



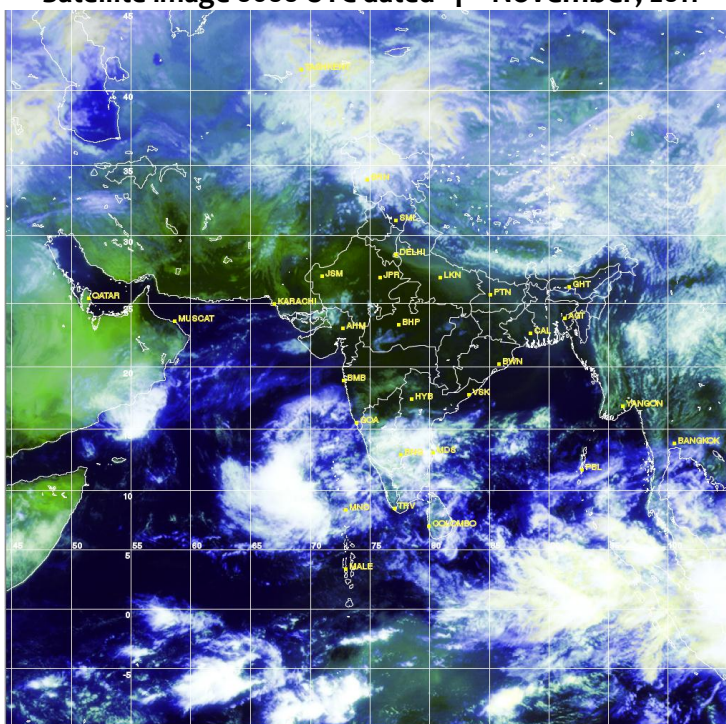
# National Agromet Advisory Bulletin

## Thursday, 3<sup>rd</sup> November, 2011

(For the period 3<sup>rd</sup> to 7<sup>th</sup> November, 2011)



Satellite image 0600 UTC dated 4<sup>th</sup> November, 2011



### Issued by

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

The bulletin is also displayed in the website (<http://www.imdagrimet.gov.in>) of the Division

## Executive Summary

The northeast monsoon remained active over Tamil Nadu and Kerala with isolated very heavy falls over Tamil Nadu. Due to continuous rainfall in Tamil Nadu, harvesting operations of rice and other *kharif* crops including vegetable crops were delayed. There are also reports of seed germination in fields of matured rice crops in some parts of Kanyakumari district of Tamil Nadu. In rice nursery, due to continuous flooding, Zinc deficiency is noticed in few areas in South Tamil Nadu; foliar spray of 2% ZnSO<sub>4</sub> twice with an interval of 15 days is advised to overcome the yellowing in leaves due to Zinc deficiency. As excess rainfall occurred in most of the districts of Tamil Nadu, arrange for draining out excess water from the fields and undertake land preparation and sowing of rainfed *rabi* crops *viz.*, sorghum, maize, pearl millet, cotton etc.

Harvesting of *virippu* rice was delayed in upper Kuttanad area of Kerala due to continuous rainfall. Heavy rainfall would occur at one or two places over south coastal Andhra Pradesh and Tamil Nadu and Kerala during next 48 hours. Farmers are advised to arrange for draining out water as early as possible, in order to avoid further delay in harvesting and damage to matured crops.

As dry weather prevailed over most parts of the country, farmers are advised to undertake harvesting of matured *kharif* crops. In the areas where late sowing of *kharif* crops was undertaken, arrange for supplementary irrigation as the crops are now at critical stages for irrigation. After harvesting of *kharif* crops, undertake minimum tillage for preserving residual soil moisture and sowing of *rabi* crops.

Due to favourable weather condition, farmers are advised to undertake land preparation and sowing of wheat, gram, toria, pea, potato, lentil and linseed in Madhya Pradesh, niger, horse gram, ramtil, toria and kulthi in Chhattisgarh, gram, wheat and green pea in Madhya Maharashtra, cowpea and kulthi in Konkan, maize and mustard in Gujarat, mustard, green pea and wheat in Orissa, gram, mustard and toria in Jharkhand, garlic, brinjal, cauliflower, niger, wheat, rapeseed and mustard etc. in Assam, rapeseed, mustard, pea etc. in Nagaland.

Due to prevailing weather, incidence of pod borer in pigeon pea and powdery mildew in sunflower in Karnataka, leaf spot in ginger and turmeric in Mizoram, internode borer in sugarcane, leaf folder and brown plant hopper in *samba* rice in Tamil Nadu is noticed below economic threshold level. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases.

## Distribution of rainfall of the country during last week

State/Districts	Actual (mm)	% dep.
<b>Arunachal Pradesh</b>		
Changlang	0	-100
East Kameng	10.8	83
East Siang	0.6	-92
Lohit	0.9	-90
Lower Subansiri	15	131
Papumpara	14.5	-28
Tawang	33	230
Tirap	9.2	5
Upper Siang	5.2	-35
Upper Subansiri	0.2	-98
West Kameng	33.5	235
West Siang	**	**
<b>Assam</b>		
Baska		
Barpeta	12.7	92
Bongaigaon	25.6	306
Cachar	0	-100
Chirang	15	138
Darrang		
Dhubri	0	-100
Dibrugarh	0.8	-94
East Garo Hills	0	-100
East Khasi Hills	14.3	-45
Goalpara	0	-100
Golghat	9.1	-49
Hailakandi	0	-100
Jaintia Hills	3	-94
Jorhat	11.1	-18
Kamrup (metropolitan)	0	-100
Kamrup	12.4	27
Karbi Analog	0.2	-96
Karimganj	0	-100
Kokrajhar	0	-100
Lakhimpur	2.4	-75
Morigaon	20.8	160
N.C.Hills	0	-100
Nowgong	5.5	-42
Nalbari	3	-71
Ribhoi	61.6	250
Sonitpur	8	-20
Sibsagar	1	-95
South Garo Hills	**	**
Tinsukia	7.3	-19
Udalgiri	21.6	213
West Garo Hills	**	**
West Khasi Hills	**	**
<b>West Bengal</b>		
<b>SHWB</b>		
Cooch Behar	0	-100
Darjeeling	8.7	-8
East Sikkim	11.8	5
Jalpaiguri	6	13
Malda	0	-100
North Dinajpur	0	-100
North Sikkim	26.9	65

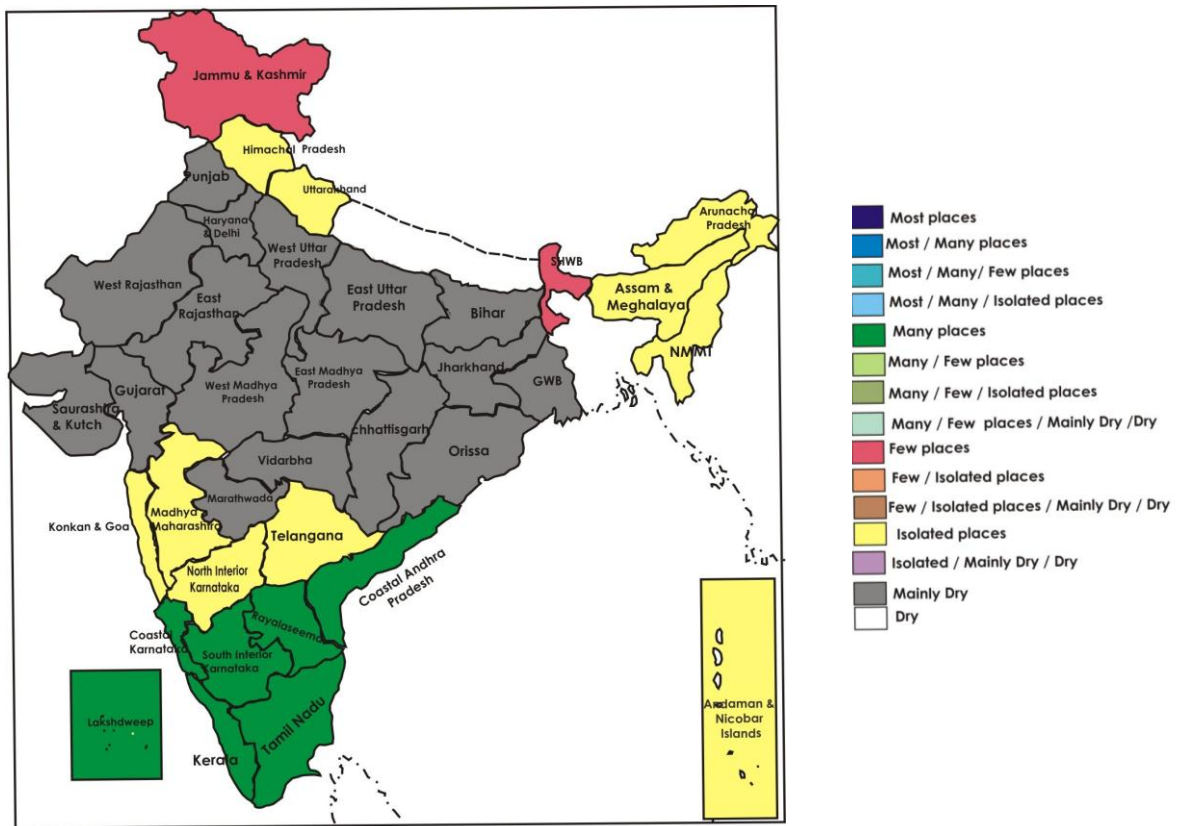
South Dinajpur	0	-100
South Sikkim	1.5	-87
West Sikkim	4	-75
<b>Karnataka</b>		
<b>Coastal Karnataka</b>		
Dakshin Kannada	79.2	91
Udupi	66.3	74
Uttar Kannada	25.2	16
<b>North Interior Karnataka</b>		
Bagalkote	4.2	-72
Belgaum	6.1	-62
Bidar	0.4	-95
Bijapur	5.2	-64
Dharwad	4.2	-74
Gadag	5.9	-55
Gulbarga	5.2	-58
Haveri	11.7	-26
Koppal	10.0	-36
Raichur	8.3	-37
Yadgir	9.8	-52
<b>South Interior Karnataka</b>		
Bangalore Rural	16.6	-35
Bangalore Urban	33.2	36
Bellary	24.1	26
Chamarajnanagar	29.7	1
Chichballapur	48.4	79
Chickmagalur	50.6	81
Chitradurga	36.5	121
Davangere	18.9	5
Hassan	33.7	19
Kodagu	26.8	-18
Kolar	37.5	37
Mandya	28.5	9
Mysore	16.9	-28
Ramnagara	34.7	23
Shimoga	20.5	12
Tumkur	34.3	39
<b>Kerala</b>		
Alappuzha	118.7	59
Kannur	81.4	65
Ernakulam	87.8	41
Idukki	50.6	-21
Kasaragod	58.1	48
Kollam	136.9	59
Kottayam	99.5	44
Kozhikode	89.9	45
Malappuram	94.9	53
Palakkad	105.2	71
Pathanamthitta	70.6	-11
Thiruvananthapuram	123.8	93
Thrissur	103.7	58
Wyanad	32.5	-12
<b>Tamil Nadu</b>		
Chennai	169.5	108
Coimbatore	91.1	123
Cuddalore	189.8	241
Dharmapuri	63.2	105
Dindigul	140.3	220

Erode	52.4	47
Kanchipuram	158.2	154
Kanyakumari	152	163
Karur	65.7	127
Krishnagiri	55.4	79
Madurai	99.2	100
Nagapattinam	209.6	189
Namakkal	45.4	52
Nilgiris	100.1	97
Perambalur	96.3	147
Puducherry	332.6	348
Pudukottai	97.2	182
Ramanathapuram	137.3	138
Salem	94	172
Sivaganga	105.4	137
Thanjavur	103.6	126
Theni	130.5	178
Tirunelveli	161.1	210
Tiruvallur	101.4	60
Tiruvannamalai	57.2	43
Tiruvarur	135.8	168
Toothukudi	158.8	236
Trichy	78.1	127
Vellore	53.9	63
Villupuram	110.9	170
Virudhunagar	99.5	103
<b>Andhra Pradesh</b>		
<b>Coastal Andhra Pradesh</b>		
East Godavari	99.5	-72
Guntur	24	-14
Krishna	21.2	-21
Nellore	165.8	99
Prakasam	74.2	53
Sirkakulam	0	-100
Visakhapatnam	3.6	-84
Vizianagram	1.1	-94
West Godavari	6.3	-78
<b>Telangana</b>		
Adilabad	0	-100
Hyderabad	0	-100
Karimnagar	0	-100
Khammam	0	-100
Mehabubnagar	0.4	-96
Medak	2.9	-71
Nalgonda	0.7	-95
Nizamabad	0	-100
Rangareddy	5.5	-49
Warangal	0	-100
<b>Rayalaseema</b>		
Anantapur	33.1	85
Chittoor	71.1	75
Cuddapah	35.9	23
Kurnool	6.7	-59

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

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

## Weather Forecast (Valid upto 1430 hours of 6<sup>th</sup> November, 2011)



### Major Feature of Weather Forecast upto 1430 hours IST of 6<sup>th</sup> November, 2011

- Rain/thundershowers would occur at many places over Tamilnadu, Kerala, Lakshadweep, Rayalaseema, south coastal Andhra Pradesh, coastal and south interior Karnataka and at one or two places over Andaman & Nicobar Islands and remaining parts of south peninsular India.
- Rain/snow would occur at a few places over Jammu & Kashmir and at one or two places over Himachal Pradesh and Uttarakhand.
- Rain/thundershowers would occur at a few places over SubHimalayan West Bengal & Sikkim and at one or two places over northeastern states, south Konkan & Goa and south Madhya Maharashtra.
- Mainly dry weather would prevail over remaining parts of the country.
- The minimum temperatures are likely to remain above normal by 25°C over many parts of northwest and central India during next 2 days and would decrease by 23°C thereafter.

### Weather Warning

- Heavy rainfall would occur at one or two places over south coastal Andhra Pradesh, Tamilnadu, Kerala and Lakshadweep during next 48 hours.

### Weather Outlook up to 1430 hours IST of 8<sup>th</sup> November, 2011

- Rain/thundershowers would occur at many places over extreme south peninsular India.
- Rain/thundershowers would occur at a few places over northeastern states, Sub-Himalayan West Bengal & Sikkim.

## Zonewise Agromet Advisories

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

- **Realised Rainfall:** No significant rainfall occurred in most of the districts of the State.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over the states of the region during the period.
- **Advisory**
  - As there was no significant rain during last couple of weeks in most of the districts of the States of the region and no significant rainfall is likely to occur during the period, farmers are advised to apply irrigation to standing crops.
  - In Assam, farmers are advised to complete sowing of onion, garlic, tomato, radish. Continue sowing of niger, wheat, rapeseed and mustard etc.
  - Farmers in Karbi Anglong region in Assam are advised for coconut planting in low lying areas with irrigation facility by sub- surface planting method.
  - In Lower Bramhaputra Valley Zone of Assam, farmers are advised to start harvesting of jute where crop is at small pod stage.
  - As there is no significant rain during last couple of weeks and there is no possibility of significant rain, farmers are advised to apply light and frequent irrigation at 10-15 days interval to broccoli crop in Mild Tropical Hill Zone of Nagaland.
  - Farmers in Mid Tropical Plain Zone of Tripura are advised to undertake land preparation and planting of potato tuber.
  - Farmers in Arunachal Pradesh are advised to start land preparation and sowing for *rabi* crops like maize, pea, mustard etc. and transplanting of vegetables.
  - Farmers in Mid Tropical Hill Zone in Nagaland are advised to undertake sowing of *rabi* crops like rapeseed, mustard, pea etc.
  - Farmers in Tripura are advised for transplanting of cole crops and tomato.
  - Farmers of Sub tropical Plain Zone of Manipur are advised to continue for preparation of bed for raising nursery of tomato, onion, cabbage, cauliflower etc.
  - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
  - In Central Bramhaputra Valley Zone in Assam, there is attack of gundhi bug in panicle initiation stage of *Sali* rice; to control the attack, apply Malathion 5% dust @ 20 kg / ha.
  - In Hill Zone of Assam, there is chance of infestation of stem borer in *sali* rice; farmers are advised to monitor the crop and spray Chloropyriphos (20%) @ 2 ml / litre of water to control the attack.
  - In Kolasib region of Mizoram, weather is favourable for infestation of leaf miner in Khasi Mandarin; monitor the crop and spray Imidacloprid @ 0.05% to control the attack.
  - In Kolasib region of Mizoram and Mid Tropical Plain Zone of Tripura, there is attack of leaf spot on ginger and turmeric; spray Blitox or Blue copper @ 3 g / litre of water to control the attack.
  - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
  - The farmers in Lower Bramhaputra Valley Zone of Assam are advised to vaccinate cattle, goat and pigs against BQ, HS, Foot and mouth disease and anthrax disease.
  - Deworm pigs / piglets regularly in Mizoram and Tripura.
  - In Nagaland, poultry farmers are advised to take measures against coccidiosis using coccinil plus, Amprolium, supercox with vitamin and mineral supplement. Litter material should be dry and clean.

- In Manipur, cattle farmers are advised to de-worm and vaccinate cattle against Black Quarter, poultry against Ectoparasites, Coccidiosis, Ranikhet, Gumboro, pig and goat against Endoparasites, FMD, Ectoparasites etc.

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

- **Realised Rainfall:** No significant rain occurred in most of the districts of the States of the region during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at a few places over Sub-Himalayan West Bengal & Sikkim and mainly dry weather will prevail over remaining parts of the region during the period.
- **Advisories:**
  - As there is no significant rain during last couple of weeks in most of the districts of the States of the region, farmers are advised to apply irrigation to the standing crops.
  - Undertake sowing of oilseed crops like mustard in Western Undulating Zone of Orissa utilizing residual soil moisture.
  - Farmers are advised for sowing of cole crops and sunflower in the fallow uplands. The weather is also optimum for sowing of fodder oat in irrigated up-medium and medium land in East and South Eastern Coastal Plain Zone of Orissa.
  - Taking the advantage of relatively dry weather, harvest the pods of *kharif* green gram and black gram in Orissa.
  - In East and South Eastern Coastal Plain Zone of Orissa, it is optimum time for sowing of green pea, mustard, wheat etc. in the fallow uplands.
  - As weather is likely to be dry, farmers in North Bihar and South Bihar Alluvial Zone are advised to undertake weeding / hoeing and top dressing of urea in early transplanted cauliflower, chilli, brinjal, tomato etc. Weeding and earthing-up should also be carried out for newly planted fruit trees as well as old ones. Undertake sowing of oilseeds, rabi pulses, potato etc.
  - In North West Alluvial Zone of Bihar, farmers are advised to prepare the land in upland areas for sowing of rapeseed.
  - As the temperature condition is favourable, farmers in the districts of north Bihar are advised to continue sowing of yellow sarson (mustard). Farmers are also advised to carry out land preparation and sowing of other *rabi* crops in these districts.
  - Farmers in Central, Western and North Eastern Plateau Zone of Jharkhand are advised to continue sowing of toria, niger, bell peper, green pea, tomato, cabbage, cauliflower, capsicum, potato etc.
  - Farmers in Central Plateau Zone of Jharkhand are advised to grow African marigold or French marigold.
  - In Western Plateau Zone of Jharkhand, farmers are advised to sow mustard and toria after harvesting of *kharif* crops. It is the time for sowing of winter vegetables like cauliflower, cabbage, chilli, tomato etc. Farmers are advised to raise the seedlings of these vegetables.
  - Farmers in South Eastern Plateau Zone of Jharkhand are advised to undertake sowing of green pea in fallow medium land.
  - Farmers in South Eastern Plateau Zone of Jharkhand are advised to undertake sowing of Chick pea.
  - Farmers in Red and Lateritic Zone of West Bengal are advised to undertake sowing of carrot, radish etc.
  - Famers in New and Old Alluvial Zone of West Bengal are advised to undertake harvesting of *aman* rice. As clear sky is expected for next five days over these zones,

undertake final land preparation of brinjal and tomato. Also undertake land preparation of mustard and potato using the stored soil moisture and carry out sowing of seeds.

- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- Cool and high humid weather condition may favour the spreading of false smut disease in late transplanted rice in South Eastern Plateau Zone of Jharkhand; spray Tilt @ 1 ml per litre of water. Clear sky with cool and high humid condition may also favour gundhi bug infestation in rice; spray Chlorpyrifos 20 EC @ 0.6 litre per acre or Carbaryl 50 percent WP @ 1 g or Carbaryl 5 percent dust @ 10 kg per acre during dusk or evening time. In late transplanted rice crop, attack of case worm is noticed; spray Chlorpyrifos 20 EC @ 0.6 litre per acre.
- Infestation of spotted boll worm is reported in cotton in East and South Eastern Coastal Plane Zone of Orissa; spray 200 LE HNVP along with gur, if it crosses the ETL level of 5 – 10 % of affected twigs and install pheromone trap in the middle of the field at 1 ft above the crop height.
- As the weather condition is warm day and cool night, there is a possibility of downy mildew in cucumber in Terai Zone of West Bengal. To manage the disease spray Mancozeb @ 2 g / litre or Metalaxyl 8% and Mancozeb 64% @ 1-1.5 g / litre of water.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
  - In North Eastern Plateau Zone of Orissa, due to the climatic conditions, infestation of liver flukes are common in animals which reduces the milk yield and fertility in animals; to prevent from this infestation do deworming in animals.
  - In North Central Plateau Zone of Orissa, clean the shed and deworm the animals.
  - Newly born baby goats should be prevented from morning and evening cold waves and also deworming should be done to all animals in South Eastern Plateau Zone of Jharkhand.

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

- **Realised Rainfall:** Mainly dry weather prevailed over the region during last week.
- **Rainfall Forecast:** Rain/snow would occur at a few places over Jammu & Kashmir and at one or two places over Himachal Pradesh and Uttarakhand during next three days. Mainly dry weather would prevail over remaining parts of the region.
- **Advisory:**
  - As there was no significant rainfall in most of the districts over the region during last week, apply irrigation to the standing crops.
  - In view of present dry weather, farmers in Delhi are advised to undertake harvesting of rice crop. Present weather is favourable for sowing of mustard, pea, *rabi* onion, garlic, potato, gram, lentil, sarson saag, radish, carrot, spinach, fenugreek, coriander, turnip and oat, barseem for fodder. Transplant mature seedlings of cauliflower, cabbage, broccoli, tomato, chrysanthemum and marigold and sowing of gladiolus. Nursery preparation may be started for late crops.
  - As weather is expected to be dry in coming days, farmers in Punjab and Haryana are advised to complete harvesting of paddy, matured *khari* crops i.e. sugarcane and start picking of cotton. Present weather is favourable for sowing of wheat, kabuli gram (except in humid areas of Gurdaspur, Hoshiarpur and Ropar districts in Punjab), oil seeds like raya, African sarson, gobhi sarson, vegetables like mid season pea, radish, carrot, turnip and leafy vegetables, lucerne and oats, senji, barseem for fodder. Complete planting of sugarcane and start transplanting of main season varieties of cabbage and cauliflower. Prepare nursery bed for sowing of tomato.

- In Sub Tropical Zone of Jammu & Kashmir, farmers are advised to go for sowing of barley, early variety of wheat under rainfed and irrigated area with available soil moisture. Also advised for sowing of mustard, pulses, vegetable crop like radish, carrot, turnip, garlic, spinach and methi and immediate sowing of berseem. Undertake transplanting of cauliflower, knol khol, broccoli, winter lettuce, chinese cabbage and beet leaf in green house in cold arid zone of Leh. Farmers are also advised to go for harvesting of mosambi, sweet lime and late apple varieties due to avoid loss due to sudden fall in temperature. Irrigation to the orchard at 15 days interval is advised to avoid desiccation due to autumn / winter winds.
  - Farmers in Himachal Pradesh are advised to sow vegetables (raddish, turnip, corriander, cabbage, knol khol, broccoli, parsley, lettuce, fenel and cauliflower), potato, wheat and gobhi sarson.
  - In Uttar Pradesh, farmers are advised to undertake sowing of barley, oat, masur, sarson, barley, potato, chickpea, pea, rajmash and berseem during this week as the temperature will remain favourable for sowing and also advised to sow wheat before 15<sup>th</sup> of November. In harvested rice fields, plough the field for breaking the hard layers and clods for improving the soil tilth for sowing of *rabi* season crops.
  - Farmers in Bhabar and Tarai Zone of Uttarakhand are advised to continue harvesting & threshing of matured rice. Due to favourable temperature conditions for sowing of potato, barley, oats, berseem as green fodder, undertake sowing of these crops. Farmers in Sub humid sub tropic of Uttarakhand are advised to sow potato, mustard, grams, linseed, barley, berseem, lentil, oats and potato, also advised to irrigate all *rabi* vegetables like coriander, fenugreek, tomato, spinach, radish and carrot. Transplanting of cabbage, cauliflower and tomato may be done within this week. Intercultural operations in tomato may be undertaken.
  - In Ranchuri hill zone of Uttarakhand, farmers are advised to sow irrigated and non-irrigated wheat, Jai, masoor, green pea, gram, sarson, fodder makka. In bharbar and tarai zone of Uttarakhand, farmers having irrigation facilities are advised to give light irrigation in vegetable crops like vegetable pea, coriander, spinach, radish, fenugreek etc. as per the soil moisture deficit and crop need during this week. Also, it is advised to complete sowing of the crops during this week. Undertake weeding in earlier sown garlic and onion and apply irrigation.
  - Farmers in Rajasthan are advised to prepare land for sowing of wheat, barley, potato, cumin, raising nursery for seedling of autumn vegetables viz. tomato, brinjal, cauliflower, cabbage, radish etc., sowing of mustard, gram, oat, fenugreek, lucerne, toria, taramira, alsi, opium poppy and coriander.
  - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandary**
    - In western zone of Punjab (Bhatinda), farmers are advised to deworm regularly the calves with piperazine liquid (4ml/kg body weight) first at 15 days of age, then 7 days later twice and then on 3 months of age and then 3 months after upto 1 year of age. Animals should come in heat in this month. For this watch the animals regularly in the morning and evening for heat symptoms. Because of scarcity of green fodder during this month, give silage to the animals along with mineral mixture @ 50 g per animal per day and common salt @ 20 g per animal per day. Protect young calves from cold weather by providing dry bedding and clothing (Jhull).
    - In Punjab, during hot and humid climate may lead to conditions of ring worm & other Problems in animals so farmers are advised to keep the animals clean and dry also protect wounds from flies to avoid maggots' infestation.



- In Uttarakhand, vaccinate the animals for various diseases as they are more prone to diseases in this weather. For the control of cough use piperazine citrate @50-30 ml/animal.

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

- **Realised Rainfall:** Nellore, Prakasam in Coastal Andhra Pradesh, Anantapur, Chittoor, Cuddepah in Rayalseema, Bangalore Urban, Chickballapur, Chickmagalur, Chitradurga, Hassan, Kolar, Ramanagara, Tumkur in South Interior Karnataka and most of the districts in Kerala, Tamil Nadu and Coastal Karnataka, received good rainfall. No significant rainfall was received in remaining parts of the region.
- **Rainfall Forecast:** Fairly wide spread rain/thundershowers is likely to occur in the region. Heavy rainfall would occur at one or two places over south coastal Andhra Pradesh, Tamilnadu, Kerala and Lakshadweep during next 48 hours.
- **Advisories:**
  - Good rainfall occurred in most of the districts of Tamil Nadu and Kerala during last week. Farmers are advised to undertake land preparation and sowing of crops. Drain out excess water from the fields to avoid water stagnation. Postpone sowing of crops at the time of heavy rainfall.
  - Harvesting of *virippu* rice was delayed in upper Kuttanad area of Problem Area Zone of Kerala and heavy losses were incurred due to continuous rainfall. Farmers are advised to arrange for draining off water as early as possible, in order to avoid further delay.
  - As there was sufficient rainfall in Nellore, Prakasam in Coastal Andhra Pradesh, Anantapur, Chittoor, Cuddepah in Rayalseema, Bangalore Urban, Chickballapur, Chickmagalur, Chitradurga, Hassan, Kolar, Ramanagara, Tumkur in South Interior Karnataka and most of the districts in Kerala, Tamil Nadu and Coastal Karnataka, postpone irrigation to the crops. Apply irrigation to the crops in the remaining parts of the region.
  - As light rainfall is expected for coming four days, farmers in the Eastern Dry Zone of Karnataka are advised to protect the matured crop from adverse rains, keep channels clean to dry excess water from the crop fields, protect the crops like finger millet and other crops from lodging by tying 5 or more and spray fungicide & pesticide when ever sunny dry condition prevails
  - Farmers in the North East transition zone of Karnataka are advised to harvest paddy as early as possible.
  - Farmers in the Coastal Zone of Karnataka are advised to postpone the harvesting of paddy as rain is expected in the coming few days.
  - Since rainfall is expected in next five days over Cauvery Delta Zone of Tamil Nadu, application of fertilizers in Samba paddy fields may be postponed and fertilizer application may be done after the rain is over. Drain the excess water from the paddy fields and apply Acephate 250g/acre or Profenophos 400ml/acre since there is chance of increasing black bug population due to continuous rain.
  - Farmers in the North Western Zone of Tamil Nadu are advised to go in for cultivation of good fodder crops like Cumbu Napier fodder grass, multi-cut fodder sorghum, high protein Hedge Lucerne (8kg/acre) and tree fodders like Agathi, Subabul and Gliricidia since North east monsoon is expected to be active in this zone.
  - Since there is heavy rainfall in the High Rainfall Zone of Tamil Nadu, farmers are advised to arrange for drainage facility for all crops.

- Pod borer was noticed in the pigeon pea crop in North East Transition Zone of Karnataka. Farmers are advised to spray profenophos 2 ml or Thiodicarb 0.6g or Methomyl 0.6g per litre of water if the crop is in 25-50 % flowering, neem based insecticide @ 2ml per liter of water and NPV 0.75 ml per liter of water if the pod borer is big in size for effective control of pod borer.
- Powdery mildew has been noticed in early sown sunflower crop in the Hill Zone of Karnataka. Farmers are advised to spray 1 g. Carbandizeme dissolved in one liter of water to control it.
- Occurrence of leaf folder and BPH incidence are being noticed in the samba paddy fields in the Cauvery Delta Zone of Tamil Nadu due to prevailing weather condition. For the management of leaf folder, apply Cartop hydrochloride 4 G at 6 kg/acre mixed with equal quantity of sand or choloripyriphos 400 ml/acre. For BPH control, Imidacloprid at 40 ml/acre. may be sprayed.
- Incidence of internode borer incidence is noticed in sugar-cane in the Southern Zone of Tamil Nadu. Release *Trichogramma chilonis* egg parasitoid @ of 1.0 /release/acre for six times with two weeks interval to control it.
- Undertake plant protection measures after spells of rain.

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

- **Realised Rainfall:** Mainly dry weather prevailed over the States of the region during last week.
- **Rainfall Forecast:** Mainly dry weather will prevail or isolated rain will occur over the states of the region during the period.
- **Advisoriees**
  - As mainly dry weather prevailed during last week and no significant rain is expected during the period over the States, farmers are advised to apply irrigation to the standing crops.
  - Farmers in Madhya Maharashtra, Marathwada and Vidarbha region are advised to continue harvesting of black gram and soyabean crops. Farmers in Konkan and Madhya Maharashtra region are advised to continue harvesting of medium and late varieties of *kharif* rice. Farmers in East Vidarbha region are advised to start harvesting of rice. Farmers in the state are also advised to complete the harvesting of groundnut and jowar.
  - Farmers in Marathwada and Vidarbha region are advised to continue picking of fully opened cotton bolls.
  - Prevailing weather is favourable for the planting of pre-seasonal sugarcane crop. Farmers in Madhya Maharashtra and Marathwada region are advised to undertake planting of pre-seasonal sugarcane.
  - In view of prevailing weather farmers in Madhya Maharashtra and Vidarbha region are advised to undertake sowing of irrigated gram and wheat.
  - Farmers in Konkan region of Maharashtra are advised to undertake sowing of short duration crops like cowpea, wal, kulthi utilizing optimum moisture in the harvested rice field.
  - Prevailing weather is favourable for sowing of green pea in Madhya Maharashtra.
  - Farmers in Middle Gujarat Zone are advised to sow *rabi* maize @ 60 x 20 cm spacing. Also prepare land for wheat sowing. Start picking of cotton and castor during morning hours before evaporation of dew for better quality.

- Complete transplanting of cabbage, cauliflower in Bhal and Coastal Zone and Middle Gujarat Zone.
- Farmers in North Gujarat Zone are advised to carry out sowing of *rabi* crops like mustard.
- Suitable varieties of the crops for sowing are mentioned in Annexure II.
- Under prevailing dry weather, farmers in South Saurashtra Zone of Gujarat are advised to irrigate cotton and castor. Picking of cotton may be carried out.
- As dry weather is likely to prevail, farmers in North Saurashtra Zone are advised to apply second dose of urea @ 41 kg / ha in castor, if not applied. Apply irrigation and postpone intercultural operation after flowering stage.
- Farmers in South Gujarat Heavy Rainfall Zone are advised to apply regular irrigations in the *kharif* crops like castor. Carry out land preparation for *rabi* crops.
- As there was no significant rain during last few weeks and no significant rainfall is likely in South Gujarat Zone, South Gujarat Heavy Rainfall Zone, Bhal and Coastal Zone and North Gujarat Zone, farmers are advised to apply irrigation to sugarcane, cotton and vegetables crops.
- Present weather is favourable for infestation of *Helicoverpa* larvae at flowering and pod formation stage in red gram in Madhya Maharashtra. For control, spray Heliokil 200 ml per acre in 200 litres of water at an interval of 15 days.
- There may be incidence of thrips and blight on onion in Pune division. For control of thrips, spray Profenophos @ 10 ml or 25% Cypermethrin @ 5 ml or Carbosulfan @ 10 ml per 10 liters of water at an interval of 15 days. For control of blight, spray Mancozeb 0.25% or Carbendazim 0.1% or Chlorothalonil 0.25% in water at an interval of 15 days.
- Prevailing weather conditions are favourable for incidence of die back disease in mango in Madhya Maharashtra; spray Copper oxychloride @ 25 g in 10 litres of water. There may also be incidence of mango shoot borer and midge fly on new flush of mango in Konkan region of Maharashtra; spray Monocrotophos 36 WSC @ 11 ml per 10 litres of water.
- Infestation of gray mildew may occur in cotton in Central Vidarbha Zone; spray WS Sulphur @ 25 g or Tridemarf @ 7 ml / 10 litres of water.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
  - Farmers in Middle Gujarat Zone are advised to wash eyes by diluting a pinch of boric powder in warm water thrice daily in case of conjunctivitis of cattle.
  - For control of external parasites like ticks, spraying of cattle shed by using 1 to 1.5 ml neon per litre of water is advised. For control of fly and mosquito in cattle shed, spray Malathion dust and clean the shed frequently in Gujarat.
  - Farmers in North-West Zone of Gujarat are advised to give antibiotic R to B @ 0.5 ml to the poultry birds and antibiotic dose to the animals.

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

- **Realised Rainfall:** Mainly dry weather prevailed over the region.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the region.
- **Advisory:**
  - In view of favourable weather condition in Bundelkhand Zone of Madhya Pradesh, farmers are advised to prepare the sowing of wheat in irrigated areas and nursery

sowing of onion in raised bed system. In rainfed areas, farmers are advised to complete the sowing of mustard, chickpea and linseed with mixed crops in this week. Line sowing may be adopted for sowing and also treat the seed with fungicide there after use the rhizobium and PSB culture. Also there is possibility of fall in both maximum and minimum temperature, hence farmers are advised to sow local and early maturity wheat varieties in *rainfed* and havelli cultivation and also treat the seed with fungicide bavistin + thiram @ 1.5+1.0 g/kg .

- As there is possibility of dry weather and clear sky condition during this week, farmers are advised to start harvesting and threshing of the mature crops like soybean, moong and urd etc. and perform sun drying. Farmers are advised to sow potato, pea, chickpea and lentil in already prepared fields, and also considering the possibility of dry weather and decreasing moisture in fields, farmers are advised to apply irrigation in vegetable crops.
  - In Kymore Plateau and Satpura Hill Zones in Madhya Pradesh, temperature and soil moisture is optimum for sowing of *rabi* crops like chickpea, mustard, linseed and lentil and prepare nursery for vegetable crops like cauliflower and cabbage and transplant seedling in main field at optimum moisture level in the field.
  - Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised to sow early pea and potato, wheat, gram and lentil. Also farmers in Nimar Valley Zone are advised to sow wheat and gram.
  - Farmers in Jhabua Hill Zone of Madhya Pradesh are advised to sow toriya, kusum and unirrigated mustard crop and prepare nursery of onion.
  - Farmers in Malwa Plateau Zone of Madhya Pradesh are advised for sowing of potato and prepare nursery for onion, brinjal, chilli and tomato etc. Also under rainfed conditions, sowing of *rabi* crops should be done immediately after harvesting of soybean before losing of soil moisture. Mulching may be done to conserve the soil moisture.
  - Farmers in Vindhya Plateau Zone of Madhya Pradesh are advised to continue sowing of wheat gram and garlic.
  - Farmers in North Hill Zone of Chattisgarh are advised to sow wheat and sugarcane.
  - Farmers in Bastar Plateau Zone are advised for sowing of niger, kulthi (horse gram), toria, cauliflower and cabbage and prepare field for sowing of wheat, gram, mustard, linseed and lentil crops and nursery for *rabi* vegetables.
  - In Chattisgarh Plain Zone of Chattisgarh, farmers are advised to harvest the matured rice, soyabean and groundnut crop. Weather is favourable for proper germination of linseed and gram. Hence, farmers are advised for sowing of linseed and gram after the harvesting of soybean. Undertake sowing of nursery of cauliflower, tomato, brinjal, chilli etc. in a raised nursery of about 6 inch with proper drainage system. Also farmers are advised to sow potato and prepare nursery for cauliflower, tomato, brinjal and chilli.
  - Weather is favourable for blister beetle in vegetables crops in Bundelkhand Zone of Madhya Pradesh, farmers are advised to spray Trizophos 40 E.C @ 2.0ml per litres of water.
  - Weather is favourable for yellow mosaic disease in papaya in Malwa Plateau Zone of Madhya Pradesh, apply Rogar 30 EC @ 1-2 ml/liter or apply Confidor @0.33 ml/lit.
  - Weather is congenial for attack of aphids in the rice in Bastar Plateau Zone of Chattisgarh, spray Imidachloprid @ 0.5 ml per litre of water. If the rice crop is in milking stage, spray Hexakonazol or Propiconazole @ 2.5 ml per litre of water.
- **Animal Husbandry & Poultry**

- In view of decreasing night temperature in Bundelkhand Zone of Madhya Pradesh during the next 5 days, farmers are advised to provide appropriate light in poultry houses 3-4 hours during night otherwise, insufficient light may affect eggs production.
- Onset of winter is likely to be started due to which chances of spread of mouth and foot disease will be there. Hence, farmers are advised to do vaccination against the disease.
- As humid weather condition is prevailed in hence cattle should be kept in dry and clean places. Create neem leaves smoke in night to save them from mosquitoes and bees.

## Annexure I

### Major Crops

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

- Sugarcane (vegetative), *sali* rice (flowering / milk / dough), *boro* rice (nursery preparation / sowing), wheat, toria, linseed, tomato (sowing), early cauliflower (curd formation), cabbage and knoll khol (head formation), radish (maturity, harvesting), brinjal (early variety), country bean (vegetative / flowering), jute (for seed production) (small pod formation), winter vegetables (nursery bed preparation / sowing / transplanting / vegetative), black gram / green gram (flowering / grain formation), onion, garlic (sowing / planting), khasi mandarin (fruit maturity / harvesting) and niger, wheat, rapeseed and mustard, lentil, potato (land preparation / sowing) in Assam.
- Rice (Mipun cultivar) (grain filling / maturity), cabbage, cauliflower, knolkhol etc. (transplanting / vegetative), pea, mustard (sowing), ginger and turmeric (harvesting) and maize (sowing) in Arunachal Pradesh.
- *kharif* rice (grain filling / maturity), potato, pea (land preparation / sowing), rapeseed / mustard (sowing), tomato (nursery raising / transplanting), early cauliflower and cabbage (nursery sowing / transplanting / vegetative), onion (nursery raising), broccoli (nursery preparation), brinjal (flowering / fruiting) in Manipur.
- Arhar (pod formation), *sali* rice (milk / dough / maturity), *rabi* maize (vegetative / flowering), pea, garlic and lettuce (sowing), ginger and turmeric (late sown) (vegetative), *toria* (vegetative), groundnut (pod formation), onion (vegetative), potato (vegetative), *Khasi* mandarin (flowering / fruiting) and banana (vegetative), lentil, mustard, rapeseed (vegetative), broccoli (sowing), winter vegetable (sowing / transplanting / vegetative) in Meghalaya.
- Rice (harvesting), groundnut (pod formation), soyabean (pod formation), ginger and turmeric (rhizome formation / maturity / harvesting), *khasi* mandarin (fruiting / harvesting), banana (vegetative / fruiting / maturity / harvesting), cucurbits (flowering / fruiting / harvesting), cole crops and tomato (transplanting), pea, bean (vegetative) in Mizoram.
- Soyabean (pod formation), groundnut (pod formation), okra (flowering / fruiting), lowland rice (maturity / harvesting), banana (fruiting), colocasia (flowering), cabbage (transplanting), pea (vegetative), pigeon pea (pod filling), rapeseed-mustard (land preparation / sowing), *rabi* crops (sowing), broccoli (transplanting), mandarin (planting) and papaya (transplanting) in Nagaland.
- Lowland rice (flowering), *Aman* rice (flowering / milk), cucurbits and other vegetables (flowering / fruiting), ginger and turmeric (rhizome formation / harvesting), cole crops (sowing / vegetative), potato (land preparation / planting) in Tripura.

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

- Sugarcane (vegetative), rice (grain formation / maturity), *kharif* arhar (pod formation / seed formation), sorghum, jowar (grain formation / maturity), sesame (pod formation / seed formation / maturity), lobia for green fodder, mishrikand (vegetative), onion, radish (sowing), cauliflower (sowing), fruit trees (transplanting) and sweet potato (planting), mustard, toria (sowing) in Bihar.
- Rice (maturity / harvesting), Rice (late transplanted) (milk / dough), maize (grain formation / grain filling / maturity), pigeon pea (flowering / grain formation), pulses (urd bean, moong bean) (seed formation / maturity), groundnut (maturity / harvesting),

turmeric and ginger (vegetative / rhizome formation), elephant foot yam (tuber elongation), potato (land preparation / sowing), sweet potato (vegetative / stem elongation / harvesting), mustard, toria, green pea (sowing / vegetative), cauliflower, cabbage, chilli, tomato (transplanting), niger (sowing), papaya (transplanting), African or French marigold (sowing) in Jharkhand.

- Arhar (flowering / grain formation), maize (cob formation), papaya, marigold, tuberose (planting), cowpea (sowing / early vegetative), *kharif* vegetables (fruiting / harvesting), sugarcane (vegetative), *kharif* rice (grain formation / maturity), groundnut (seed formation / maturity), turmeric and ginger (planting / early vegetative), yam (sowing), green pea, wheat, mustard (sowing), green gram, black gram, niger, other pulses (seed formation / maturity), mango, banana, lemon, cashew nut and marigold (planting), sunflower (sowing), groundnut (land preparation / sowing) in Orissa.
- *Aman* rice (flowering / grain formation / harvesting), mango, coconut, guava, banana (planting) and *kharif* vegetables (flowering / fruiting / harvesting), winter vegetables (sowing / transplanting) in West Bengal.
- Large cardamom (new) (transplanting of suckers from nursery), Large cardamom (old) (capsule formation / grain maturity), *rabi* vegetables (sowing / nursery sowing / transplanting), orange (fruiting / maturity), ginger (late vegetative), rice (flag leaf initiation / flowering) and maize (harvesting) in Sikkim.

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

- Late sown rice (harvesting), early (lady finger, brinjal, tomato, chilli, cauliflower, cabbage, radish, spinach, coriander) (vegetative / fruiting), cucurbits crops (fruiting), lentil (pod formation), maize, hybrid cluster bean, baby corn, Pigeon pea (sowing/vegetative), green gram and black gram (flowering / fruiting), cotton (sowing), Sugarcane (sowing), guar, bajra (flowering/grain filling), soyabean (grain filling), *rabi* mustard, lentil, pea, garlic, potato, gram, fodder oats and berseem, sarson saag, *rabi* onion (sowing), cauliflower, cabbage, broccoli, tomato (transplanting) in Delhi.
- Wheat (sowing/transplanting), vegetables (sowing), garlic, ginger (planting), bhindi, (transplanting), cucurbits (transplanting), Khira, summer squash, bitter gourd, tur, brinjal, Shimla mirch, and tomato (transplanting), Apple (maturity), pomegranate (fruit development), ginger, arbi, amaranthus, turmeric, rice, maize, barley (sowing) in Himachal Pradesh.
- Wheat / barley (land preparation/sowing), Berseem (sowing / emergence), onion (seed bed preparation), winter vegetable crops viz. potato, radish, carrot, turnip, garlic, spinach, methi (sowing / vegetative / fruiting), cole crops viz. early cauliflower, cabbage, knoll khol, broccoli (field preparation/ nursery sowing), maize, bajra (maturity), rice (maturity / harvesting), *Rabi* oilseeds i.e. toria, gobi sarson (sowing / emergence / vegetative), *rabi* mustard, pulses (i.e. lentil, pea, fodder crops (oats) (land preparation/sowing) citrus, guava, apple (fruiting, apple – harvesting (Leh), mosambi, sweet lime (fruit ripening / harvesting), winter lettuce, chinese cabbage (transplanting in greenhouses in cold arid zone of Leh), Beet leaf (sowing / transplanting in green house in Jammu & Kashmir).
- Chilli, capsicum, cauliflower, broccoli (transplanting), lahi (flowering / fruiting), sugarcane (planting), rice (milking/maturity/harvesting), litchi, loquat, peach, citrus (flowering / fruiting), mango (early varieties) (flowering), maize (cob formation/cob maturity/harvesting), foxtail millet, okra, bottle gourd, bitter gourd, ginger, turmeric, (sowing / planting), toria, pea (sowing), papaya (planting), sorghum, pigeon pea, early

rabi vegetable pea, urd, potato, mustard and pearl millets(sowing), barley, fodder barseem, sarson(sowing) in Uttarakhand.

- Late sown rice (milking/maturity/harvesting), wheat, (sowing), winter sugarcane (vegetative growth / formative), summer sugarcane (initial growth / formative stage), cucurbits like gourd, bitter melon, cucumber, etc. and other vegetables like lady's finger, tomato, brinjal, chilli etc. (sowing / flowering/fruitlet), arhar, toria (sowing /early vegetative / flowering), tomato, brinjal, bhindi (vegetative / fruiting ), cabbage, garlic, cauliflower(sowing / transplanting), barseem, potato, sarson, maor, chick pea(sowing) in Uttar Pradesh.
- Rice (Irrigated area, Basmati) (grain formation/heading), rice ( maturity/ harvesting), spring sugarcane (sprouting), barseem (vegetative), sugarcane(maturity) / harvesting), Sugarcane autumn (sowing), cotton (boll maturity/picking), fodder lucerne, oats, senji (sowing), gram, potato, peas (sowing), radish, carrot, turnip, cauliflower (sowing/transplanting), Rape seed, mustard(sowing / emergence), wheat, barley, gram, lentil (sowing) in Punjab.
- Sugarcane (spring season) (planting/emergence/early vegetative / grand growth), barseem (vegetative), pulses, moong, mash, pigeon pea (vegetative), rice (maturity/ harvesting), cauliflower, cabbage, carrot, potato(transplanting, mustard (sowing / vegetative), sarson, raya, radish, turnip (sowing), wheat (sowing) in Haryana.
- Late sown rice (maturity / harvesting), narma cotton, desi cotton (flowering / boll formation/picking in Sriganaganagar), sweet potato, saunf (sowing), pearl millet, sorghum (vegetative / maturity / harvesting), moong, cowpea, urd (maturity / pod picking), early sown maize (harvesting), maize, soybean, chilli and cluster bean (vegetative), mustard, barley, wheat, sarson, gram, lentil, lucern, taramira, alsin, opium poppy, vegetables (potato, fenugreek, tomato, brinjal, cauliflower, cabbage, radish, carrot, rabi onion, phalak, green pea (land preparation/sowing) in Rajasthan.

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

- Samba / thaladi rice (transplanting / tillering), cotton (vegetative), vegetables (nursery / transplanting), sugarcane (vegetative/ grand growth/maturity), maize (sowing/vegetative), sorghum (vegetative), red gram (vegetative), pulses (vegetative), groundnut (pod development / maturity stage) in Tamil Nadu.
- Sugarcane (grand growth), cotton (boll development), hybrid jowar, maize (harvesting), ragi, sunflower (maturity), bengal gram (sowing / vegetative), red gram (bud initiation / flowering stage), rabi jowar (sowing), late planting paddy (maturity/ harvest), rabi sorghum, wheat and safflower (sowing), groundnut (harvest) and horticultural crops (vegetative growth/ flowering/ fruit development) in Karnataka.
- Maize (harvesting), jowar, cotton (boll formation/maturity), rice (tillering /panicle initiation), groundnut (pod development/ harvesting), bajra (harvesting), rabi pulses green gram, bengal gram(sowing) in Andhra Pradesh.
- Black pepper (harvesting), ginger (maturity/harvest), mundakan rice (transplanting /tillering), Rubber (tapping) in Kerala.

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

- Sugarcane (Adsali) (grand growth), sugarcane pre-seasonal (elongation / cane maturity), sugarcane (suru) (elongation), sugarcane (new adsali) (early vegetative), sugarcane (new pre-seasonal) (planting), *khariif* rice (grain maturity / harvesting), jowar



(grain maturity / harvesting), cotton (boll formation / boll maturity / picking), red gram (branching / flowering), *rabi* jowar (germination / early vegetative), safflower (germination / early vegetative), irrigated gram (sowing / germination), irrigated wheat (sowing / germination) in Maharashtra.

- *Kharif* bajra (harvesting), vegetables (flowering / fruiting / harvesting), sugarcane (vegetative), groundnut (maturity / harvesting), *kharif* pulses (flowering / grain formation / maturity / harvesting), *kharif* maize (harvesting), *rabi* maize (sowing), cotton (boll formation / maturity) , castor (flowering / capsule development), cluster bean, mustard, cauliflower, sweet corn (sowing) in Gujarat.

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

- Sugarcane (vegetative), vegetables (flowering/fruiting), moong, urad, maize, soybean, sesame, groundnut, jowar, groundnut, pigeon pea (maturity/harvesting), onion, brinjal, tomato and chilli etc. (vegetative), wheat, gram, toria(sowing), onion, garlic, tomato, brinjal, chilly( sowing/transplanting) in Madhya Pradesh.
- Rice (grain development / maturity), sugarcane (planting), groundnut, arhar, green gram and sesame (vegetative), ginger, turmeric, papaya, mango and guava (vegetative) cauliflower, potato (sowing), proper time for sowing/transplanting of tomato, brinjal, chilli, niger, horsegram, ramtil, toria, cauliflower, cabbage, niger, kulthi and wheat (sowing) in Chhattisgarh.

## Annexure II

### List of Varieties

#### Assam

**Boro rice:** Boro 1, Boro 2 , Mashuri, Proagro-6444 , KRH-2,IR-50, Dinanath, Bishnuprasad, Jyotiprasad, Kanaklata and Dinanath.

**Wheat:** Sonalika, UP 262, K 7410, WH 291.

**Toria:** M-27, TS-36, TS-38, TS-47.

**Linseed:** T-397.

**Lentil:** B-77, L-9-12, PL 406 and PL 81-4.

**Tomato:** Punjab Suhara, Avinash, Pusa Ruby, Arka Alok, Sioux, Punjab Keshri, Arka Abhijit, BT-1.

#### **Brinjal:**

**Long varieties:** Cluster, JC-1, Kuchia, Pusa Kranti, Pusa Purple Long, Longai.

**Round varieties:** Pusa Purple Round, Pusa Vairab, JC-2, BWR-12.

**Onion:** Pusa Red, Pusa Ratnar, Pusa White, N-53.

**Garlic:** Eknalio and T-56-4 and other local varieties.

**Rapeseed and mustard:** M-27, TS-36, TS-38 and TS-46.

**Lentil:** B-77, L-9-12.

**Potato:** Kufri Chandramukhi, Kufri Jyoti, Kufri Sindhuri.

**Niger:** NG-1, GA-5.

#### Manipur

**French bean:** Pant Anupam, Tangkhul Hawaii (local).

**Pea:** Arkel, Azad, Rachana.

#### **Cabbage:**

**for small size:** Green Wonder.

**for medium to big size:** Rareball.

**for big size:** Green Hero.

**Cauliflower:** White Flash.

**Potato:** Kufri Megha, Kufri Jyoti.

**Rapeseed / mustard:** M-27.

#### Tripura

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

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

**Broccoli:** Everest, Ayeshwaria.

#### Mizoram

**Cabbage:** Golden Acre, Ryozeke, Harnil.

**Broccoli:** Pushpa, Pusa Broccoli, Aishwarya and Fiesta.

**Cauliflower:** Pusa Early Synthetic, PusaShubhra, Pant Gobhi - 2 and Patna Ageti.

#### Orissa

#### **Rice:**

**Medium land close to sea where water is drained out by October:** Lalat, Surendra, MTU-1001, MTU-1010, Konark, Gajapati.

**Brinjal:** Utkal Madhuri, Green Round, Green Long, Sufala, Suchitra, Supriya.

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

**Groundnut:** Smruti, TAG-27, TAG – 24 and JL-24.

**Beans:** Bush Bean and Runner Bean.

**Wheat:** Sonalika,UP-262.

**Mustard:** Parbhat, Anuradha,TS-294.

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

**West Bengal****Banana:** Mortoman, Chapa, Kathali, Singapuri.**Cauliflower:** Pusa Deipali, Pusa Chetaki.**Tomato:** Baisali, Indam 1116, Akash.**Mustard:** Sita, Vagirathi, Baruna, Agrani, Panchali, Sarama, B-54, M-27. Sanjukta etc.**Jharkhand****Lentil:** P.L.- 406, P.L.- 639, D.P.L.- 15, D.P.I.-62 etc.**Green Pea:** Swarn Rekha, Arkel, Azad Pea, Kashi Nandini, PE-6, Birsa Matar.**Potato:****Short duration:** Kufri Ashoka and Kufri Pukhraj.**Long duration:** Kufri Surya and Kufri Puskar.**Toria:** T-9, P.T.-303, Panchali and Bhavani.**Niger:** Birsa Niger-1, Birsa Niger-2.**Bell pepper:** California Wander, Bharat, Arka Basant, Arka Mohini, Arka Gaurav, Allowander, Bombi, Indra, Nan-3020.**Tomato:** Pusa Ruby, Swarna Sampda, Swarn Lalima.**Cabbage:** Golden Acre, Pride of India, Early Drum Head.**Cauliflower:** Pusa Deepali, Patna Early, Hazipur Extra Early, Pusa Ketki.**Papaya:** Pusa Giant, Pusa Dwarf, Honey Dew, Pusa Majesty.**Mustard:** Shivani, Pusa Jaikisan, Pusa Bold, Vardan.**African Marigold:** Pusa Narangi, Pusa Basanti.**French Marigold:** Petite Orange, Petite Yellow, Rusty Red, Lemmon Drop.**Bihar****Onion:** N-53, Agrifound Dark Red and Baswant 780.**Radish:** Pusa Chetki, Pusa Deshi, Pusa Himani, Pusa Reshmi, Japni Safed, Arka Nishant.**Sweet Potato:** Rajendra Shakarkand-5, Krash-4, Rajendra Shakarkand-35, Rajendra Shakarkand-43, Rajendra Shakarkand-47, Shri Bhadra, Kalmegh, Rajendra Shakarkand-92.**Cauliflower:** Aghani, Pusa Dipali, Pusi, Patna Main, Pusa Shuvra.**Rapeseed:** RAUTS-17, PT-303, Panchali and Bhawani.**Mustard:** Rajendra Sarson-1 and Swarna.**Toria:** RAUTS-17, PT-303, Bhawani and Panchali.**Potato:** Kufri Lalima, kufri Kuber, Kufri Alankaar, Khufri Jyoti, Khufri Chandramukhi, Ranjendra Aloo 1, 2 and 3, Khufri Badshah.**Gram:** Rajendra Chana, Uday, Pusa 256, RAU 52, SG2.**Lentil:** BR 25, Pant L406, 639, Malika, Arun.**Peas:** Ratna, Aprna, Harbhajan, Malbai.**Maize crop:** Saktiman 1, 2, 3, 4; Laxmi, Rajendra Shankar Makka 1 and 2.**Rai:** Baruna, Pusa Bold and Kranti.**Sarson:** Rajendra Sarson-1, Swarna etc.**Sunflower:** Morden, Surya, Paradovic, KBSH 1, 44.**Delhi****Mustard:** Pusa Jai Kisan, Pusa Jagannath, Pusa Tarak.**Pea:** Azad Matar-1, Pant Matar-3 and Bourneville.**Garlic:** G-1, G-41, G-50, G-282.**Potato:** Kufri Badshah, Kufri Bahar, Kufri Aanand, Chipsona-1, Chipsona-2, Chipsona-3.**Carrot:** Pusa Rudhira and Pusa Kesar.**Oat:** J.H.O-822, O.L.-9, Pusa oat-5**Barseem :** Vardan, Buland Barseem-1, Masakali, B.L., J.B-3**Gram:** Kabuli type - Pusa 267, Pusa 1003, Pusa Chamatkar; local type – C235, Pusa 246, P.B.G. 1, Pusa 372**Sarson Saag:** Pusa Saag-1; Bathua- Pusa Bathua-1;**Radish;** Japni White, Hill queen, French Radish;

**Spinach:**All Green, Pusa Bharti;  
**Fenugreek:**Pusa Kasuri;  
**Coriander-** Pant Haritama, Hybrids;  
**Turnip-** Pusa Swati, Local Red variety.

### Himachal Pradesh

**Lettuce:** Iceberg  
**Brinjal :** Arka Nidhi, PPC  
**Ageti bhindi :** P-8, Prabhini kranti, Arka anamika  
**Frenchbean :** Contender  
**Pepper :** Surjmukhi  
**Broccoli:** Palam Samridhi  
**Rajmash :** Triloki,Jwala,baspa Kailash  
**Raddish :** japani white and early mino white.  
**Turnip :**PTWG-1.  
**Cabbage:** Snow ball K-1 Palam uphar,golden acre.  
**Knol khol :** White Bina.

### Jammu & Kashmir

**Wheat:** VL-738, PBW-396, PBW-175, IWP-72 and RSP-81 (jitto) for rain fed areas and VL-804 and HS-240, HD2428, HD2329 and CPAN3004 under rainfed and irrigated area  
**Barley :** var. Ratna, Jyoti and Sonu  
**Mustard:** RLM-514, RLM-619, Kranti, Varuna and RH –30  
**Gram :** C-235, K-468, Gourav and PBG-1  
**field pea :** T-163, PG-2, Rachna, HFP-3  
**Vegetable crop** like **radish** (var. Pusa chetki, Japanese white & Pusa reshmi), **carrot** (var.Pusa kesar), **turnip** (var PTWG), **garlic** (var. local, large segmented), **spinach** (prickly seeded) and **methi** (P.E.B.K methi).  
**Berseem :** mascavi, pusa giant, BL-1

### Punjab

**Wheat:** PBW 621, DBW-17, PBW-502, PBW-343, WH-542, HD 2967 and durum wheat WHD 943,PDW 314, PDW 291, PDW-274 and PDW-233, TL2908, and TL 1210 under irrigated conditions and PBW-527, PBW-175 under rainfed conditions.  
**Kabuli gram:** GLK 25104, L 550 & BG-1053  
**Gobhi sarson:**GSC-5, GSL-1, GSL-2, PGSH-51, Hyola (PAC-401)  
**African sarson:** PC-5,  
**Mid season pea:** Punjab 87, Punjab 88, Punjab 89 and Mithi Phali.  
**Raya:** PBR-210 and PBR 91 for South Western regions only.  
**Tomato:** TH-2312, TH-802, Punjab Tropic and Punjab NR-7  
**Radish:** Punjab Safed, Punjab Pasand and Japenese White  
**Turnip:** L-1  
**Carrot:** Selection 21 and PC-34  
**Sugarcane:** CoJ85.CoJ64,CoJ83

### Haryana

**Wheat:** PBW 621, DBW-17, PBW-502, PBW-343, WH-542, HD 2967 and durum wheat WHD 943,PDW 314, PDW 291, PDW-274 and PDW-233 under irrigated conditions and PBW-527, PBW-175 under rainfed conditions.  
**Kabuli gram:** GLK 25104, L 550 & BG-1053  
**Gobhi sarson:**GSC-5, GSL-1, GSL-2, PGSH-51, Hyola (PAC-401)  
**African sarson:** PC-5,  
**Mid season pea:** Punjab 87, Punjab 88, Punjab 89 and Mithi Phali.  
**Raya:** PBR-210 and PBR 91 for South Western regions only.  
**Tomato:** TH-2312, TH-802, Punjab Tropic and Punjab NR-7

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

**Turnip:** L-1

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

**Sugarcane:** CoJ85.CoJ64,CoJ83

### Uttarkhand:

**Barley:** Jyoti, Vijaya, or Jagrati and Oat varieties like UPO-50, UPO-212, JHO-822, Kent etc.

**Potato:** Kufri Bahar, Kufri Jawahar, Kufri Ashok, Kufri Anand.

**Wheat:** UP-2584, UP-2338, UP-2572, UP-2526 (irrigated) UL-802, 804A, BL-719, BL-832, BL-892(non-irrigated), VL-719, VL-738, HS-240, HD-2380, UP-1109, HPW-42, HS-365 etc. For irrigated conditions: UP-2572, VL-719, VL-738, HD-2380, VL-421, HS-240, UP-1109 etc.

**Sarson:** BLJ 56, 85, 01, Pant JS 01, Pant Masoor 4, 5, BL masoor 125, 126, BL matter 3, 7,

**Potato:** Kufri badshah, Kufri lalimaa, Kufri sindhuri, Kufri Sutlej and K.bahar

**Chickpea:** Avrodhi, Radhey, Pant G-114 or Uday ;

**Pea :** Pant Matar-5, Type-163 or Aparna ; for Rajmash PDR-14 or VL Jamash-63.

### Uttar Pradesh:

**Toria:** Pitambri kanti type-9(black). Type-36(yellow), PT-303, PT30, Bawani, T9, PT303

**Gram :** K-850, Avarodhi, Radhey, Pant G-144, K.W.R.-108, K.D.G.-1168, Kabuli chana- Sadabahar, Pragati L-550, Pusa-267, GD1168, KWR108, Avarodhi, Radhey, JG315.

**Massor:** KLK 75, DWL62, L-4076, Pant masoor-639, 406, 234, malika, IPL-81.

Pea: Aparna.

**Jai :** Kent U.P.O.-94, O.S.-6, J.H.O.-822, 851, U.P.O.-212

**Rabi Mustard:-** Vaibhav, Varuna(Ta-59), Vardan

**Barseem:** Bundelkhand berseem(J.H.T.B.-146)

**Sugarcane :** KBHA-8436, 88230, 96268, 98231, KS-95436, 00235, 03234, 01235, KJ-64

**Tomato-Azad** type-5,6

**Potato :** Kufri Chandramukhi, Kufri Bahar, Kufri Pokharaj, Kufri Ashoka

**Wheat:** HD2009, WH157,WH147, WH446,WH542,HD2329, K-9107, PBW343, PBW502, SCW468, WH-147, K-9006, HD2888, UP 2338, UP-2382, Sangam-WH-896, WH542, K-88, PBW-343, K-9006, LOK-1. KRL-1-4., Raj3.77, PBW-65

**Fodder berseem:** JHDB-146.

**Jai:** 822, 851, bundle jai-99-2.

### Rajasthan

**Wheat:** HD-2329, H.D. 2009 (Arjun), WH147, Raj-3765, Raj-3077, Raj-3777, Raj.4037, Raj-1482 & Lok-1 are improved varieties, WH-147, GW-190, GW-322 and GW-273.

Un-irrigated : Sujata, A.9-30-1, D.134, Mukta, H.W. 2004, H.D.4672, J.W.S. 17, HI-1500 and HI-1531

**Barley:** RD-2052, RD-2508, RD-2503, RD-2660, RD-2035, RD-2592, RD-2624 & RD-2552 are improved varieties

irrigated : R.D.B. 1, R.D. 103, R.D. 57 unirrigated – R.D.-31 salted soil : B.L.2

**Mustard:** T-59 (Varuna), Kranti, P.R. 45, Bio-902, Ashirwad, Rh-30, Pusabold, Jagnath, Laxmi (140-150 days), Pusa Jai Kisan ( 115-120 days), P.R-15 (125-130 days), Pusa bold (130-135 days) & T-59 (125-130 day)

Normal sown (irrigated) - Maya, Rohini, Pusa Jai kisan, Varuna, RGN13, RGN73, NRCDR 2, NRCHB 506(hybrid), Normal sown ( rainfed) -Arawali,RGN48, Geeta and PBR97, Saline sodic soils - CS52, CS54, CS56, Narendra Rai 1, 4.Taramira - Karan Tara, Narendra Tara 5, Yellow Sarson - NRCYS-05-02, YSH401

Late sown : Laxmi, Swarn Jyoti, Pusa Agni and Vasundhara.

**Lucerne :-**T-9 and Anand-2,

**Taramira :-**T-27 and RTM-314,

**Oat :** kent,

**Fenugreek:**RMT-1

**Coriander :** D.C.86, C.S.6, U.D.20, R.C.R.41, R.C.R.436, R.C.R.684

**Alsi** : R.L.102-71, T.397, Jawahar 23, L.C.K. 8528, Triveni Kiran, Madmani, L.M.H. 62, Mira, R.L.914, Pratap Alsi-1.

**Gram**: GNG-663 (Vardan), GNG-469 (Samrat), GNG-1581 (Gangaur), GNG-1499 (Gauri), GNG-1292 (Kabuli), C-235, , GNG 16, RSG 44, C235, H 208, Dahod yellow ICCV 10, RSG 888 (Anubhav), RSG-963, RSG-973, CSJD-884 (Aakash), RSG-802, Pusa-209, B.G.256, Phule and Pratap chana 1.

**Onion**: Pusa Red, Pusa Madhavi, Arka, Niketan, Local Red and Pusa white.

**Potato**: **Early sown**- Kufri-Ashok and Chandramukhi., **Mid sowing**- Kufri-Anand, Chipsona-1, 2, Jyoti and Pukhraj.

**Autumn vegetables** :

**Tomato**: Pusa Rubi, Pusa Earli and Vihar, **Brinjal**: Pusa Summer Prolific Round, Pusa Summer Prolific Long, Meghdoot and Arka Bahar, **Cauliflower**: Pusa Snowball 1 and Hissar 1, **Cabbage**: Pusa Drum Head and Hybrid 10, **Radish**: Japanese White and Hill Queen

**Opium poppy** : Chetak.

### Tamil Nadu

**Late samba**: ADT 38, ADT 46, ADT 49, improved white ponni, IR 20, ASD 19, Paiyur1, Trichy 1, Trichy 3 and Co 50

**Late Thaladi**: ADT 39 ADT 42, and ASD 16

### Andhra Pradesh

**Redgram**: LRG-38, LRG-41, WRG-27, ICPL-84031, PRG-100, PRG-158

**Greengram**: LGG-407, LGG-410, LGG-450, TM-92, PU-31

**Blackgram**: LBG-752, LBG-623, LBG-20, T-9

**Bengalgram**: JG-11, Annegiri, Jyothi, ICCV-2, JG-130 and JAKI- 9218

**Paddy**: (BPT-5204, BPT-5204, MTU-7029, MTU-2067, OMTU-2077, MTU-1001, MTU-7029)

**Groundnut** (Under irrigated dry conditions) : Kadiri - 6, Narayani, Tirupati - 4, Kadiri - 4, JCG 88, Kalahasti, Abhaya, Greeshma, Rohini, Kadiri - 7 Bold, Kadiri - 8 Bold, Kadiri - 9, Kadiri Harithandra, Bhima, Anantha, Kadiri - 5, TAG - 24

### Gujarat

**Rabi Maize**: Ganga Safed-2.

**Irrigated gram**: Gujarat Chick pea-1, Dahod Pila, ICC-4.

**Gram**: Gujarat Chick pea-2 (for dry farming).

**Cluster bean**: GC-1, 2.

**Mustard**: Guj - Mustard-1, 2, 3, Pusa Jaykisan (Bio-902), Varuna GM-1 or GM-2.

**Tobacco**: GC-1 or GCT-3.

**Cauliflower**: Pusa Early, Pusa Dipali , Pusa Kartiki, Early Kuvari, Pusa sythetic, Early Snowball, Jayyant Snowball, Pusa Snowball, super Snowball, Snowball-13.

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

**Onion**: Pusa Red, Nashik Lal, N 53 and H 48.

### Maharashtra

**Irrigated gram**: Vijay, Vishwas, Phule G12, Vikas, Vishal and Virat variety in Madhya Maharashtra and Chafa, Vijay, Jaki-9218 and Kabuli in East Vidarbha.

**Green Pea**: Bonevilla, Arkel, Phule Priya.

**Sugarcane (pre-seasonal)**: CO 740, CO 7219 (Sanjivani), CO 88121 (Krishna), CO 8014 (Mahalaxmi), CO 86032 (Nira), CO 94012 (Phule Savitri), CO M 0265 (Phule 265), CO V.S.I. 9805, CO C.671.

**Irrigated wheat**: NIAW-301, NAIW-917, NIDW-295 (sowing upto 15<sup>th</sup> November) and for late sowing select NIAW-34 variety in Madhya Maharashtra and HD-2189, AKW-1071, HD-2380 and MASC-2496 in Central Vidarbha.

### Madhya Pradesh

**Wheat**-Sujatha, HW 2004 or HI 1500 and gram JG 130, JG 11, JG 315, JG 16, Jaki 9218 and for Bengal gram JG 1

**Sugarcane**- Jawahar-86141, Ko-Jawahar-86141, Ko-Jawahar-86572, Ko-Jawahar8632, Ko-6304, Ko-C-671

**Garlic**-G-283, G-1, G-41 or G-323

**Gram**-JG-14, JG-06, JG-63, JG-11, JG-11, JG-130, JG-16, JG-322 and JG-01

**Mustard**-Pusa Mahak, Pusa Agrani, Pusa Jaikisan, Pusa Bold, Jaggannath

**Linseed**-PKDL-21, JL-1, JL-3, Mallika, JLS-1, IPL-81

**Lentil**-JLS-03

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

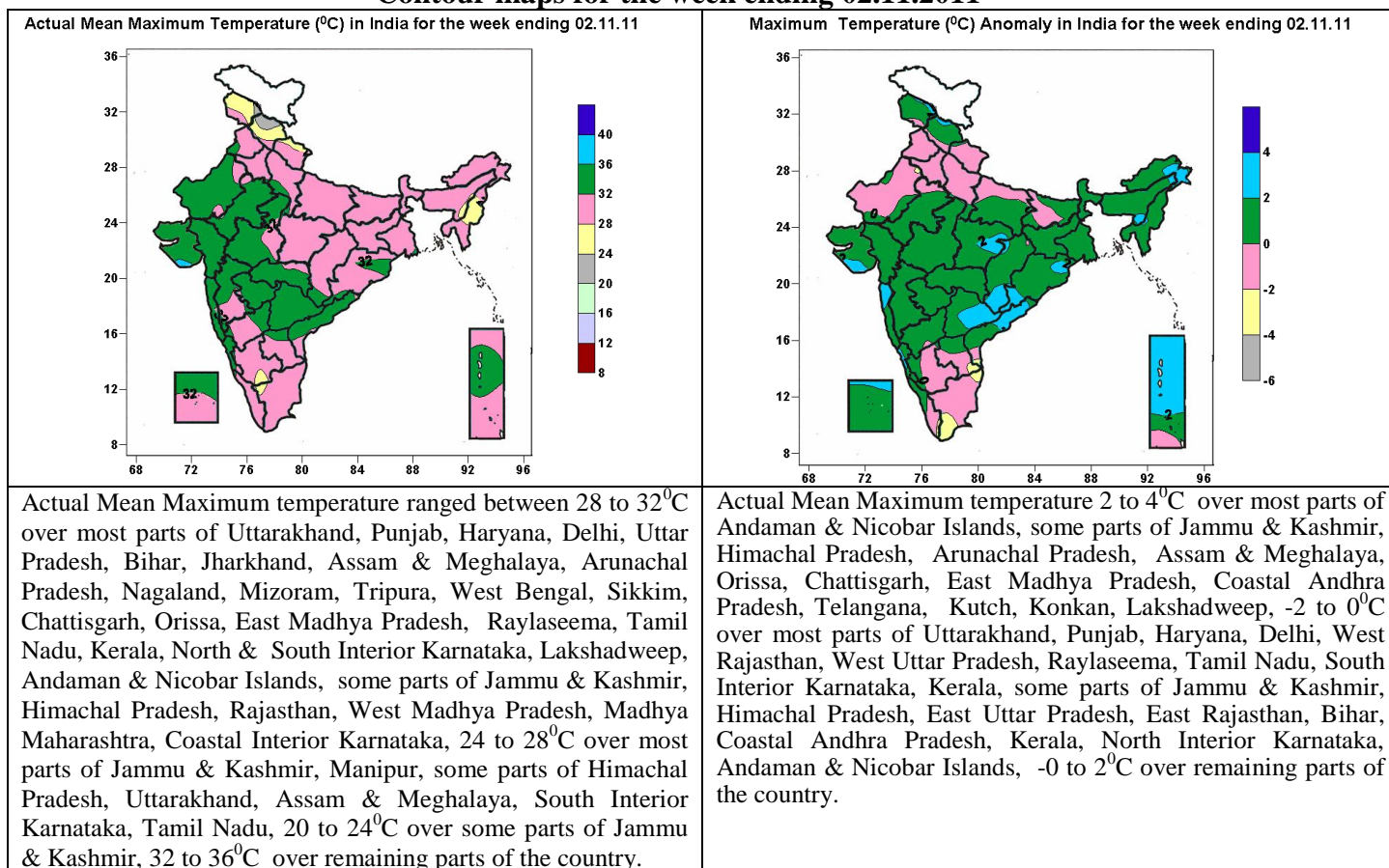
### Chattisgarh

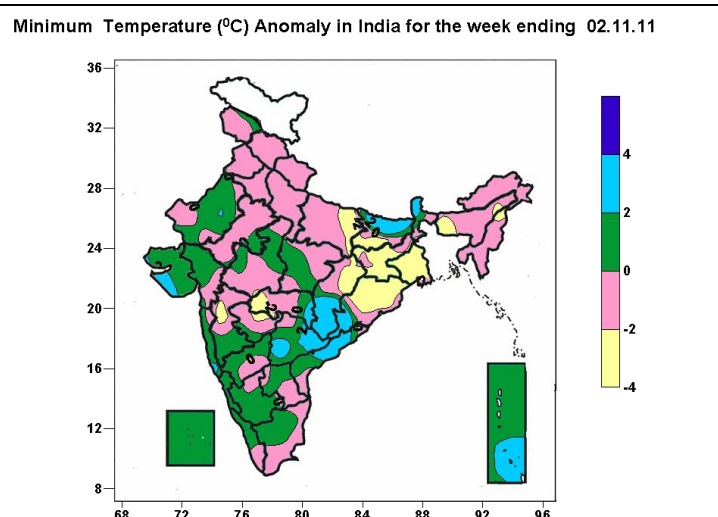
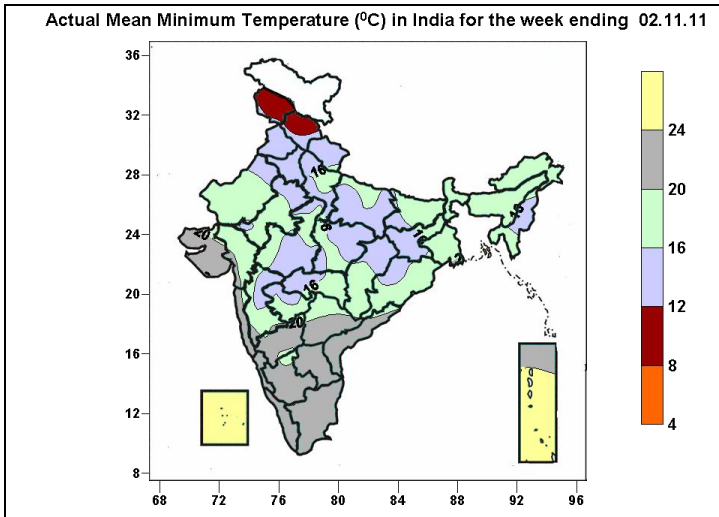
**Wheat**-GW-273

**Potato**-Kufari Lalima, Kufari Pukhraj

### Annexure III

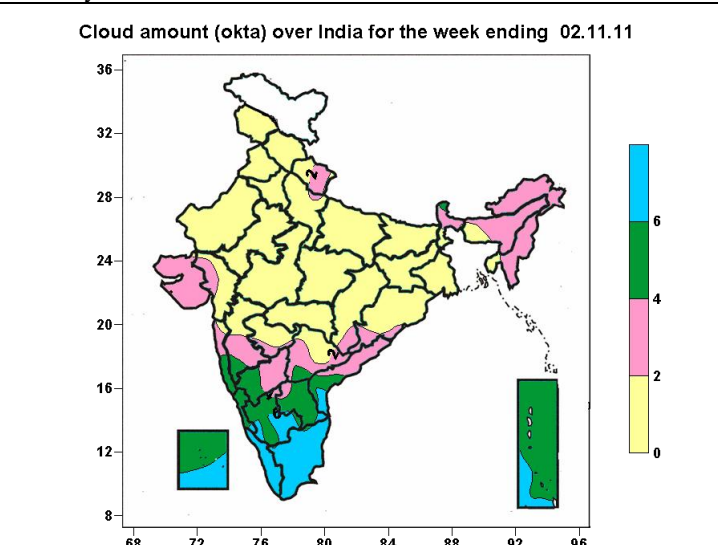
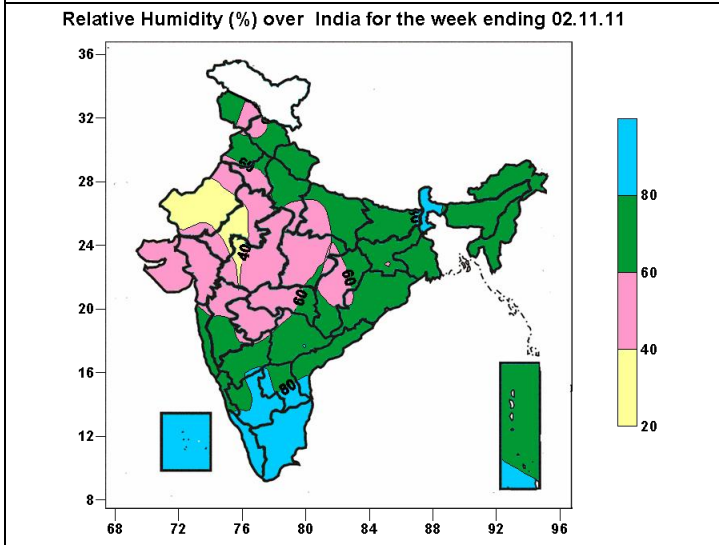
#### Contour maps for the week ending 02.11.2011





Actual Mean Minimum Temperature ranged between 24 to 28°C over most parts of Lakshadweep, Andaman & Nicobar Islands, 20 to 24°C over most parts of Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, Saurashtra & Kutch, Konkan & Goa, some parts of Madhya Maharashtra, Gujarat, 12 to 16°C most parts of Uttarakhand, Punjab, Haryana, Uttar Pradesh, Jharkhand, Manipur, Mizoram, Madhya Pradesh, some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Madhya Maharashtra, Marathwada, Vidarbha, 8 to 12°C over most parts of Jammu & Kashmir, some parts of Himachal Pradesh, 16 to 20°C over remaining parts of the Country.

Minimum Temperature anomaly between 2 to 4°C over most parts of Sikkim, some parts of West Rajasthan, East Uttar Pradesh, Bihar, Chattisgarh, Orissa, Coastal Andhra Pradesh, Telangana, Vidarbha, Saurashtra & Kutch, Andaman & Nicobar Islands, -2 to 0°C over most parts of North West India(except West Rajasthan), North East India, some parts of Bihar, Jharkhand, Sub-Himalayan West Bengal, Orissa, Chattisgarh, West Rajasthan, Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, North & South Interior Karnataka, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu, Kerala, -4 to -2°C over most parts of Jharkhand, Gangetic West Bengal, Orissa, Jharkhand, some parts of East Uttar Pradesh, Bihar, Assam & Meghalaya, Nagaland, Chattisgarh, West Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, 0 to 2°C over remaining parts of the Country.

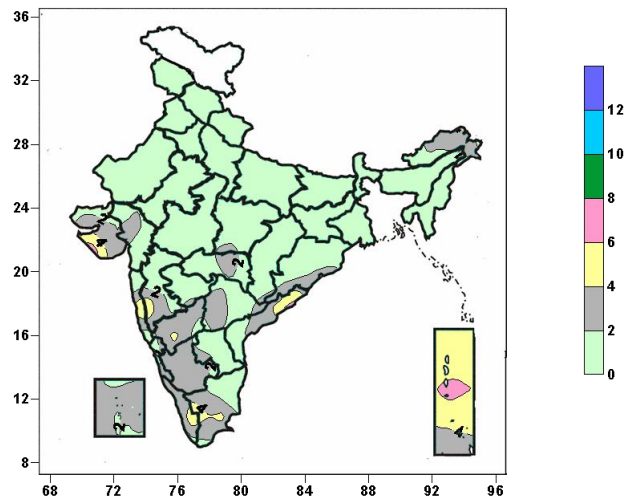


Relative humidity between 80% and above over most parts of Sub-Himalayan West Bengal & Sikkim, South Interior Karnataka, Tamil Nadu, Kerala, Lakshadweep Islands, some parts of Coastal Andhra Pradesh, Rayalaseema, North Interior Karnataka, Andaman & Nicobar Island, 40 to 60% over most parts of Madhya Pradesh, Gujarat, Saurashtra & Kutch, Marathwada, Vidarbha, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Rajasthan, North Interior Karnataka, Telangana, Madhya Maharashtra, 20 to 40% over most parts of West Rajasthan, some parts of East Rajasthan, West Madhya Pradesh, 60 to 80% over remaining parts of the country.

Cloud amount 6 okta and above over most parts of Tamil Nadu, Kerala, some parts of Coastal Andhra Pradesh, Rayalaseema, Coastal & South Interior Karnataka, Lakshadweep, Andaman Nicobar Islands, 4 to 6 okta over most parts of Rayalaseema, Karnataka, Goa, Lakshadweep, Andaman & Nicobar Islands, some parts of Telangana, South Madhya Maharashtra, Konkan, 2 to 4 okta over most parts of Sub-Himalayan West Bengal, North East India, Saurashtra & Kutch, some parts of Uttarakhand, East Uttar Pradesh, Chattisgarh, Orissa, Coastal Andhra Pradesh, Telangana, North Interior Karnataka, Madhya Maharashtra, Marathwada, Konkan, 0 to 2 okta over remaining parts of the country.



Wind speed (knots) over India for the week ending 02.11.11



Wind speed ranged between 4 to 6 knots over most parts of Andaman & Nicobar Islands, some parts Coastal Andhra Pradesh, Tamil Nadu, Kerala, North Interior Karnataka, Konkan, Madhya Maharashtra, Saurashtra & Kutch, 2 to 4 knots over most parts of Saurashtra & Kutch, Karnataka, Tamil Nadu, Kerala, Lakshdweep Islands, some parts of Arunachal Pradesh, Chatiisgarh, Coastal Orissa, Goa, Madhya Maharashtra, Marathwada, Andhra Pradesh, Vidarbha, Gujarat, East Madhya Pradesh, 0 to 2 knots over remaining parts of the country.