, SPV-2217, BJV-44.

**Safflower :** A-1, A-2, S-144.

**Sunflower:**Morden, KBSH-1,41,44 & 52.

**Cowpea:** KBC-1, 2.

**Ragi:** GPU 26,45, 48, Indaf 7,9, 15.

**Field bean:** Hebbal Avare-3, 4.

**Rabi sorghum:** Maldandi Muguthi, DSV-4, DSV-5, BJV-44 varietyor Hybrid-DSH- 4, M 35-1 Muguthi, CSV-29R, SPV-2217.

**Chickpea:** A-1, GBS-964, JG-11, BGD-103, GB-1105, Annigeri-1, ICCV-10, BG-1105, JG-1, KAK-2, Vishal.

**Wheat:** DWR-162, DWR-225, DWR-415, 185, 195, DWR-2006, DWR-1006, DDK-1001, DWR-137, HD-2189, UAS-304, 428.

**Niger :**KBN-1, No.71, RCR-18.

**Sugarcane:** CO-86032, 740, 671.

### Andhra Pradesh

**Sorghum:**CSH-9,CSH-13,CSH-14,PSV-15,PSV-19

**Bajra:**ICTP 8203,PBH 3

**Korra:**Prasad, Krishnadevaraya, Narashimharaya, Srilakshmi, Surya nandi

**Cowpea:** C 152 GC3 C0-4 CO-5

**Sunflower:**NDSH1 KBSH1 KBSH 44 DRSH 1

**Green gram:**LGG 407 LGG 450 LGG 460 MGG 295 ML 267, LGG 410, TM 96-2.

**Field bean:**TFB-1 TFB-5

**black gram:** LBG-752, LBG-20, T-9, LBG-623, PU-31, LB-402, LBG-709 and LBG-787.

**Bengal gram:** JG-11, LBEG-7, JG-130. Nadyal-1 and swetha.

### Tamil Nadu

**Samba rice:**CR 1009 and ADT 50.

### Telangana

**Cotton:**American Cotton varieties,Desi Cotton varieties (G. arboreum. L and G. herbaceum. L, Intra/Inter – specific Cotton hybrids,Bt. cotton.