

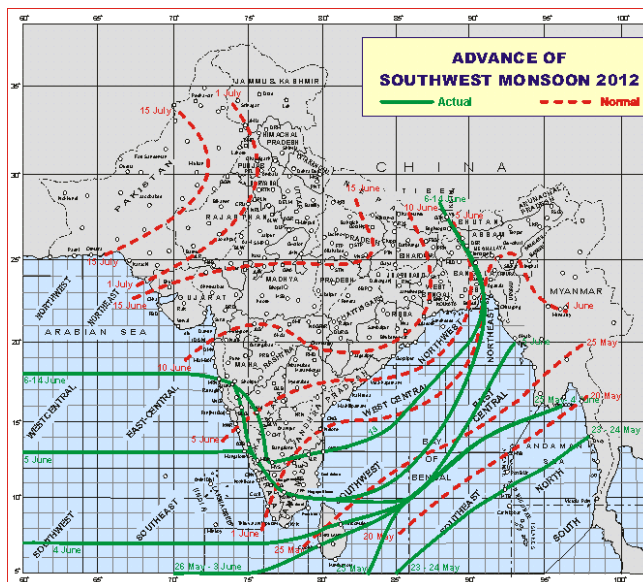
National Agromet Advisory Bulletin

Thursday, 14th June, 2012

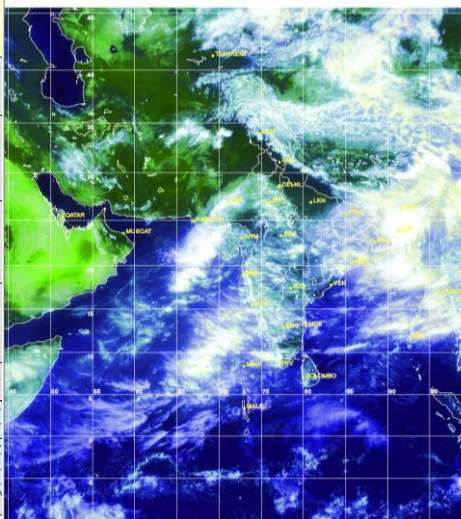
(For the period 14th June to 18th June, 2012)



- The Northern Limit of Monsoon (NLM) continues to pass through Lat 18.0° N/ Long. 60.0° E, Lat 18.0° N/ Long. 65.0° E, Lat.18.0° N/ Long. 70.0° E, Harnai, Satara, Gadag, Mysore, Vellore, Chennai, Lat 15.0° N/ Long. 85.0° E, Lat 20.0° N/ Long. 90.0° E, Lat. 23.0° N/ Long. 91.0° E and Gangtok.



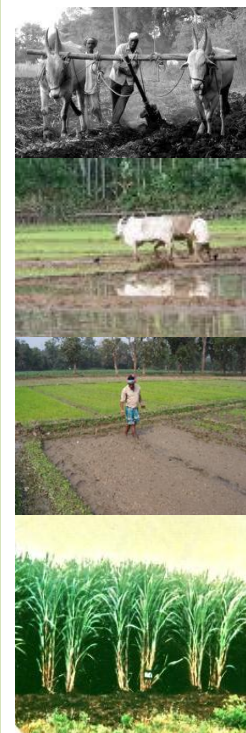
Satellite image 0600 UTC dated 15th June, 2012



Monsoon Kharif Crop Watch 2012

The southwest monsoon has further advanced into some more parts of south Madhya Maharashtra, interior Karnataka and most parts of Tamil Nadu. Conditions would become favourable for further advance of southwest monsoon into remaining parts of Konkan and Tamil Nadu, some more parts of interior Maharashtra, interior Karnataka and some parts of Andhra Pradesh during next 3-4 days. Conditions may also become favourable for further advance of southwest monsoon into West Bengal, Orissa, Bihar, Jharkhand and Chhattisgarh during subsequent 3 days.

Rainfall occurred over many districts in Assam, Kerala, Coastal Karnataka, Konkan & Goa and Sub-Himalayan West Bengal and Sikkim and over a few districts in Arunachal Pradesh, Jammu & Kashmir, Chhattisgarh and Gangetic West Bengal. Rainfall is likely to occur at many places over Kerala, Coastal Karnataka, Konkan and Goa, Sub-Himalayan West Bengal and Sikkim and North Eastern States during next three days along with heavy rainfall at one or two places over Assam and Meghalaya, Kerala and Coastal Karnataka during next 48 hours. In view of occurrence of heavy rainfall, arrange for adequate drainage in crop fields in Assam and Meghalaya, Kerala and Coastal Karnataka. Rainfall for the States of Kerala, Coastal Karnataka, Konkan, Assam and Sub Himalayan West Bengal and Sikkim during last week.



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 southwest monsoon has further advanced into some more parts of south Madhya Maharashtra, interior Karnataka and most parts of Tamil Nadu. Conditions would become favourable for further advance of southwest monsoon into remaining parts of Konkan and Tamil Nadu, some more parts of interior Maharashtra, interior Karnataka and some parts of Andhra Pradesh during next 3-4 days. Conditions may also become favourable for further advance of southwest monsoon into West Bengal, Orissa, Bihar, Jharkhand and Chhattisgarh during subsequent 3 days.

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Status of sowing of *kharif* crops

Southern region

- Monsoon has advanced into some more parts of North Interior Karnataka and most parts of Tamil Nadu.
- **Kerala:** Continue sowing of direct seeded rice and nursery sowing / transplanting of *Virippu* rice in some parts of Kerala. Also continue new plantation of coconut seedlings.
- **Karnataka:** Continue nursery sowing of rice in Coastal Karnataka and sowing of green gram, black gram, jowar and soyabean in North Interior Karnataka if sufficient rainfall occur in next few days. Undertake sowing of ginger, turmeric and drill sown paddy in Uttar Kannada district. In South Interior Karnataka take up sowing of rice and ginger under irrigation condition.
- **Tamil Nadu:** Nursery Preparation of *Kuruvai* rice.
- **Coastal Andhra Pradesh:** Undertake nursery sowing of rice under irrigated conditions in Chittoor, Cuddapah and Nellore districts.
- As monsoon is yet to reach other parts of the region, farmers in Andhra Pradesh and remaining parts of Karnataka are advised to start land preparation and arrange inputs for sowing for *kharif* crops like cotton, jowar, maize, castor, groundnut and pulses in Andhra Pradesh and cotton, nursery sowing of rice, sowing of hybrid jowar, maize, ragi, sugarcane, sunflower, groundnut, red gram and horticultural crops in South Interior Karnataka.

Northeast region

- Monsoon has set over NE-region on 6th June and good rainfall has been received during last week.
- **Assam:** Land preparation and sowing of *sali* rice.
- **Arunachal Pradesh:** Sowing/ transplanting Jhum and WRC rice sowing of soybean, black gram, green gram.
- **Manipur:** Sowing/ transplanting of *kharif* rice, soybean and groundnut.
- **Mizoram:** Sowing of groundnut and soyabean and nursery preparation of rice.
- **Meghalaya:** Sowing and transplanting of *sali* rice in low and medium altitude areas.
- **Nagaland:** Nursery sowing of rice.
- **Tripura:** Land preparation and sowing of *aman* rice.

Western region

- **Maharashtra:** Nursery sowing of rice and nagli in Konkan region and Sub Montane zone. Direct sowing of *kharif* rice and sowing of soyabean in Kolhapur, Sangli and Satara districts. Land preparation for sowing of jowar, groundnut and red gram in other regions.

- **Gujarat:** Monsoon is yet to set over Gujarat. Field preparation for sowing of bajra, maize, pigeon pea and green gram and procurement of farm inputs is in progress. Preparation for nursery of *kharif* rice is undertaken.

Eastern region

- Monsoon has set over Sub Himalayan West Bengal on 6th June 2012. Conditions are favourable for onset over Gangetic West Bengal, Orissa, Bihar and Jharkhand.
- **West Bengal:** Undertake transplanting of *aus* rice and nursery sowing of *aman* rice with the help of realized rainfall in Sub Himalayan West Bengal. Undertake nursery sowing of *aman* rice in Gangetic West Bengal with the help of pre-monsoon showers.
- **Sikkim:** Continue nursery sowing of rice.
- **Orissa:** Farmers are advised for land preparation for direct seeding of rice in low and deep low land and sowing of arhar, maize, cotton and pulses.
- **Bihar:** Prepare the field for nursery sowing of *kharif* rice and land preparation for sowing of *kharif* maize.
- **Jharkhand:** Undertake land preparation for nursery sowing for rice and land preparation for sowing of soyabean, maize, urad, arhar and *kharif* vegetables bhindi, bean, French bean, tomato, cauliflower, cabbage etc.

Central region

- Monsoon is yet to set over this region.
- **Madhya Pradesh:** Farmers are advised to arrange farm inputs for sowing of *kharif* crops like rice, soyabean and pulses.
- **Chhattisgarh:** Start land preparation and nursery sowing of rice and land preparation for sowing of soyabean, maize, jowar, groundnut and urad.

Northwest region

Farmers are advised to undertake land preparation for the following *kharif* crops and wait for onset of monsoon for sowing:

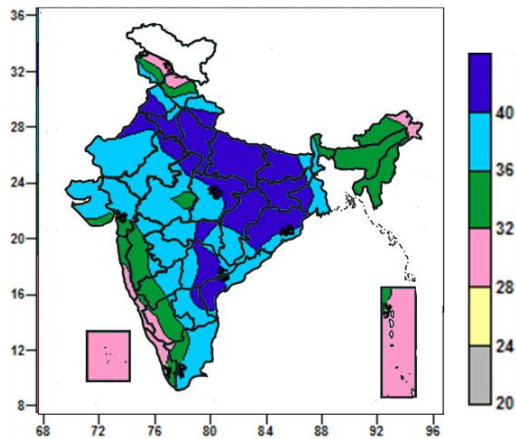
- Nursery sowing of rice and *kharif* pulses in Jammu & Kashmir.
- Nursery sowing of rice, sowing of sugarcane, finger millet, urad, moong, soyabean and pulses in Uttarakhand.
- Nursery sowing of rice, sowing of cotton, soyabean and urd, sunflower, jowar and bajra in Uttar Pradesh.
- Nursery sowing of rice, sowing of pulses, groundnut, maize, cotton and planting of sugarcane in Rajasthan.
- Nursery sowing of rice and maize in Himachal Pradesh.
- *Kharif* rice, pulses, bajra and maize in Delhi.
- Desi and American cotton and nursery sowing for *kharif* rice and also sowing of maize in Punjab and Haryana.

Advisories for Pests and Diseases:

Due to favourable weather conditions, incidences of early shoot borer in sugarcane and fruit and shoot borer in brinjal in Orissa, thrips and mites in chilli in Karnataka and early shoot borer in sugarcane, mites, shoot and fruit borer and thrips, mites and *Chaenophora* blight in chilli in Andhra Pradesh below economic threshold level (ETL) have been reported. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases, if the population exceeds ETL

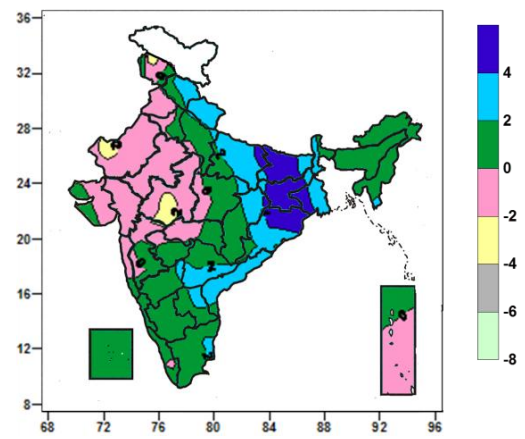
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 13.06.2012

Actual Mean Maximum Temperature (°C) in India for the week ending 13.06.2012



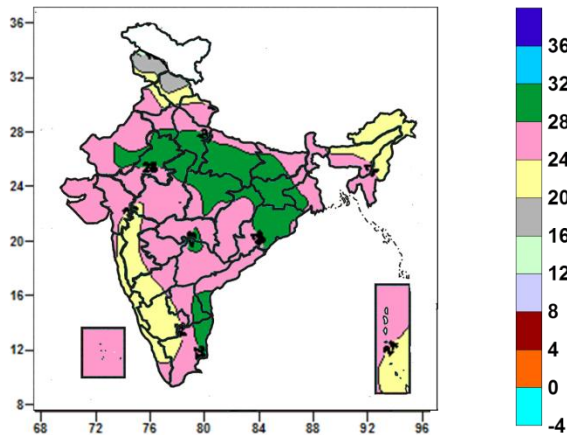
Actual Mean Maximum temperature ranged 40°C and above over most parts of Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Jharkhand, Coastal Andhra Pradesh, some parts of Rajasthan, Madhya Pradesh, Vidarbha, Telanagana, Raylaseema, 36 to 40°C over most parts of Sikkim, North East India, Coastal & South Interior Karnataka, Konkan & Goa, Madhya Maharashtra, some parts of Jammu & Kashmir, Himachal Pradesh, Gujarat, Saurashtra & Kutch, West Madhya Pradesh, Vidarbha, 28 to 36°C over remaining parts of the country.

Maximum Temperature (°C) Anomaly in India for the week ending 13.06.2012



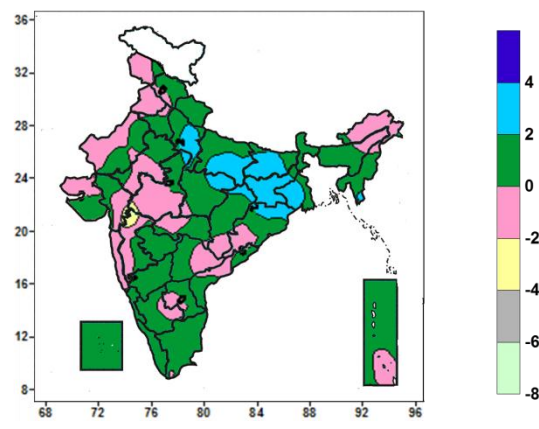
Actual Mean Maximum temperature anomaly ranged between 4°C and above over most parts of Bihar, Jharkhand, some parts of East Uttar Pradesh, Orissa, 2 to 4°C over most parts Haryana, Delhi, West Uttar Pradesh, Northeast India, East Madhya Pradesh, Chattisgarh, Madhya Maharashtra, Marathwada, Telanagana, Raylaseema, Karnataka, Tamil Nadu, Kerala, Lakshadweep Islands, some parts of Jammu Kashmir, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Vidarbha, Saurashtra, Goa, -4 to 0°C over rest of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 13.06.2012



Actual Mean Minimum Temperature ranged between 28 to 32°C over most parts of Punjab, Delhi, East Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Orissa, some parts of Punjab, Gangetic West Bengal, West Rajasthan, Chattisgarh, Madhya Pradesh, Vidarbha, Andhra Pradesh, some parts of West Madhya Pradesh, Kutch, Tamil Nadu and below 28°C over remaining parts of the country.

Minimum Temperature (°C) Anomaly in India for the week ending 13.06.2012



Minimum Temperature anomaly ranged between 2 to 4°C and above over many part of Bihar, Jharkhand, Gangetic West Bengal, some parts of Uttar Pradesh, East Madhya Pradesh, Orissa, -2 to 2°C over remaining parts of the country.

Distribution of rainfall of the country during week ending on 13.06.2012

Station Name	Actual	% DEp.
Arunachal Pradesh		
Changlang	16.2	-89
East Kameng	94.8	29
East Siang	98	-42
Lohit	32.3	-68
Lower Subansiri	8	-89
Papumpara	139.7	7
Tawang	6	-96
Upper Dibang Valley	40	-56
Upper Siang	135.3	-35
West Kameng	45.3	-70
West Siang	100	-7
Assam		
Baksa	181.2	9
Barpeta	105	-37
Bongaigaon	142.1	-2
Cachar	77.9	-39
Chirang	306	111
Darrang	50	-45
Dhemaji	33	-71
Dhubri	134.6	9
Dibrugarh	66.7	-24
East Garo Hills	71	-48
East Khasi Hills	129.7	-64
Goalpara	108.4	-5
Golghat	60.4	-5
Hailakandi	29.2	-75
Jaintia Hills	68.3	-72
Jorhat	12.3	-83
Kamrup(Metro)	104.1	25
Kamrup	28.1	-66
Karbi Analog	16.2	-70
Karimganj	69.6	-60
Kokrajhar	126.8	-22
Lakhimpur	94.9	-16
Morigaon	22.4	-64
N.C.Hills	0	-100
Nowgong	7.4	-89
Nalbari	221.2	51
Ribhoi	50.6	-30
Sonitpur	20.8	-77
Sibsagar	21.8	-67
South Garo Hills	186	61
Tinsukia	48.2	-48
Udalgiri	20.2	-78
West Garo Hills	55.6	-52
West Khasi Hills	56	-53
Jammu & Kashmir		
Anantnag	21.7	46
Badgam	17.2	123
Bandipore	**	**
Baramula	40.5	166
Doda	8.4	-34
Ganderwal	60.8	651
Jammu	4.2	-33
Kargil	0	-100
Kathua	24.1	217







Kistwar	**	**
Kulgam	19.5	32
Kupwara	25.7	136
Ladakh(Leh)	1.5	153
Poonch	12.5	-58
Pulwama	7.5	-9
Rajouri	26.5	441
Ramban	14	10
Reasi	35	169
Samba	8.6	36
Shopian	0	-100
Srinagar	10.6	30
Udhampur	13.8	6
Chattisgarh		
Bastar	16.8	-39
Bijapur	31.2	39
Bilaspur	3.5	-83
Dantewara	25	18
Dhamtari	32.4	57
Durg	2.5	-90
Janjgir	0	-100
Jashpurnagar	0	-100
Kanker	44.3	164
Korba	0	-100
Koriya	0	-100
Kawardha	0	-100
Mahasumund	7	-64
Narayanpur	77.4	202
Raigarh	0	-100
Raipur	3	-88
Rajandgaon	3.4	-81
Surguja	0	-100
Maharashtra		
Konkan & Goa		
Goa	125.6	-35
Mumbai	15.1	-82
Raigad	54.7	-44
Ratnagiri	79.8	-45
Sindhudurg	135.7	-29
Thane	36.6	-32
Madhya Maharashtra		
Ahmednagar	2.7	-89
Dhule	20.8	-3
Jalgaon	5.5	-76
Kolhapur	25.7	-48
Nandurbar	8.4	-65
Nasik	25.5	-7
Pune	15.1	-50
Sangli	2.5	-90
Satara	18.5	-30
Solapur	6.1	-76
Marathwada		
Aurangabad	5.2	-82
Beed	11.4	-64
Hingoli	9.6	-64
Jalna	3	-90
Latur	10.1	-65
Nanded	0.4	-98

Usmanabad	8.8	-70
Parbhani	5.3	-81
Vidarbha		
Akola	24.4	-3
Amraoti	12.2	-43
Bhandara	10.6	-54
Buldhana	9.7	-62
Chandrapur	24.1	18
Gadchiroli	7.6	-68
Gondia	0.6	-97
Nagpur	24.2	-1
Wardha	22.1	-17
Washim	15.1	-44
Yeotmal	19.6	-23
Orissa		
Angul	4	-88
Balasore	17.6	-66
Bargarh	0	-100
Bhadrak	37.9	-13
Bolangir	2.7	-89
Boudh	0.3	-99
Cuttack	8.1	-74
Deogarh	1.1	-96
Dhenkanal	11.4	-67
Gajapati	17.7	-68
Ganjam	13.7	-54
Jagatsingpur	8.7	-79
Jajpur	14.3	-70
Jharsuguda	2.1	-94
Kalahandi	15.7	-47
Kandhamal	31.7	13
Kendrapara	16.3	-57
Keonjhar	17.9	-59
Khurda	7.2	-73
Koraput	29.1	-2
Malkangiri	8.1	-72
Mayurbhanj	14.1	-75
Nawapara	12.5	-37
Nawarangpur	41.4	4
Nayagarh	32.1	-13
Puri	26.4	12
Rayagada	21.4	-44
Sambalpur	1.3	-96
Sonepur	6.3	-74
Sundargarh	4.5	-88
West Bengal		
GWB		
Bankura	30.3	-27
Birbhum	34.8	-17
Burdwan	11.4	-70
East Midnapore	25.6	-48
Hooghly	15.8	-71
Howrah	44.6	14
Kolkata	67.6	10
Murshidabad	44	-28
Nadia	16.7	-62
24 Pargana (N)	38.4	-36
Purulia	4.8	-88

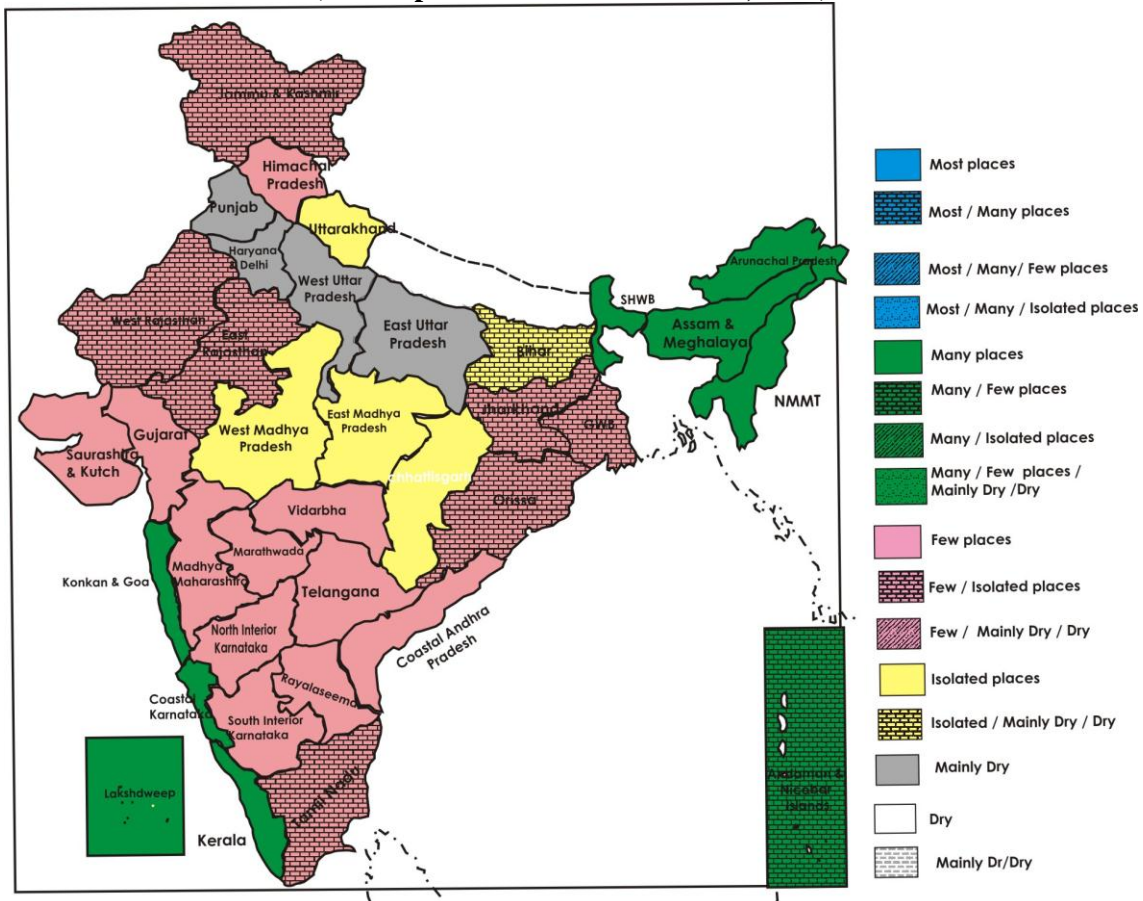
24 Pargana (S)	14.2	-81
West Midnapore	30.6	-32
SHWB		
Cooch Behar	152	24
Darjeeling	92.7	-22
East Sikkim	239.5	153
Jalpaiguri	180	40
Malda	26.4	-35
North Dinajpur	0	-100
North Sikkim	91.2	-18
South Dinajpur	9.3	-85
South Sikkim	125.1	32
West Sikkim	67	-40
Karnataka		
Coastal Karnataka		
Dakshin Kannada	145.2	-26
Udupi	218.7	-5
Uttar Kannada	99.9	-32
Kerala		
Alappuzha	50.7	-69

Kannur	106.5	-40
Ernakulam	78.9	-54
Idukki	69.1	-53
Kasaragod	114.8	-47
Kollam	24.1	-81
Kottayam	57.3	-66
Kozhikode	181.4	-12
Malappuram	90.3	-39
Palakkad	62.9	-36
Pathanamthitta	26.4	-82
Thiruvananthapuram	15.5	-85
Thrissur	105.8	-38
Wyanad	31	-78
Andhra Pradesh		
Coastal Andhra Pradesh		
East Godavari	28.6	67
Guntur	4.3	-74
Krishna	10.6	-45
Nellore	0.3	-97
Prakasam	1.3	-90

Sirkakulam	21.9	-19
Visakhapatnam	28.4	29
Vizianagram	30.5	18
West Godavari	23.3	20
Telangana		
Adilabad	5.3	-78
Hyderabad	0	-100
Karimnagar	23.3	-7
Khammam	15.2	-32
Mehabubnagar	0	-100
Medak	7.5	-66
Nalgonda	3.1	-84
Nizamabad	16.6	-42
Rangareddy	6.3	-67
Warangal	20.6	-13
Rayalaseema		
Anantapur	3.2	-74
Chittoor	6.8	-60
Cuddapah	0	-100
Kurnool	0.3	-99

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

Weather Forecast (Valid upto 0830 hours of 16th June, 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 17th June, 2012

- Rain/thundershowers would occur at many places over coastal Karnataka and Konkan & Goa, Kerala and Lakshadweep.
- Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands and rest peninsular India including interior Maharashtra and Gujarat.
- Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim and northeastern states.
- Rain/thundershowers would occur at one or two places over central and east India.
- Rain/thundershowers would occur at one or two places over western Himalayan region and Rajasthan.
- Maximum temperatures would increase over plains of northwest India by about 2°C during next 48 hours.

Weather Warning

- Heavy rainfall would occur at one or two places over coastal Karnataka, Kerala and Andaman & Nicobar Islands during next 48 hours.
- Heavy rainfall would occur at one or two places over Assam & Meghalaya, Kerala, coastal Karnataka and Lakshadweep during next 48 hours.
- Heat wave to severe heat wave conditions would occur over some parts of east Uttar Pradesh and Bihar during next 48 hours. Heat wave conditions would also occur at isolated pockets of west Uttar Pradesh, north Madhya Pradesh, Jharkhand and interior Orissa during next 24 hours.

Weather Outlook up to 0830 hours IST of 21st June, 2012

- A low pressure area may develop over northwest Bay of Bengal leading to increase in rainfall activity over east & central India.
- Rain/thundershowers would continue to occur at many places over northeastern states and along west coast.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of the States of the region.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over the states of the region.
- **Weather warning:** Heavy rainfall would occur at one or two places over Assam & Meghalaya during next 48 hours.
- **Advisories:**
 - As significant rainfall occurred over the States of the region during last week and rain / thundershowers is likely to occur at many places during the period, farmers are advised to postpone irrigation, intercultural operation and application of pesticides and fertilizer to the standing crops. As heavy rainfall is expected at one or two places over Assam & Meghalaya during next 48 hours, farmers are advised to arrange adequate drainage facilities to avoid water logging in crop fields.
 - Farmers of Assam are advised to continue land preparation and nursery sowing of *sali* rice utilizing realized monsoon rainfall.
 - Farmers in the Central Brahmaputra Valley Zone of Assam are advised to undertake land preparation and sowing of arhar.
 - Farmers in the Upper Brahmaputra Valley Zone of Assam are advised to continue sowing of vegetables utilizing realized rainfall.
 - Farmers of Barak Valley Zone of Assam are advised to apply the second top dressing of urea in *ahu* rice at 3 weeks after transplanting after current spells of rain. Before top dressing, remove all the weeds from the field. Farmers are advised to undertake weeding in sugarcane followed by earthing up after current spell of rain.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to continue transplanting of rice and sowing of soybean utilizing realized monsoon rainfall.
 - Farmers in Mild Tropical Hill Zone of Mizoram are advised to undertake nursery preparation of rice and sowing of pigeon pea and soybean.
 - Farmers in Mild Tropical Plain Zone of Tripura are advised to continue land preparation and nursery sowing of *aman* rice utilizing realized monsoon rainfall. Complete sowing of groundnut at the earliest.
 - Farmers in Temperate Sub Alpine Zone of Meghalaya are advised to complete sowing and continuing transplanting of *sali* rice in low and medium altitude areas. Continue sowing of *sali* rice in high altitude areas and transplanting of *ahu* rice in low lying areas and sowing of soybean in high and low altitude region utilizing realized monsoon rainfall.
 - Farmers of Sub tropical Plain Zone of Manipur are advised to continue land preparation and sowing of *kharif* rice, soybean and groundnut.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to continue sowing of groundnut and soybean, planting of ginger, cucurbits, turmeric and nursery sowing of rice utilizing realized monsoon rainfall.
 - In Mild Tropical Hill Zone of Nagaland, farmers are advised to complete nursery sowing of rice. Farmers are advised to prepare the field and undertake planting of banana.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - Due to congenial weather conditions, there is chance of attack of blast disease in *ahu* rice in Upper Brahmaputra Valley Zone of Assam; farmers are advised to monitor *ahu* rice and spray Bavistin @ 1 g per litre of water, if infestation is noticed above ETL.
 - Due to prevailing weather conditions there is chance of attack of leaf miner on *kharif* maize, French bean, rice bean and moong in Mild Tropical Hill Zone of Mizoram, farmers are advised to spray neem oil – garlic mixture.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In Lower Brahmaputra Valley Zone and North Bank Plain Zone of Assam, vaccinate cattle & buffaloes against FMD, HS and BQ and pigs against swine fever.
 - Farmers of Central Brahmaputra Valley Zone of Assam are advised to vaccinate cattle, goat and pigs against BQ, HS, Foot and mouth disease as well as anthrax disease.

- Farmers in Manipur are advised to deworm cattle, buffalo against *Fasciola spp.*; deworm and vaccinate poultry against Ranikhet / Coccidiosis disease; deworm and vaccinate pig against swine fever. Deworm goat against Fascioliasis.
- Farmers in Mild Tropical Plain Zone of Tripura are advised to vaccinate poultry against Ranikhet disease with R2B @ 0.50 ml through eye drop. Farmers are also advised to maintain good sanitary condition of poultry, provide balanced feed, fresh & clean water to avoid viral diseases.
- In Mild Tropical Hill Zone of Mizoram, due to congenial weather, there is chance of coccidial infection disease. Farmers are advised to maintain proper sanitary conditions of poultry sheds. Spread bleaching powder or any disinfectant in cattle shed to keep the premises clean and control mosquitoes and flies.
- In Mild Tropical Hill Zone of Nagaland, farmers are advised to deworm and vaccinate against infectious diseases particularly 'Foot and Mouth disease'.
- **Pisculture**
 - Farmers of Barak Valley Zone, Upper Bramhaputra Valley Zone, Lower Bramhaputra Valley Zone and Central Bramhaputra Valley Zone of Assam are advised to release prawn in their fisheries. Clean up the pond well before releasing prawn. Cow dung at the rate of 500 gm per sq m. may be added at least 15 days ahead of releasing fingerlings into the ponds.
 - Farmers in Manipur are advised to keep fish pond free from unwanted vegetation and insects. Water depth of fish pond should be maintained at 1.0-1.5 m. During heavy shower, water should not drain directly into the pond. It should be passed through a bed of sand before draining.

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

- **Realised Rainfall:** Rainfall occurred in Bhadrak, Kandhamal, Koraput, Nawarangpur, Nayagarh and Puri districts of Orissa, Bankura, Birbhum, East Midnapore, Howrah, Kolkata, Murshidabad, 24 Parganas (N) and West Midnapur districts of Gangetic West Bengal, Cooch Behar, Darjeeling, Jalpaiguri and Malda districts of Sub-Himalayan West Bengal, most of the districts in Sikkim, Kishanganj in Bihar and Jamtara in Jharkhand.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim and at one or two places over Jharkhand and Bihar during the period. Rain / thundershowers would occur at one or two places over Gangetic West Bengal and Orissa during next 48 hours and increase thereafter.
- **Warning:** Heat wave to severe heat wave conditions would occur over some parts of Bihar during next 48 hours. Heat wave conditions would also occur at isolated pockets of Jharkhand and interior Orissa during next 24 hours.
- **Advisories:**
 - As rainfall occurred in Bhadrak, Kandhamal, Koraput, Nawarangpur, Nayagarh and Puri districts of Orissa, Bankura, Birbhum, East Midnapore, Howrah, Kolkata, Murshidabad, 24 Parganas (N) and West Midnapur districts of Gangetic West Bengal, Cooch Behar, Darjeeling, Jalpaiguri and Malda districts of Sub-Himalayan West Bengal, most of the districts in Sikkim, Kishanganj district in Bihar and Jamtara district in Jharkhand, farmers are advised to postpone irrigation to the standing crops in these districts. As there is possibility of rainfall at many places in Sub Himalayan West Bengal and Sikkim during next three days, farmers are advised to postpone intercultural operation and application of pesticides and fertilizers to the standing crops.
 - As there was no significant rain in remaining districts of the region and no significant rain is likely to occur, farmers are advised to apply irrigation to the standing crops. In view of heat wave conditions over some parts of Bihar and isolated pockets of Jharkhand and interior Orissa, farmers are advised to apply light and frequent irrigation to the crops.
 - Farmers in East and South Eastern Coastal Plain Zone of Orissa are advised to prepare field utilizing realized rainfall for direct sowing of rice and sowing of arhar, *kharif* groundnut, maize and castor etc. Also undertake sowing of okra utilizing realized rainfall. Farmers are also advised for preparation of field and digging of pits to undertake planting of fruit crops like mango, citrus, coconut, guava, Jackfruit, litchi, cashew, banana and papaya during monsoon season in July and August.
 - Farmers in North Central Plateau Zone of Orissa are advised to undertake planting of ginger and turmeric utilizing realized rainfall.

- Farmers of North Central Plateau Zone and North Eastern Plateau Zone of Orissa are advised for field preparation for sowing of *kharif* vegetables like bhindi, french bean, tomato, cauliflower, cabbage etc.
- Farmers of North Eastern Coastal Plain Zone of Orissa are advised to prepare field utilizing realized rainfall and wait for sufficient rainfall for direct sowing of *kharif* rice.
- The farmers of Western Undulating Zone of Orissa are advised for field preparation for sowing of *kharif* crops like cotton, maize, arhar etc. taking the advantage of pre-monsoon rain.
- In view of prevailing dry weather, farmers in North West Alluvial Zone of Bihar are advised to undertake harvesting of maize and also apply irrigation to vegetable crops. Farmers are also advised to prepare the nursery for sowing of long duration rice varieties and prepare land for sowing of *kharif* maize and also sorghum, bajra and maize as fodder of animals. Intercropping of meth, lobia and rice bean with these crops will enhance the quality of the fodder, which will be nutritive for the milch animals.
- Farmers in North East Alluvial Zone of Bihar are advised to undertake harvesting of *boro* rice and start nursery preparation for early *kharif* rice. Farmers are also advised to grow dhaincha as green manure crop for *kharif* rice.
- As there is less possibility of rainfall as well as temperature is also high, farmers are advised for frequent irrigation in vegetable, moong, maize and others crop and light irrigation in chilli, brinjal, bitter gourd, sponge gourd, cucumber and tomato crops in North East Alluvial Zone of Bihar. Irrigation should be provided in morning hours and in the evening hours. Farmers are also advised to protect banana, litchi and mango orchards against hot winds by physical barrier and frequent irrigation. Deep ploughing of fields after harvesting of crops is advised so that eggs and pupae of insects and weed seeds are destroyed.
- In Central and North Eastern Plateau Zone of Jharkhand, farmers are advised to take short duration variety of arhar, groundnut, rice, urad, turmeric, jowar, soybean and okra for inter cropping.
- Taking the advantage of prevailing dry weather and probable onset of monsoon shortly in Western Plateau Zone of Jharkhand, farmers are advised to harvest matured summer rice immediately.
- Farmers in Central, Western and North Eastern Plateau Zone of Jharkhand are advised for planting of ginger, turmeric, elephant foot yam and sowing of okra. Operations may be completed at the earliest, because onset of monsoon may result into high moisture in the field which may damage the tuber seeds.
- Farmers are advised to give preference to the upland in respect of preparation of field in Western Plateau of Jharkhand, so that various crops may be sown immediately after onset of monsoon.
- Farmers in Coastal Saline Zone of West Bengal are advised to undertake land preparation for sowing of long duration direct seeded rice. Farmers are also advised to prepare field for sowing and planting of turmeric and ginger.
- Farmers in New Alluvial Zone and Red Laterite Zone of West Bengal are advised to prepare field for nursery sowing of *aman* rice. Farmers are advised to undertake intercultural operation in late sown jute. Farmers are also advised to undertake land preparation for pigeon-pea.
- Farmers in Old Alluvial Zone of West Bengal are advised to undertake land preparation for nursery sowing of *kharif* rice.
- Farmers in Terai Zone of West Bengal are advised to undertake nursery preparation of *aman* rice utilizing the realized rainfall, in view of timely transplanting. Farmers are advised to prepare seedbed for early cauliflower selecting the high temperature tolerant varieties.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- Early shoot borer infestation has been found in Bargarh district in West Central Table Land Zone of Orissa in sugarcane crop. Farmers are advised that if it crosses the ETL level (5% dead heart), undertake hoeing, weeding and application of phorate @ 4 kg or Carbofuran @ 12 kg or Cartap @ 10 kg followed by earthing up or spray 400 ml Monocrotophos or Tryozophos or Profenophos per acre.
- In Kendrapara district of East and South Eastern Coastal Plain Zone of Orissa, fruit and shoot borer in brinjal has been found. To control it, install Pheromone trap and spray 4 g Sevin WP or 2 ml Malathion in 1 litre water alternatively. Thrips in Chilli has also been found. Spray 300 ml Ethion or 400 ml Carbosulphan or Chloropyriphos in 200 litre water/acre.

- Under prevailing weather situation, attack of fruit rot in pointed gourd and powdery mildew in sweet gourd may be seen in new Alluvial Zone of West Bengal. Remove the infected fruits and spray Blitox @ 4 g per litre of water.
- Weather is congenial for the attack of mite in chilli in Terai zone of West Bengal. To control spray Phenazaquine 10 EC @ 1.5 ml per litre of water.
- In the Hill zone of West Bengal infestation of sucking pests like jassids may occur in okra. For their control, the crop should be sprayed either with Monocrotophos @ 1.5 ml / litre or Imidacloprid @ 1 ml / 7.5 litre of water.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
- Special care should be taken for milch animals under heat wave condition in North West Alluvial Plain Zone of Bihar. Give plenty of fresh water and keep the animals under the shade.
- In North Eastern Coastal Plain Zone and North Central Plateau Zone of Orissa, as the temperature is high, provide sufficient water and rice water to the animals before leaving them for grazing. Restrict grazing after 11 am and before 4 pm due to chances of sunstroke.
- In North Eastern Coastal Plain Zone of Orissa, harvest all the cultured fish from the pond and drain out water from it for complete drying. In perennial ponds where water draining is impossible, apply Mahua Oil Cake @ 1 t / acre to kill all the predatory and weed fishes. Clear the aquatic weeds from the pond and strengthen the embankments in view of likely onset of monsoon.
- There is possibility of attack of heat stroke in animals due to prevailing high day temperature in Central, North Eastern and Western Plateau Zone of Jharkhand. Hence, animals should be protected against intense heat and should not be allowed to be exposed in sunlight during noon and may be provided with plenty of water for drinking.

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

- **Realised Rainfall:** Rainfall occurred in many districts of Jammu & Kashmir in the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over western Himalayan region and Rajasthan.
- **Warning:** Heat wave to severe heat wave conditions would occur over some parts of east Uttar Pradesh during next 48 hours. Heat wave conditions would also occur at isolated pockets of west Uttar Pradesh during next 24 hours.

Advisory:

- As there was rain over districts of Jammu & Kashmir and no significant rainfall is likely over the region, farmers are advised to apply irrigation to the crops. Postpone irrigation to crops in Jammu & Kashmir.
- In Irrigated North Western Plain Zone of Rajasthan are advised to irrigate already sown desi cotton and after irrigation apply top dressing. Sowing of rice may be undertaken at the end of June or first week of July. Early sown that is 25 to 30 days old rice plant may be transplanted in the main field at the distance of 15cm.
- In Semi Arid Eastern Plain Zone of Rajasthan farmers advised for sowing of *kharif* crops like pearl millet, sorghum, maize & cluster bean etc. arrange farm inputs in advance so that timely sowing of these crops can be done at the onset of monsoon. Also it is right time for sowing of groundnut.
- Farmers in Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan are advised for sowing of groundnut, maize, cucurbits like as bitter gourd, water melon, pumpkin, cucumber, round gourd, ridged Gourd, bottle gourd etc.
- In Sub Tropical Zone of Jammu and Kashmir, farmers are advised to complete transplanting of tomato, onion, brinjal, chilli crop and undertake new nursery sowing of brinjal, chillies. Undertake nursery sowing of rice without any further delay. Farmers are also advised to go for deep ploughing with soil turning plough in order to expose the soil and killing of larvae of insects during these days. Provide cover to young plants of litchi, mango etc in order to protect from heat injury.

- In Intermediate zone (Pahalgam) of Jammu & Kashmir, farmers are advised to undertake nursery sowing of bhindi, pumpkin, bottlegourd, at Intermediate higher zone, it is advise to sow radish, carrot, turnip, spinach, beans, methi and cabbage. Also advise to start transplanting of brinjal, Knolkhol, chillies, cabbage, cauliflower. At Sub-tropical and intermediate lower zone, undertaken nursery sowing of rice.
- In Valley Temperate zone of Jammu & Kashmir, farmers are advised to continue field preparation for sowing of rice, *kharif* pulses and maintain nursery water level 5 cm during night hours. Continue seed sowing of vegetables like cucurbits, kale, knol khol, bhindi and beans.
- In Sub Tropical Zone of Jammu & Kashmir, farmers are advised to continue sowing of direct seeded rice crop and due to chances of light rainfall, farmers can go for land preparation for sowing of maize crop in irrigated as well as rainfed condition. Also farmers can go for transplanting of early vegetables viz. brinjal, chillies and cauliflower.
- In High Hill Temperate Dry Zone of Himachal Pradesh, farmers may continue sowing of peas, potato, vegetables only in valley (cauliflower / cabbage / lettuce), capsicum / tomato planting in polyhouse and also advised to irrigate daily or at least in alternate day.
- It is optimum time for the sowing of maize crop for green cobs and dhaincha for green manuring in rice fields and also to have green fodder, sowing of Chari and bajra in irrigated areas in lower hills, peas and French bean, opla and phafra can be sown in high hills regions, Khira, bitter gourd, tori in field, land preparation for sowing of nursery of rice. It is optimum time for plantation of radish, arbi, garlic and ginger in the fields. Also nursery of cucurbits having 2-4 leaf stage can be successfully transplanted in fields in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh.
- In Mild Hills Sub Humid Zone of Himachal Pradesh, farmers are advised for sowing of maize crop for green cobs, it is optimum time for sowing of Chari and bajra in irrigated areas in lower hills. Also sowing of nursery of paddy, khira, summer squash, bitter gourd, tori and maize in the fields. In higher hill under dry and wet temperate climate region start sowing of red and white clover, and peas, potato, french bean, turnip, radish, carrot, sugarbeet, palak, opla and phafra sowing should be completed in high hill regions. It is time for digging out the potato. The nursery of cucurbits having 2-4 leaf stage can be successfully transplanted in fields and plantation of radish, arbi, garlic and ginger may be done.
- Complete transplanting of indeterminate tomato, bellpaper, brinjal and chilli. Undertake nursery sowing / planting of capsicum, tomato, cabbage and cauliflower in polyhouses in high Hill Temperate Dry Zone. Cabbage and cauliflower direct seed sowing in the field can also be done in high hills region and in Mid Hills Sub-Humid zone of Himachal Pradesh.
- In Bhabar and Tarai Zone of Uttarakhand, farmers are advised to continue transplanting of rice and finger millets during this week, also advised to prepare field for sowing of *kharif* season crops like groundnut, sorghum, millets, pigeon pea, urad, moong, soyabean, rajma and arhar. Advised to start sowing of maize and ginger in Hill Zone of Uttarakhand,
- Farmers are advised to undertake weeding in early sown garlic, cucurbits and okra crop and apply irrigation as no rainfall is expected during this week. However, if irrigation facilities are not available, then put straw mulch in between rows for moisture conservation in Sub humid sub tropic of Uttarakhand.
- Taking advantage of present weather conditions in Delhi farmers are advised to start sowing of paddy in nurseries. Also prepare nursery of early cauliflower and brinjal. Farmers are advised for field preparation for sowing of guar, bajara, maize, cluster bean, spinach, amaranthus and ladyfinger. Sowing of baby corn and sweet corn may be done in this week.
- Farmers in Punjab and Haryana are advised to start transplanting of paddy. As weather is expected to remain dry in coming days, farmers are advised to irrigate the sugarcane crop at 7-12 days interval. Irrigate the fodder crops regularly. Sowing of recommended varieties of arhar should be completed during first fortnight of June whereas mash and moong sowing particularly on light textured soils should be started from last week of June. Start sowing of okra and maize. Irrigate the standing vegetable crops once in a week regularly.
- In Sub humid sub tropic zone of Uttarkhand, under these weather conditions, white rust in pea crop is possible. Under its influence whole plant dries and yield is reduced considerably as pods remain unfertilized. If the symptoms of white rust are seen, then farmers are advised to spray 0.5 % solution of

Carbendazim immediately at an interval of 10 days. Also to control mango gall formation cut and destroy the affected parts away from the orchard. Spray NAA 200 ppm 90 ml/200 litres of water for better flower and fruit eversion.

➤ Stages of major crops are mentioned in Annexure I.

● **Animal Husbandry**

➤ In Sub humid sub tropic of Uttarakhand, it is advised to 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.

➤ In Valley Temperate Zone of Jammu & Kashmir, it is advised to provide cool and fresh drinking water to the livestock as there is increase in the day temperature, Ventilation within the shed should be improved. Low energy diets should be provided to animals.

➤ In Sub Humid Southern Plain and Aravali Hill Zone, it is advised that the poultry and animals should be protected from heat waves and vaccination should be done in animals before onset of monsoon.

● In Himachal Pradesh, it is advised to avoid heat stress to animals. Grazing pattern may be shifted to early morning and evening hours. Practice concentrated feeding in early morning and late evening. Provide water splash to buffalos twice a day.

● **Floriculture :**

➤ In valley temperate zone of Srinagar in Jammu & Kashmir, farmers are advised to collect seeds from selected spring flowering annuals. Prepare the beds for transplanting of summer flowering annuals. Irrigate lawns, flowering beds and pot plants as and when required. Propagate chrysanthemum and carnation by stem cuttings. Continue desuckering of budded roses. Apply fertilizer around trees and shrub plants after ensuring that the soil is weed free and moist enough.

➤ In Mid-Hills Sub-Humid Zone of Himachal Pradesh, apply mulching in the crops planted in open fields like marigold, chrysanthemum and gladiolus. Irrigate the fields thoroughly in the evening. Pinch the marigold crop which has been transplanted in the fields 20-30 days ago. Provide second dose of nitrogenous fertilizers (15 gm/m²) to gladiolus on 6 days stage.

● **Apiculture :**

➤ In Sub Tropical Zone of Jammu & Kashmir, it is advised to provide ventilation by placing a small stock in between brood chamber. Keep bee colonies in shade or cover with wet gunny bags.

➤ In Himachal Pradesh, in lower plains areas, keep the colonies in shady places and sprinkle water, if possible to reduce the heat in the region.

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

● **Realised Rainfall:** Most of the districts in Kerala except Thiruvananthapuram, all the districts in Coastal Karnataka, Chickmagalur, Kodagu and Shimoga in South Interior Karnataka, East and West Godavari, Puducherry in Tamil Nadu, Srikakulam, Vishakapatnam and Vizianagaram in Coastal Andhra Pradesh and Karimnagar, Warangal in Telangana received sufficient rainfall. No significant rainfall occurred over the remaining parts of the region.

● **Rainfall Forecast:** Rain/thundershowers would occur at many places over Coastal Karnataka and Kerala and at few places over interior peninsular India except Tamil Nadu where rainfall is likely to increase (isolated to scattered) after 24 hours. Heavy rainfall would occur at one or two places over Kerala and Coastal Karnataka during next 48 hours.

● **Advisories:**

➤ Monsoon has advanced into some more parts of North Interior Karnataka and most parts of Tamil Nadu. As monsoon is yet to reach other parts of the region, farmers in Andhra Pradesh and remaining parts of Karnataka are advised to start land preparation and arrange inputs for sowing for *kharif* crops like cotton, jowar, maize, castor, groundnut and pulses in Andhra Pradesh and cotton, nursery sowing of rice, sowing of hybrid jowar, maize, ragi, sugarcane, sunflower, groundnut, red gram and horticultural crops in South Interior Karnataka.

➤ Farmers in Kerala are advised to continue sowing of direct seeded rice and nursery sowing / transplanting of *Virippu* rice in some parts of Kerala. Also continue new plantation of coconut seedlings.

- Farmers are advised to undertake nursery sowing of rice under irrigated conditions in Chittoor, Cuddapah and Nellore districts in Andhra Pradesh.
- Farmers are advised to continue nursery sowing of rice in Coastal Karnataka and sowing of green gram, black gram, jowar and soyabean in North Interior Karnataka if sufficient rainfall occur in next few days. Undertake sowing of ginger, turmeric and drill sown paddy in Uttar Kannada district. In South Interior Karnataka take up sowing of rice and ginger under irrigation condition.
- Farmers in Tamil Nadu are advised to continue nursery preparation of *kuruvai* rice.
- Farmers in the Coastal Zone of Karnataka are advised to undertake nursery and land preparation of paddy and drain out the excess water in papaya plantation field, undertake transplantation of rice seedlings in SRI method of paddy cultivation, since there is shortage of water due to lack of rain in the last three previous days. Due to high wind speed, fisher men should avoid to go for fishing in deep sea.
- Farmers in the North East Transition Zone of Karnataka are advised to take up sowing of black gram, green gram, jowar and soybean first and then sowing of pigeon pea provided sufficient rainfall occurs, take up fresh plantation of fruit trees, teak, neem, tamarind, acacia or other trees which are useful to prepare the agricultural implements on the bunds, uncultivated and marginal land and make basins and give chemical fertilizer to the fruit crops.
- Good amount of rainfall has been received at many places in in the North Dry Zone of Karnataka during the previous week. Making use of this rainfall, farmers are advised to keep the land, seeds, seed treatment fungicides and insecticides and other inputs ready to take up sowing of kharif crops as and when the monsoon becomes active.
- Farmers in the North Transition Zone of Karnataka are advised to take up land preparation to harvest the rain water and not to take up any sprays during next five days, keep the land ready for sowing (where ever irrigation facility is there), incorporate recommended dose of FYM (7.5 tons/ha) three weeks before planting and procure certified seeds (paddy, maize, sorghum, green gram, soybean, groundnut, chilli, cotton, onion etc.) and fertilizers (Urea, DAP and MOP), since 7 mm/day rainfall is expected on an average, during next five days.
- Farmers in the North East Dry Zone of Karnataka are advised to build moisture conservation structures and procure the required seeds for kharif sowings before onset of monsoon season, prepare nursery bed for paddy seedling and keep seeds of green gram, black gram, tur, cowpea, bajra, sorghum etc, and recommended dose of fertilizers ready for kharif sowings. (varieties mentioned in Annexure-I)
- Farmers in the Central Dry Zone of Karnataka are advised transplant arecanut seedlings, paddy growing farmers should use the recommended variety (varieties mentioned in Annexure-I) for their area, clean and repair all drainage channels before the start of the rain, clean up inter drainage channels so that rain water flows easily, take up sowing of ginger/turmeric by making use of expected rainfall in the next week.
- Farmers in the South Zone of Tamil Nadu are advised to avoid irrigation to the crops and protect the crops from the expected heavy winds, as light rainfall is expected in the coming days.
- Farmers in the North Western Zone of Tamil Nadu are advised to give irrigation to crops like tapioca, groundnut, black gram and green gram to save them, since there is chance of low rainfall during this week. Due to the strong winds, the standing crops, their leaves and the top soil are going to lose moisture. This will result in reduction in growth. Hence, farmers are advised to go for planned irrigation for the crop that is in right stage of growth.
- Farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to ensure field sanitation and spray prophylactic fungicidal sprays to prevent spread of diseases, as there is forecast for heavy rainfall. Prevention from wind damage may be done, since high wind speed is also forecasted.
- Farmers in the High Rainfall Zone of Tamil Nadu are advised to undertake field preparation operations utilizing the already received rainfall, clear and stir basins of tree spices and rubber to facilitate easy fertilizer application and plant pepper rooted cuttings, if there is sufficient soil moisture.

- Farmers in the North Coastal Zone of Andhra Pradesh are advised to undertake sowing of crops like mesta, sesamum and bajra preceding to paddy where ever sufficient rainfall is received and land preparation for rainfed sugarcane, since rainfall may occur in ensuing five days.
- Farmers in the Southern Telangana Zone of Andhra Pradesh are advised to procure the quality seeds and fertilizers for taking up timely sowing of rainfed crops like cotton, jowar, maize, castor, groundnut, pigeonpea, greengram etc. and dig pits for planting new orchards, take up sowing of rainfed crops only after receiving cumulative rainfall of 60-75 mm, take-up sowing of sunhemp and dhaincha as in-situ green manure crop preceding rice by taking advantage of rains and sow green gram as catch crop preceding rice depending on the availability of release of water.
- Farmers in the Northern Telangana Zone of Andhra Pradesh are advised to take up summer ploughing to control weeds, hibernating pests and disease spores that may damage kharif crops, procure the quality seeds and fertilizers for taking up timely sowing of rainfed crops like cotton, jowar, maize, castor, groundnut, pigeonpea, greengram etc. and dig the pits for planting new orchards.
- Farmers in the Central Zone of Kerala are advised to undertake transplanting of rice after puddling and when the seedlings are in the optimum age. Farmers are also advised to undertake planting of coconut seedlings, arecanut seedlings, pepper vines, colocasia, yams etc with the onset of rain and basins may be opened in adult coconut plantations for sowing of green manure seeds.
- Since there has been not much rainfall during the past two to three weeks and light rain is expected, farmers in the Southern Zone of Kerala are advised to provide supplementary irrigation to the transplanted rice in field, so that it does not affect growth. Farmers are also advised to fix tapping shades for rubber before start of monsoon, start tapping after a few good showers, do propping for those banana plants in bunched stage, as strong winds are expected and wait for a few good showers to start intercropping in coconut gardens
- Farmers in the Coastal Zone of Karnataka are advised to go for seed treatment by soaking paddy seeds (30 minutes) in a solution of Carbendazium 1g/ lit of water to prevent leaf spot disease incidence in the paddy nursery.
- Mango trees were found to have little and malformed leaf in many parts of Southern Dry Zone of Karnataka. Farmers are advised to prune infected part and apply blitox paste to the cut portion. Due to cloudy weather thrips, mites and murda-complex diseases are problematic in chilli. Farmers are advised to spray 1.7 ml Roger or 1.5 ml Metasystox +2.5ml Dicofol per liter of water to control them and select banana suckers from disease and pest free gardens. The sucker's age should be 3 months and weight of the rhizome should not be less than 1kg.
- Farmers in the Western Zone of Tamil Nadu are advised look out for incidence of mealy bug incidence in sugar-cane, whitefly in brinjal and pests in horticulture crops and undertake plant protection measures, if noticed.
- The prevailing high temperature is favourable for the incidence of fruit fly in mango and guava and dieback disease in lemon in the South Zone of Tamil Nadu. Farmers are advised to undertake plant protection measures.
- Incidence of early shoot borer in sugarcane, mites, shoot and fruit borer is noticed in brinjal, tomato spotted wilt virus (TSWV) disease in tomato, thrips, mites and chaenophora blight in chillies is noticed in the Northern Telangana Zone of Andhra Pradesh. Farmers are advised to give irrigations at close intervals and spray Chlorpyrphos @2.5 ml per litre of water at 4, 6 and 9th week after transplantation to control early shoot borer, Dicofol @ 5 ml or Propargyte@2ml per liter of water to control mites, remove and destroy the affected shoots and fruits followed by spraying Carbaryl 50% WP @ 3 g per liter or Profenophos @ 2 ml per litre of water to control shoot and fruit borer, remove and destroy the affected plants and spray systemic insecticides like Dimethoate @ 2 ml per litre of water to control the insect vector, spray Acephate @ 1.5 g or Fipronil @ 2 ml per litre of water to control thrips and Copper-oxy-chloride @ 30 g + Plantamycin @ 1 g in 10 litre of water twice at weekly intervals to control chaenophora blight.
- Fungal diseases occurred as a result of untimely rains during summer in the Southern Zone of Kerala. Farmers are advised to apply Bordeaux mixture or oil based copper oxy chloride formulation on

leaves to protect leaves against abnormal leaf fall and undertake plant protection measures against bacterial wilt in vegetables, sigatoka disease in banana and bud rot in coconut.

- **Animal Husbandry**

- Farmers in the North East Transition Zone and coastal zone of Karnataka are advised to vaccinate the cattles for black quarter and foot and mouth diseases before onset of monsoon.
- Farmers in the Problem Area Zone of Kerala are advised to vaccinate animals against Pasteurellosis (Bacterial infection) and undertake Precautionary measures against Mastitis.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Significant rainfall occurred in most of the districts in Konkan of Maharashtra and Valsad district in Gujarat during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over Konkan & Goa and at a few places over remaining parts of the region.
- **Advisories:**
 - As monsoon advanced over South Konkan, farmers are advised to undertake sowing of *kharif* crops (rice, nagli and vari). Sow the seed on raised beds. Seed rate for rice is @ 50 kg per ha for bold varieties, 40 kg per ha for fine varieties and 20 kg per ha for hybrid varieties. farmers are also advised to plough the field at *Vapasa* condition and sow the seeds of *Dhaincha* @ 40 kg per ha and cut this crop plant at flowering stage and incorporate in the same field while puddling the field.
 - Farmers in Kolhapur region are advised to complete preparatory tillage for sowing of *kharif jowar*, groundnut and red gram. They are also advised to undertake sowing of *kharif* rice and soyabean with the help of recent monsoon rain.
 - Farmers in Madhya Maharashtra, Marathwada and Vidarbha are advised to complete preparatory tillage and keep the fields ready for sowing of *kharif jowar*, groundnut, soybean, cotton, red gram, green gram and black gram. For sowing of *kharif* crops procure seeds of hybrid and improved varieties.
 - Farmers of Western Ghat Zone are advised to undertake nursery sowing of *kharif* rice and nagli and procure improved seeds of rice and nagli. They also advised to undertake pit preparation, fill it with soil and compost for new planting of fruit crops in *kharif* season.
 - Farmers of North Madhya Maharashtra are advised to undertake sowing of BT cotton upto 15th June by selecting improved varieties.
 - Farmers in Middle Gujarat Zone are advised to prepare field for sowing of *kharif* crops and make arrangements for farm inputs. Prepare nursery for late maturing varieties of *kharif* rice with seed rate of 30 kg seeds / ha for bold grain varieties and 20 kg seeds / ha for small grains varieties. Give seed treatment of Thiram or Captan or Cerasan or Agrosan @ 3 g / kg of seeds for controlling the seed borne diseases.
 - Farmers in Bhal and Coastal Zone of Gujarat are advised to prepare land for *kharif* crop and arrange required farm inputs.
 - Farmers in North West Zone of Gujarat are advised to harvest summer crops and prepare land for *kharif* crops and arrange farm inputs.
 - Farmers in South Saurashtra Zone of Gujarat are advised to prepare field for sowing of *kharif* crops. Carry out harvesting of bajra crop and mango fruits.
 - Farmers in North Saurashtra Zone are advised field preparation and to select suitable varieties of *kharif* groundnut, bajra, sesame, green gram and pigeon pea etc. for sowing.
 - Cotton growing farmers in South Gujarat Zone, who has irrigation facility, may prepare field for sowing of cotton.
 - Farmers in North Gujarat Zone are advised to complete harvesting and threshing of pearl millet and sorghum utilizing dry weather conditions. Carry out gap filling and apply light irrigation for better germination in early sown cotton and groundnut crops.
 - Varieties of *kharif* crops are mentioned in Annexure II.
 - Due to partly cloudy conditions in the current week, there may be infestation of mango fruit fly in South Konkan; install Rakshak traps @ 4 traps per ha. To avoid further spread of the pest, collect and destroy fallen infested fruits of mango in the orchard.
 - Under prevailing weather, there may be attack of fruit borer in tomato in western Maharashtra Scarcity Zone; spray Deltamethrin @ 5 ml or HANPV @ 10 ml in 10 litres of water.

- Stages of major crops are mentioned in Annexure-I.

Animal Husbandry:

- Due to high temperature forecast in North Gujarat Zone, Middle Gujarat Zone and South Gujarat Heavy Rainfall Zone, keep animals under shade during noon hours and provide clean drinking water. Put curtains on south-west side of poultry house and sprinkle water on curtains during noon time.
- Vaccinate the animals in North Gujarat Zone against FMD and BQ to avoid disease outbreak during ensuing monsoon season.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in Bhopal and Hosangabad districts of West Madhya Pradesh.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Madhya Pradesh and Chhattisgarh.
- **Warning:** Heat wave conditions would occur over isolated pockets of north Madhya Pradesh during next 24 hours.
- **Advisories:**
 - Heat wave conditions would occur at isolated pockets of north Madhya Pradesh during next 24 hours. Farmers are advised to apply light and frequent irrigation to the standing crops.
 - Farmers in all regions of Madhya Pradesh should arrange for farm inputs like fertilizers, seeds, insecticides/fungicides etc for sowing of kharif crops based on regional conditions, cropping pattern and availability of irrigation facility.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh, farmers are advised land preparation for sowing of kharif crops. Also prepare field for direct sowing of rice and raise nursery for paddy in irrigated conditions. Provide irrigation in cucurbitaceous crops, ladies finger, tomato, cowpea and other vegetable crops and top dressing of urea as required. Weeding and intercultural practices is also recommended.
 - Farmers in Gird Zone of Madhya Pradesh are advised to prepare nursery bed for kharif rice. Also irrigate vegetable crops in the morning and late evening.
 - Farmers in Bundelkhand region of Madhya Pradesh are advised to prepare nursery bed for sowing of kharif onion and give light irrigation in evening time to all standing crops specially vegetables and fruit crops.
 - Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised to irrigate the sugarcane after 18 to 20 days of interval, also provide irrigation in cucurbitaceous crops, okra, cowpea, and other vegetables. Also do intercultural operation in lobia, cowpea, jowar and maize. Farmers are advised for picking of okra and spinach. They are also advised to raise nursery for paddy in irrigated conditions.
 - Farmers in Vindhyan Plateau of Madhya Pradesh are advised to procure improved varieties of seeds for sowing of soyabean, tur and rice.
 - Farmers in Chhattisgarh Plain Zone are advised for ploughing of fields wherever sufficient soil moisture is available after harvesting of summer rice, green gram, sunflower, groundnut etc. Looking to the higher wind speed in coming days due to pre-monsoon activities, sugarcane growers are advised to provide adequate support to standing sugarcane crops of 5-6 feet height by tying them together.
 - Farmers are advised to prepare land for rice nursery in Chhattisgarh Plain Zone with assured irrigation facility.
 - Farmers are advised to prepare field for planting of tapioca, ginger, colocasia, Dioscorea and elephant foot yam in Bastar Plateau Zone of Chhattisgarh.
- **Animal Husbandry & Poultry**
 - Farmers in Kymore Plateau and Satpura Hills region, Grid Zone, Central Narmada Zone and Malwa Plateau Zone of Madhya Pradesh are advised to provide plenty of cool potable water and fresh green fodder to the cattle.

- In view of high temperature conditions in Bundelkhand Zone, farmers are advised to wash the buffalos with water twice in a day to keep their body temperature cool in high temperature and provide green and juicy fodder for the dairy animals.



Annexure I

Major Crops

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

- Sugarcane (vegetative), *ahu* rice (direct seeded) (flowering / milk / dough), *ahu* rice (transplanted) (tillering / panicle initiation), *sali* rice (nursery preparation / sowing), okra (flowering / fruiting), black gram, green gram (flowering / pod formation), *Capsularis* / *Olitorius* jute (vegetative), summer vegetables (sowing / vegetative / flowering / fruiting), cucurbits (vegetative / flowering / fruiting), ginger / turmeric (planting / vegetative), pigeon pea (sowing), arhar (sowing) in Assam.
- *Jhum* and WRC rice (transplanting / early tillering), maize (cob formation / harvesting), black gram, green gram (sowing / vegetative), okra, cucurbitaceous vegetables (fruiting / harvesting), beans (flowering / pod formation), soybean (sowing / vegetative) in Arunachal Pradesh.
- Pre-*kharif* rice (late transplanted) (tillering / panicle initiation), pre-*kharif* rice (grain formation / maturity), soybean, groundnut (sowing), *kharif* maize (sowing / early vegetative), cabbage, chilli (new) (transplanting / vegetative), okra, French bean (flowering / fruiting), ginger, turmeric (planting / vegetative), cow pea (sowing / vegetative), cucurbits (vegetative), brinjal (sowing), cauliflower (nursery sowing) in Manipur.
- *Sali* rice (nursery sowing), *ahu* rice (sowing / transplanting), *kharif* maize (vegetative / tillering), black gram, green gram (vegetative / branching), brinjal (fruiting / harvesting), soybean (sowing / vegetative), tomato (vegetative / flowering), turmeric, ginger (vegetative / tillering), jute (vegetative/ branching) and vegetables like bottle gourd, ash gourd, cauliflower, cabbage etc. (flowering / fruiting) in Meghalaya.
- Rice (nursery preparation), groundnut, soybean, pigeon pea (sowing), *Khasi* mandarin (flowering / fruiting), banana (vegetative / fruiting / maturity / harvesting), *kharif* maize, French Bean, rice bean, moong (vegetative / flowering), pre-*kharif* cucurbits (fruiting / harvesting), pre-*kharif* okra (harvesting), okra (vegetative), *kharif* cucurbits (vegetative) and ginger / turmeric (planting), in Mizoram.
- Rice (nursery sowing / germination / vegetative), ginger, turmeric (vegetative), maize (vegetative), and banana (fruiting / harvesting) in Nagaland.
- *Aus* rice (tillering), upland *kharif* rice (tillering), *aman* rice (nursery preparation), groundnut (sowing), arhar (vegetative), maize (tasseling / silking), cucurbits (sowing / seedling), okra (flowering / fruiting), summer vegetables like ridge gourd, bitter gourd, sweet gourd, gourd etc (fruiting) in Tripura.

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

- Sugarcane (vegetative), lobia for green fodder (vegetative), mishrikand (vegetative), vegetables (flowering / fruiting / harvesting), *boro* rice (harvesting), moong (harvesting), summer maize (grain maturity) in Bihar.
- Turmeric, ginger and elephant foot yam (planting), okra, maize (sowing), arhar (land preparation / sowing), summer moong (maturity / harvesting), summer rice (grain maturity / harvesting), summer vegetables (flowering / fruiting / harvesting), summer maize (grain maturity / harvesting) in Jharkhand.
- Sugarcane (tillering), banana (vegetative), tomato (flowering / fruiting / harvesting), jute (sowing / early vegetative), yam and ginger (planting), okra, pulses, oilseeds, cotton, sunflower, maize and vegetables (sowing) in Orissa.
- *Aus* rice (sowing / tillering), *aman* rice (nursery preparation), summer vegetables (flowering / fruiting / harvesting), sesame (maturity / harvesting), groundnut (seed maturity / harvesting), chilli (flowering / fruiting / harvesting), mango, litchi (maturity / harvesting), cauliflower (seedling), green gram (maturity / harvesting), jute (sowing / early vegetative) in West Bengal.
- Ginger (germination / early vegetative), orange (flowering / transplanting), large cardamom (vegetative / primary flowering / secondary flowering), vegetables (vegetative) orange (flowering), maize (vegetative / late vegetative) in Sikkim.

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

- Vegetables (bhindi, cucurbits), peas (sowing / germination), potato (planting / sprouting), mirch, brinjal (nursery sowing/ transplanting), cucurbits viz. cucumber, summer squash, khira, bitter gourd, bottle gourd (nursery sowing/transplanting), tur, Shimla mirch, and tomato (transplanting / seedling), apple and other temperate fruits (vegetative), radish, arbi, amaranthus, turmeric, maize, dhaincha, chari, bajra,

- barley, red and white clover, bellpepper, garlic, ginger, coriander, knolkhol, cabbage, cauliflower, lettuce, (sowing / planting / germination), rice (nursery sowing) in Himachal Pradesh.
- Paddy (Nursery preparation), Late onion (vegetative), Chilli, tomato, brinjal, spinach, tomato and cucurbits (Vegetative and fruiting Stage), French bean, cluster bean, summer radish, summer green gram (vegetative and fruiting Stage), ladies finger (fruiting / maturity / harvesting), guar, maize, Bajra, cluster bean as fodder crops (sowing), pigeon pea, cotton (sowing) in Delhi.
 - Rice (Nursery sowing, summer fodder (maize + cowpea + jowar) (sowing/vegetative), maize (sowing / emergence / vegetative), turnip, cruciferous crop (viz. cabbage, cauliflower, knolkhol, kale, broccoli), radish, carrot, beet root, coriander and fenugreek (sowing) leafy vegetables like celery, Parsley and Leek, solanaceous crops viz tomato, onion, brinjal and chilli, capsicum (nursery sowing/transplanting), cucurbits like summer squash (Leh) (sowing / transplanting) under low tunnels, Horticultural crops (various stages) viz. [peach, plum & mango (flowering/fruiting), ber, orange & guava (fruiting)], kharif pulses (sowing), radish, carrot, turnip, spinach, beans, methi and cabbage(sowing), brinjal, Knolkhol, chillies, cabbage, cauliflower (transplanting) in Jammu & Kashmir.
 - Chilli, capsicum, cauliflower, broccolli (germination/vegetative), sugarcane (planting), papaya (planting), urd and moong (pod formation), pearl millets (early vegetative/vegetative), sunflower (germination), Chaitee dhan, maize, lobia, sunhemp, cowpea, jowar for green fodder (seedling / early vegetative), garlic, cucurbits, okra(seedling) French bean, maize (seedling), rice (nursery sowing/transplanting), finger millets (sowing), groundnut, sorghum, millets, pigeon pea, urad, moong, soyabean, rajma, arhar, maize and ginger (land preparation) in Uttarakhand.
 - Rice (land preparation / sowing), winter sugarcane (vegetative growth), sunflower, summer moong, urad (pod maturity), vegetables [tomato, brinjal, lady's finger, cucurbits like bottle gourd, bitter gourd, cucumber] (fruiting / harvesting), onion (flowering / fruiting / harvesting), maize (grain formation), fodder maize, lobia, jowar (sowing / germination), Sanai, Dhaincha (sowing / early vegetative), summer sugarcane (initial growth (tillering)), mango (flowering / fruiting), cotton, soyabean and urd (sowing), sunflower, jowar, bajra (sowing) in Uttar Pradesh.
 - Rice (land preparation / nursery sowing), spring sugarcane (sprouting / tillering), berseem (harvesting), barley (harvesting), radish (sowing), carrot, turnip, cauliflower (transplanting / vegetative), summer pulses (pod maturity), tomato, sunflower (sowing), cotton (sowing / early vegetative), okra, chilli, brinjal (sowing / transplanting) in Punjab.
 - Rice (land preparation / nursery sowing), Sugarcane (spring season) (early vegetative), barseem (vegetative / last cut), fodder ((maize + cowpeas) (vegetative), moong, mash, pigeon pea (vegetative), cauliflower, cabbage, carrot, potato (transplanting), barley (heading/pre heading) and radish, cotton (sowing), turnip (sowing) in Haryana.
 - Sweet potato (harvesting), cluster bean (pod formation/pod maturity), cauliflower, cabbage, onion (transplanting / germination), sugarcane (new planting), cotton (Desi kapas, B.T. kapas, Narma kapas, American Cotton) (land preparation / sowing), pearl millet, jowar and bajra mixed with guar, Sudan grass, oats, maize, sorghum etc. for green fodder (land preparation / sowing), mirch, simla mirch, guar, vegetable (tinda, water melon, pumpkin, cucumber, coriander, bhendi, ridge gourd) (sowing), *kharif* onion (nursery planting), *kharif* groundnut, rice (land preparation/sowing) in Rajasthan.

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

- Sugarcane (ratooning), paddy (nursery sowing/land preparation), mango (fruiting), cotton (picking), vegetables (fruiting), turmeric, ginger, green gram, black gram, tur, cowpea, bajra, sorghum (sowing), mango (flowering) and horticultural crops (fruiting) in Karnataka.
- Sugarcane (vegetative / ratooning), vegetables (fruiting), Paddy (Nursery preparation), Cotton (vegetative) and groundnut (vegetative) in Andhra Pradesh.
- Pepper (flowering/new planting), ginger (planting/vegetative), rubber (tapping), irrigated banana (harvesting/ planting), cardamom (nursery/planting), nutmeg (maturity/ harvest), sugarcane (grand growth), vegetables (nursery/planting), vegetables (planting), *virippu* paddy (nursery sowing/land preparation), cashew, coconut (planting) in Kerala.

- Kuruvai rice (nursery sowing), sugarcane (maturity), gingely (flowering), tomato (fruiting), summer irrigated cotton (harvest), pulses (harvest), cotton (boll development), vegetables (pre-flowering/harvest), maize (vegetative/ tasseling), sorghum (harvesting), irrigated groundnut (harvesting), chilli (fruiting), sunflower (vegetative) and turmeric (harvesting) in Tamil Nadu.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane new *adsali* (active tillering), sugarcane new pre-seasonal (early tillering / tillering), sugarcane new *suru* (early vegetative in Madhya Maharashtra and Marathwada), summer rice (harvesting in East Vidarbha), summer groundnut (harvesting) in Maharashtra.
- Cotton (sowing), summer bajra, sorghum (harvesting), sugarcane (vegetative / elongation), vegetables (flowering / fruiting / harvesting) in Gujarat.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Rice (nursery sowing), vegetables (fruiting), tomato, brinjal (vegetative / fruiting), fodder crops (sowing), onion (nursery sowing) in Madhya Pradesh.
- Sugarcane (planting/vegetative), groundnut (pod filling), sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative), pigeon pea (pod filling / maturity), cauliflower, tomato, brinjal, chilli (maturity / plucking), onion (planting), summer rice (maturity), summer vegetables (land preparation / sowing / vegetative), millet (sowing), tapioca, ginger, colocasia, discorea, elephant foot yam (planting) in Chhattisgarh.

Annexure II

List of Varieties Annexure III

Assam

***Sali* rice:** Ranjit, Bahadur, Peoli, Moniram, Pankaj, Kushal (for typical lowland rice area), Satya and Basundhara (for medium lowland area).

Okra: Pusa Sawani, Arka Anamika, Parbhani Kranti, Panchasira.

Ginger: Nadia, Karkai, Maran, Jorhat, Chaina.

Turmeric: Shillong type, CL-24, PTS-38, PCT-13, VK-145.

Bitter gourd: Long Green, Extra Long.

Snake gourd: Long Green, Long White and Extra Long.

Ridge gourd: Pusa Nasdar, AAUJ-1, AAUJ-2, Satputia.

Pigeon pea : T-21.

Meghalaya

- **Soyabean :** Clark-63, Bragg, Hill, Punjab-1, Hardee, Lee

Mizoram

- **Rice :** Buhsakei, Bhusanghar, Biahzin, Khairawal, Wonder Rice, IR 64, Ranjeet, PHB-71, IR 50, RCM-9

Manipur

- **Soybean :** JS 335.
- **Groundnut :** ICGS-76.
- **Cauliflower :** Early Himlata.

Tripura

- ***Aman* rice :** Swarna Masuri, Naveen, Puja, Krishnahamsa.

Orissa

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

Jute: JRO-524 (Naveen).

Ginger: Suprava, Suruchi and Suravi.

Kharif rice:

Early maturing varieties: Parijat, Khandagiri, Vandana, Jogesh, Siddant.

Medium maturing varieties: Pratikshya, Manaswini, Tapaswini MAS, Konark, Surendra, Lalata, Kharavela, Naveen, Surendra, MTU-1001, MTU1010, Abhisek.

Late maturing varieties: CR-1009, CR-1018, Ranidhan, Mrinalini, Swarna, RGL-2837, Ketakijoha, Moti, Padmini, Kanchana, Mahanadi, Jagabandhu.

For flash flood areas: Swarna Sub-1, Barsadhan.

Hybrid varieties: CRHR-32, Ajay, Rajalaxmi, BS6444G, JKRH-401, ARIZE 6444G, JKRH-3333.

Maize: Navjot, Shakti, Decan-107.

Arhar:

Early duration: Prabhat, Upas-120, ICPL-86012.

Medium duration: Asha, Visakha.

Fruit Crops:

Mango: Banganpalli, Totapuri, Subarnarekha, Nilam, Langrah, Dasherri, Amrapalli.

Banana: Kabuli, Robusta, Patakapura, Champa, Gaja bantala, Batisha bantala.

Guava: Allahabad Safed, Lucknow -49, Banarasi Seedless.

Papaya: Kurg Honeydew, Coimbatore-1 & 2, Pusa Delicious, Pusa Majesty.

Coconut: Eastcoast Tall, Westcoast Tall, Andaman, Lakhsadeep, Java, Fiji.

Pine apple: Que, Queen, Simachalan and Maricius.

Cashew nut: Vengrulla 1.4, BPP-4.

Jackfruit: Kadua, Khajra and Singapor.

West Bengal

Pigeon-pea: Sweta, Churni etc.

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

Jharkhand

Ginger: Vardhaman, Nadia.

Turmeric: Rajendra, Sonia.

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

Elephant foot yam: Gajendera, Shree Padma, Santragachhi.

Maize: Birsa Makka-1, Birsa Makka-1, Sawan-1 (Hybrid), HQPM (Hybrid).

Arhar: Birsa Arhar-1, Narendra Arhar-1, Bahar, ICPH-2671.

Bihar

Kharif Rice: Rajshree, Rajendra Sweta, Rajendra Mansuri, Swarna, Satyam, Kishori, BPT-5204, MTU7029, Hybrid, Sita.

Kharif maize: Suwan, Deoki, Shaktiman 1, Shaktiman 2, Sunkar makka 3, Ganga 11, Rajendra Mahsuri, DHM-117.

Karnataka

Green gram : BGS-9, Selection - 4 , PS-16,TAP-7,Pusabisaki,Chinamoong,Sel-4,

Black gram : TAU - 1, DU - 1

Soybean : JS - 335

Red gram : BSMR 736, TS-3R

Jowar : DSV - 2

Bajra : WCC-75,MH-179,ICTP-8203(@5Kg/Ha)

Pigeon pea:PT-221,GS-1,HCPL-87,WRP-1,TS -3 R,BSMR-76 and Maruti(for wilt prone areas)

Groundnut:S-206,KRG-1,R 2001-3,JL-24(for early sowing),R-8808,R-9251,S-220(Spreading type)

Sunflower : Morden,BSH-1,KBSH-1,RSFH-130

Sesame :E-8,TMV-4,DSH-1 or Local

Cotton: DCH-32, DHH-11, NHH-44 etc.

Lowland paddy: Intan, Abhilash, I.R.-57773 or basmathi variety like I.E.T 13549. Upland paddy: Amrut or Prasanna

Kerala

Ginger: Wayanad local, Rio-De Janero, Varada, Mahima

Turmeric: Suguna, Sobha, Suvarna, Kanthi, Sona

Tamil Nadu

Rice: ADT 36, ADT 43, ADT 45 and ADT 47

Andra Pradesh

Bharani, NLR 34242, NLR mashuri, NLR 40024 for Coastal Andhra Pradesh

RICE : **Black soils** – Irrigated **Long duration:** BPT 5204, Swarna, Amara, **Medium duration:** Polasa Prabha (JGL 384), Manair Sona (JGL 3828), Karimnagar Samba (JGL 3855), Jagtial Mashuri (JGL 11470), Bhadrakali, Kavya, Vijetha, **Short duration:** MTU 1010, Indur Samba, Erramallelu, Keshava, Pothana, IR 64, Jagtial Sannalu (JGL 1798), Jagtial, samba (JGL 3844), **Very short duration:** Varalu

COTTON: LK 861, LRA 5166, ADB 39, Narasimha, NA 1588

Hybrids: NHH 44, NHH 390, Savitha, AHH 468,

LAHH 4, H 8, Popular private hybrids

CHILLIES: LCA 206, LCA 235, LCA 334, Popular private,

TURMERIC: Armoor, PCT 13, PCT 14, Duggirala

GROUNDNUT: JCG-88, Kadiri-6, Kadiri-9, Narayani, TCGS-25, TAG 24

SUNFLOWER: Hybrids: MSFH8, MSFH17, APSH11, BSH 1, DRSF 108, NDSH 1, DRSH 1 and popular private hybrids: Morden, EC 68414

REDGRAM: LRG30, ICPL 85063, MRG 66, PRG 100, WRG 27, LRG 41, ICPL 87119 (Asha)

BLACKGRAM: T 9, LBG 20, LBG 623, LBG 752, Lam – 17, 20, 623, LBG -1

SESAMUM: Gowri, Madhavi, YLM 11, YLM 17, Chandana, Swetha-Thil, Hima, Rajeshwari **Black soils** – Rainfed

COTTON (Upto 8th July) ADB 39, LRA 5166, B 1007, Narasimha, NA 1588

Hybrids: H 8, NHH 44, Savitha, NHH 390, AHH 468, LAHH 4

SOYBEAN: JS 335, Lsb 18, JS 9305

REDGRAM: LRG 30, MRG 66, BDN 2, ICPL 332, ICPL 85063, ICPL 87119 (Asha), WRG 27, PRG 100

SESAMUM: Rajeshwari, Swetha-Thil, Chandana, Hima

CHILLIES: LCA 206, LCA 235, LCA 334 and popular private varieties and hybrids

SUNFLOWER: Hybrids MSFH 17, MSFH 8, APSH 11 and popular private hybrids **Varieties:**

Morden, EC 68414

CASTOR: Aruna, Kranti, Haritha, Kiran, PCH 111, DCH 177.

Madhya Pradesh

Paddy: a. Medium: IR-36, IR-64, Pusa sugandha-5, MTU-1001

b. Late: Mahsuri, Safari-17, Syamla, Swarna

Maize: a. Medium: navjot, Arun, H-216, Jm-13, Sartaj, Daccan 107

b. Late: Ganga-11, Prabhat, Trisulta, Daccan 103, Daccan 105

Jowar: JJ-741, JJ-938, JJ-1022, JJ-1041 and CSV-15

Arhar: Laxmi, Pragti, Asha, Jagrati, JKM-7 and JKM-189

Soybean: JS-95-60, JS-93-95, JS-97-52, JS-80-21, JS-335, NRC-37

Chattisgarh

Millet: High Yielding : PR 202, HR 374, VR 708, RAU 08, GPU 45, VC 149 and for kodo millet GPUK-3, RVK-155 and for Kutki JK08.

Himachal Pradesh :

Brinjal: Arka Nidhi, PPC

Shimla mirch: California wonder

Agetibhindi: P-8, Prabhnikranti, Arkaanamika,

Frenchbean: Contender

Pepper : Surjmukhi,

Rajmash: Triloki, Jwala, baspa Kailash

Raddish: japani white and early mino white,

Turnip: PTWG-1.

Cabbage: Himsona Cabbage Varun, Bahar, Bajrang, Green challenge.

Knolkhol : White Bina,
Cauliflower: Pride of India, Shweta, Madhuri, Himrani.
Peas: Angoori, PS1100/Azad1.
Cucumber : Kiyani seedless/243, Matgaura, Maliniseeded
Tomato : Naveen2000plus, Avtar, Solan hybrid 1 and 2,
Redcapsicum : Natasha, Tanvi
Yellow capsicum : California wonder, bharat, solan sankar 1, Indira, Orivelle
Summer squash : Pusa Alankar Jacuni types.
Sarson : KBS3
Bhindi: P-8, Prabhini kranti, Arka anamika.

Jammu & Kashmir

Vegetable crop like **radish** (var. Pusachetki, Japanese white & Pusareshmi), **carrot** (var. Pusakesar), **turnip** (var. PTWG), **garlic** (var. local, large segmented), **spinach** (prickly seeded) and **methi** (P.E.B.K methi), **Cauliflower** (var. PusaDipali), **knoll khol** (White Vienna), **Broccoli** (Early green), **Bottle gourd** (Pusa Summer Prolific Long, Punjab Komal, Punjab Round, Pusa Summer Prolific Round), **Sponge gourd** (Pusa Chikni, Pusa Supriya), **Ridge gourd** (Pusa Nasadar, Swaran Manjari, Pant Tori-I), **Bitter gourd** (Pusa Domousmi, Pusa Vishesh, Coimbatore Long, Pusa Hybrid- Kalyanpur Baramasi), **Cucumber** (Japanese Long, Straight Eight Poinsette), **Pumpkin** (Arka Suryamukhi, Arka Chandan), ginger (Local), **Knolkhol** (W. Vienna).
Brinjal : PPL, PPC, PPPR, **Chillies** : NP-46A, Pusa jawala
Jowar : Ujjain, Swarna-413, M.P.chari & PoineerJowar ,
Beans : Contender, Pusa Parvati, Arka Komal
Maize (unirrigated) : Super Composite (Mansar), C-6, Vijay, Him-123, Local Tall, [GS-2, Vijay, Mansar, C-5 and C-8 in mid to high altitude area (intermediate region)).
Rice (Irrigated): IET-1410, K-39, Ratna, PC-19, Jaya RR-8585, Basmati 370 and Ranbir Basmati, Hybrid: KRH-2, PHB-71, direct seeded rice crop (var. Jaya, RR-8585, PC-19, IET-1410 & Ratna)\
Bhindi : Varsha Uphar, Pusa A-4 and Prabhani Kranti), **Pumpkin** (Arka Suryamukhi and Arka Chandan), **Bittergourd** (Pusa Domousami & Pusa Vishesh), **Bottlegourd** (Pusa Summer Prolific Long, Pusa Summer Prolific Round), **Spongegourd** (Pusa Chikni and Pusa Supriya)
Radish (var. Japanese white), **Carrot** (var. Nantes), **Turnip** (var. Purple Top White Globe), **Spinach** (var. All green), **Beans** (var. Contender, Pusa Parvati and Arka komal), **Methi** (var. Pusa Early Bunching and Kasuri methi). **Knol-khol** (White Vienna and Purple Vienna) and **Cabbage** (Golden Acre and Pride of India). **Brinjal** (Pusa Purple Long, Pusa Purple Cluster), **Cauliflower** (Pusa Snowball, Pusa Snowball K-I)
Rice (var. IET – 1410, K-39, Ratna, China-1039, PC-19, Basmati, Jaya and RR-8585)
Intermediate higher zone (-39, K-448, Giza-14, K-78 and K-332), K-84, K-39.

Punjab & Haryana

Punjab : Paddy : PR 118, PR 116, PR 114, PR 113, PR 111, PR 115.
Haryana : Paddy : PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115.
Onion: Agri Found Dark Red, N 53
Okra: PusaSawani , PunjabPadmini ,Punjab 7 or 8.
Groundnut: SG 99 or M 522/SG 84
Radish: Pusa, chetki , Punjab Ageti
Maize: PMH 1, Prabhat ,sweet corn , PMH 2, JH 3459, Kesri and Pearl Pop Corn.

Delhi

Paddy

Hybrid varieties: - K. R. H 2, PHB 71, Pant hybrid Dhan1, Narendra hybrid dhan 1, P R H 10, High yielding varieties- Pusa 44, Pant Dhan-4, Pant Dhan-10, Narendra Dhan-359, Pusa-834, Pusa basmati-1, Pusa improved basmati, Pusa sugandha-5, Pusa sughanda-4 (Pusa 1121), Ranvir basmati and Taravadi basmati.

Green gram: Pusa-9531, PusaVisal, PusaVaisakhi, PDM-11, SML-32, Pusa Ratna, Samrat

Black gram : Pant Urd 19, Pant Urd 30, Pant Urd 35, PDU1.

Maize: African Tall

Cluster bean: PusaKomal, PusaSukomal.

Radish: Pusa Chetki and R.R.W.T

Pigeon pea: Pusa-2001, Pusa-991 and Pusa-992.

Cotton: H-777, H-974, H-1098

Uttarakhand

Paddy: VL-Dhan -154, Vivek Dhan -62, Vivek Dhan-65, VL Dhan-81, Vivek Dhan-82 or VL-Dhan-85, VL-163, 221, Vivek Dhan-154, Pusa-44, Jaya, Serju-52, NDR-359, Pant Dhan-4, PR-113, PR-114, Pant Dhan-18, Pant Dhan-19, Pant Sankar Dhan-1, Pant Sankar Dhan-3, Narendra Sankar Dhan-2 etc. in nursery.

Millets : long duration (105 to 110)VL- Mandua-124 and VL-149, short duration (95 to 100 days) varieties like VL- Mandua-204, Pant Mandua-3, PES-176, PES-110, VL- Mandua-146.

Groundnut: G-201, Kausal, JL-24.

Maize: Him-129, Navin, Sartaj, VL makka 16.

Urd: Pant urd-19, 30, 35,

Moong: Pant moong-2, 4, Narendra moong-1

Uttar Pradesh

Sugarcane : KS-8436, KS-88230, KS-95255

Sunflower : K.P.S.H. 1, Divyamukhi, Jwalamukhi

Moong : Type-44, Pant Moong-1,2, Narendra Moong-1, PDM-11, MUM-2, MalviyaJagruti, Samrat, PusaVaishakhi K. , K-851, JM-721 etc.

Urad : Azad Urd-1,2, Bhokhar-1,2, Type-9, Uttara etc. JT-9, pant u-19, Narendra :, pant U-35

Arhar : U.P.A.S.-120 and T 21.

Rajasthan

Kharif paddy : P.R.106, B.K.190, Mahi Sugandha (Basmati)

Kharif onion : N-53 & Agrifound dark red

Kharif groundnut : RG-382, R.S.-1, M-13, RG-141, TG 37-A & Girnar-2, J – 38, TG – 37 – A, Pratap mungphali – 1, Pratap mungphali – 2, etc. are improved varieties

Cotton : (Narma kapas): improved varieties: R.S.T.-9, R.S.-810, R.S.-2013, **(B.T. kapas) :** M.R.C.H. 6304, M.R.C.H. 6025, R.C.H. 134, R.C.H. 314, J.K.C.H. 1947, M.R.C. 7017 (BG-11), N.E.C.H. 6,

Improved varieties of B.T. Cotton (for Jaipur): Bikaneri Nerma (190-200 days), Ganganagar Ageti (170-180 days), RST-9 (185-200 days, RG-8 (Desi, 170-180 days), MRC-7017, Tulsi-4-BG & Rasi-314, **American Cotton :** Bikaneri Nerma, RST-9, R.S.T. 810 and Hybrid-4.

For Green fodder (Jowar) : Raj Chari-1, Raj Chari -2, MP Chari, SSG 59-3, MSFH-3, MSFH-4 and Hara Sona,

For Green fodder (Bajra) : Raj Bajra Chari-2, Co -8, Avika Bajra Chari-19 and Jiant bajra

For Green fodder (Guar) : RGC-986, Bundel guar-1, Bundel Guar-2 and Bundel Guar-3

Mirch : Pusa Jwala, Mathaniya, long, Pant C-1, G-3, G-5.

Guar : R.G.S- 936, R.G.S- 986, R.G.S- 1002, R.G.S- 1017, H.G- 365, H.G 563, H.G 2 & 20.

Shimla Mirch: yellow wonder, California wonder, Bulnose and Arka Mohini.

Pearl millet: Composite: Raj-171, **Hybrid:** RHB-121, HHB-67 (Improved), RHB-173, RHB-177

Sorghum: CSV-15 (105-110 days), CSV-23 (110-115 days), Pratap Chari-1080 (105-120 days)

Maize: Mahi Kanchan (75-80 days) & Pratap Makka-5 (85-95 days), RMG-62, RMG-268. RMG-492 & RMG-344, SML-668 are improved varieties of green gram. FS-68, RC-19 and RC-101 are improved varieties of cowpea. Him – 129, Aravali Makka, PEHM-1, PEHM- 2, Pratap Makka-1, Pratap Makka-3, etc.

Improved varieties of bottle guard are Pusa Naveen, Arka Bahar for pumpkin - Pusa Vishwas, Arka Chandan, Pusa Alankar, Arka Suryamukhi for bitter guard - Arka Harit Pusa Vishesh, Priya and for round gourd- Arka tinda, Bikaneri green, Punjab-48.

Gujarat:

Hybrid cotton: G. Cot. 4, 6, 8, 10.

Rice: GR-101, 102, 103, 104, Masuri, Narmada.

Groundnut: GG 2, GG-5, TG-26, TPG-41, TAG 37 for bunch and GG-20 for semi spreading.

Sesamum: GT-2 or GT-3.

Bajra: GHB-558, 577, 538, 719, 732, 744.

Green gram: GM-3, GM-4, K-851.

Black gram: T-9, GU-1.

Pigeon pea: GT-1,GT-100,GT-101,T-15-15 ,BDN-2, IPCL_87-Pusa Ageti, GTH-1.

Maharashtra:

Kharif crops:

Jowar:

Hybrid variety: CSH-5, CSH-9, 13, 14, 16,17 ,18,21, 23 and SPH 1567.

Improved variety: SPV-462, CSV-13, 15, 17, 20, 23 and PVK-801.

Bajra:

Hybrid variety: Shraddha, Saburi, Phule Shanti.

Improved variety: ICTP 8203, ICMV – 155.

Groundnut – SD 11, Phule Pragati, Phule Vyas, Phule Unap, TPG 41, TG 26.

Sunflower: EC-68414, SS-56 and Bhanu for Madhya Maharashtra and LSF-8 and LS-11 for Marathwada.

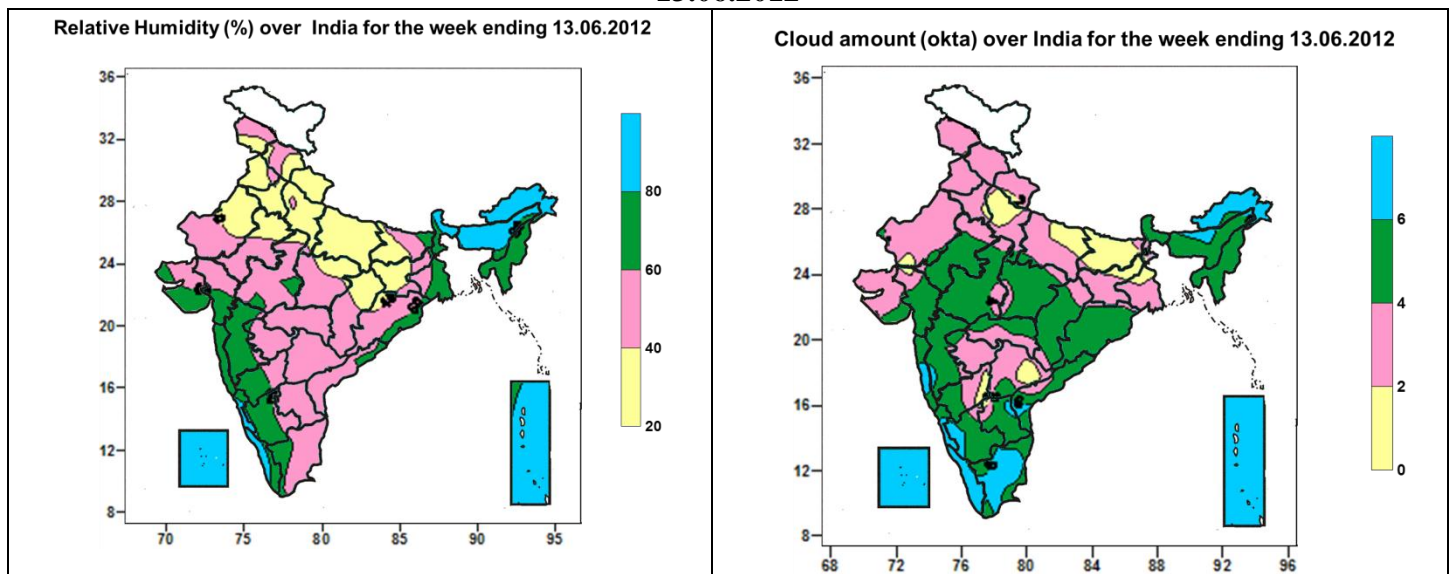
Soyabean: JS-335, Phule Kalyani (DS-228), PK 1029, MACS 450 for Madhya Maharashtra and MASU-47, JS-335 and MAUS-71 for Marathwada.

Rice: PKVHMT, PKV Khamang, Sindewahi 2001, Sindewahi-5, Sindewahi-75 for nursery swing in East Vidarbha and Ambika, Prabhavati (Parbhani-1), Sugandha, Parbhani Avishkar for drill sowing in Marathwada.

Black gram: BDU-1, TAU-1 for Marathwada.

Red Gram: ICPL 87, Vipula, BSMR-853, BSMR-736 for Madhya Maharashtra and for Central Vidarbha – ICPL-87119 (Asha), C-11.

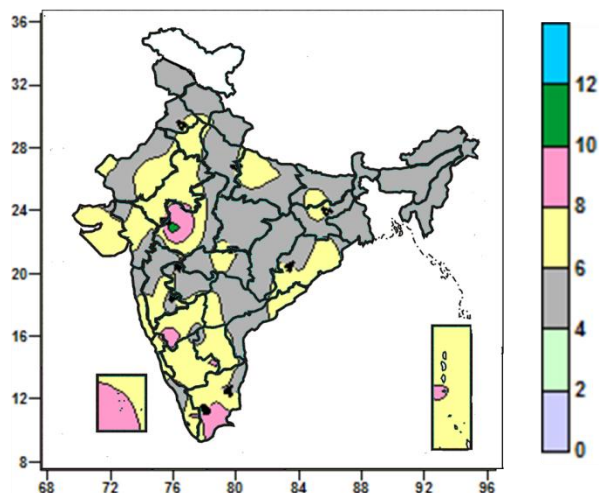
Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 13.06.2012



Relative humidity ranged between 80% and above over many parts of Sikkim, Arunachal Pradesh, Assam & Meghalaya, Lakshadweep, Andaman & Nicobar Islands, Some parts of Sub-Himalayan West Bengal, Coastal Kerala, South Coastal Karnataka, 60 to 80% over most parts of West Bengal & Sikkim, Nagaland, Manipur, Mizoram, Tripura, Konkan & Goa, Madhya Pradesh, South & North Interior Karnataka, some parts of Bihar, Jharkhand, Coastal Orissa, Gujarat, Saurashtra & Kutch, Kerala, Coastal Karnataka, Tamil Nadu, Marathwada, West Madhya Pradesh and 20 to 60 % over remaining parts of the country.

Cloud amount 6 okta and above over many parts of Arunachal Pradesh, Tamil Nadu, Kerala, Coastal Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of South Interior Karnataka, Konkan & Goa, Assam & Meghalaya, 4 to 6 okta over most parts of Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Orissa, Chattisgarh, Madhya Pradesh, East Rajasthan, Gujarat, Konkan & Goa, Madhya Maharashtra, Coastal Andhra Pradesh, Rayalaseema, Coastal & South Interior Karnataka, and 0 to 4 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 13.06.2012



Wind speed ranged between 8 to 12 knots and above over some parts of West Madhya Pradesh, North Interior Karnataka, Kerala, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, 6 to 8 knots over most parts of East Rajasthan, Gujarat, Haryana & Delhi, Orissa, Karnataka, Tamil Nadu, Raylaseema, Tamil Nadu, Andaman & Nicobar Islands, some parts of Punjab, Bihar, Jharkhand, Madhya Pradesh, West Rajasthan, East Uttar Pradesh, Uttarakhand, Saurashtra & Kutch, Vidarbha, Telanagan, Vidarbha, Madhya Maharashtra, Konkan & Goa, Marathwada, Kerala, Tamil Nadu, below 6 knots over remaining parts of country.