

National Agromet Advisory Bulletin

Thursday, 24th May, 2012
(For the period 24th to 28th May, 2012)



Monsoon Watch

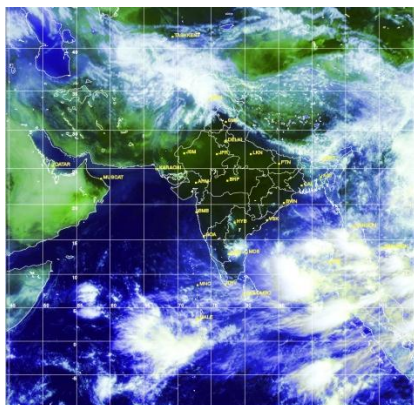
- The Northern Limit of Monsoon (NLM) continue to pass through Lat. 5.0°N/Long. 85.0°E, Lat. 9.0°N/Long. 90.0°E, Hut Bay, Lat. 12.0°N/Long. 95.0°E and Lat. 14.0°N/Long. 98.0°E.
- Conditions continue to remain favourable for further advance of southwest monsoon into some more parts of south Bay of Bengal and remaining parts of Andaman Sea during next 48 hours.

Heat wave conditions prevailed over some or isolated parts of East Uttar Pradesh, Bihar, Vidarbha, Chhattisgarh, interior Orissa, Southwest Rajasthan, Telangana and Northeast Madhya Pradesh during last two days. Heat wave conditions would continue to prevail over some parts of East Rajasthan, Uttar Pradesh, Bihar, East Madhya Pradesh, Chhattisgarh, Vidarbha and Telangana during next 2 days. Heat wave conditions may also develop over isolated pockets of Punjab, Haryana and Delhi from tomorrow. Farmers in these States are advised to apply light and frequent irrigation and provide mulching to minimize evaporation.

Significant rainfall occurred over many districts of Assam, Arunachal Pradesh and Sub-Himalayan West Bengal and a few districts in Jammu & Kashmir. Farmers in these States are advised to undertake land preparation and sowing of *kharif* crops. Rain / thundershowers are also likely to occur at many places over Northeastern States; farmers are advised to postpone irrigation to the standing crops.

Dust storms/ thunderstorms would occur at one or two places over plains of North West India from tomorrow onwards. Thundersqualls would also occur at one or two places over Assam, Meghalaya, West Bengal and Orissa during next 48 hours. Farmers in these States are advised to complete harvesting and transport the produce to safer places; also arrange for mechanical support for vegetables and seedlings / young plants in orchards.

Satellite image 0600 UTC dated 25th May, 2012



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

Heat wave conditions prevailed over some or isolated parts of East Uttar Pradesh, Bihar, Vidarbha, Chhattisgarh, interior Orissa, Southwest Rajasthan, Telangana and Northeast Madhya Pradesh during last two days. Heat wave conditions would continue to prevail over some parts of East Rajasthan, Uttar Pradesh, Bihar, East Madhya Pradesh, Chhattisgarh, Vidarbha and Telangana during next 2 days. Heat wave conditions may also develop over isolated pockets of Punjab, Haryana and Delhi from tomorrow. Farmers in these States are advised to apply light and frequent irrigation and provide mulching to minimize evaporation.

Significant rainfall occurred over many districts of Assam, Arunachal Pradesh and Sub-Himalayan West Bengal and a few districts in Jammu & Kashmir. Farmers in these States are advised to undertake land preparation and sowing of *kharif* crops. Rain / thundershowers are also likely to occur at many places over Northeastern States; farmers are advised to postpone irrigation to the standing crops. As there was no significant rain over most of the remaining parts of the country and no significant rain is likely to occur during next three days, farmers are advised to apply irrigation to the standing summer crops.

Dust storms/ thunderstorms would occur at one or two places over plains of North West India from tomorrow onwards. Thundersqualls would also occur at one or two places over Assam, Meghalaya, West Bengal and Orissa during next 48 hours. Farmers in these States are advised to complete harvesting and transport the produce to safer places; also arrange for mechanical support for vegetables and seedlings / young plants in orchards.

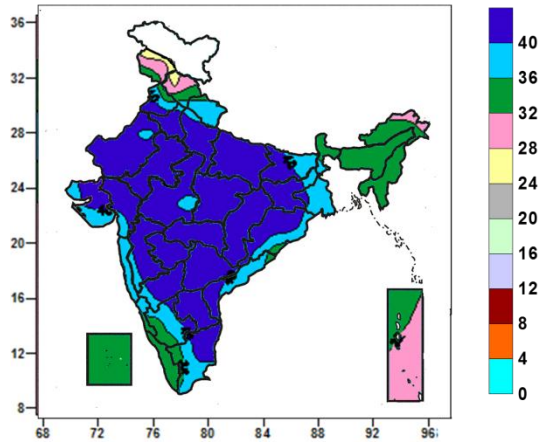
Due to favourable weather conditions, incidences of fruit and shoot borer in brinjal in Orissa and Jharkhand, thrips in chilli and thrips and bud necrosis in groundnut in Orissa, white fly, aphids and mites in okra in Maharashtra below economic threshold level (ETL) have been reported. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases, if the population exceeds ETL.

Farmers are advised to undertake sowing of *kharif* crops as mentioned below for different States of the country:

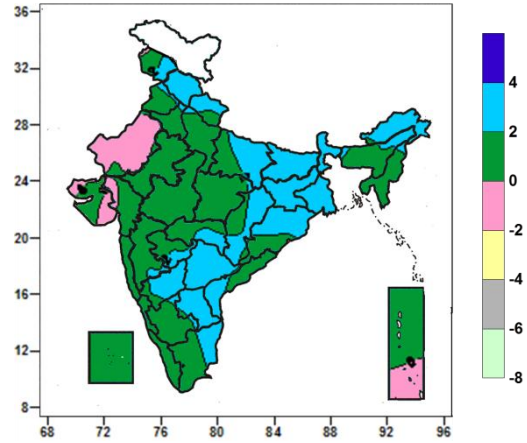
- **Assam:** Sowing of cowpea and pumpkin, planting of banana and transplanting of *ahu* rice.
- **Arunachal Pradesh:** Nursery sowing of *jhum* and WRC rice.
- **Meghalaya:** Sowing of maize and jute.
- **Mizoram:** Sowing of maize, groundnut and soybean.
- **Manipur:** Sowing of cucurbitaceous vegetables, maize, groundnut and soybean.
- **West Bengal:** Planting of turmeric and ginger.
- **Punjab & Haryana:** Sowing of cotton and maize and nursery sowing of rice.
- **Delhi:** Sowing of pigeon pea and cotton.
- **Uttarakhand:** Sowing of maize and nursery sowing of brinjal and long duration rice varieties.
- **Himachal Pradesh:** Sowing of bhindi, *Capsicum*, pepper, cucumber, squash, bitter gourd and tomato in polyhouses and also chari, bajra and maize in low hills for green fodder.
- **Orissa:** Sowing of maize and planting of ginger.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 23.05.2012

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 23.05.2012



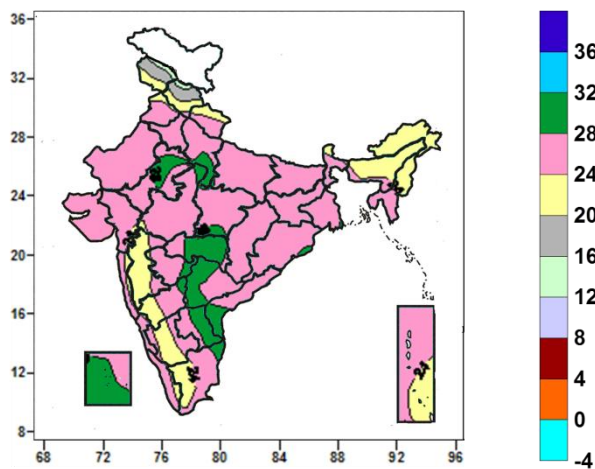
Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 23.05.2012



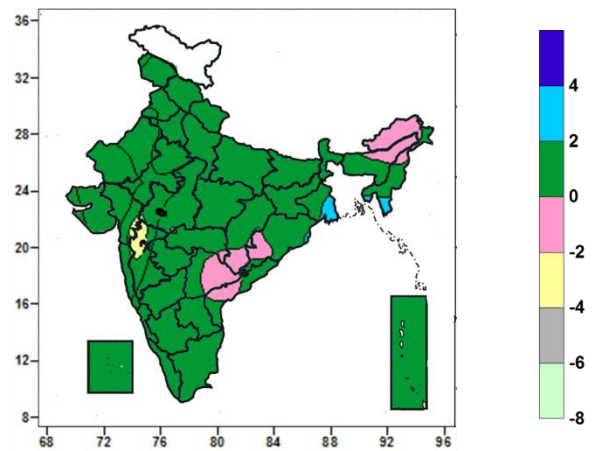
Actual Mean Maximum temperature ranged between 24°C over some parts of Jammu & Kashmir, Himachal Pradesh, 28 to 32°C over most parts of Andaman & Nicobar Islands, some parts of Arunachal Pradesh, Jammu & Kashmir, Himachal Pradesh, 32 to 36°C over many parts of Sub-Himalayan West Bengal & Sikkim, North East India, Kerala, Lakshadweep, some parts of Jammu & Kashmir, Himachal Pradesh, Coastal & South Interior Karnataka, Andaman & Nicobar Islands, Coastal Orissa, Coastal Andhra Pradesh, adjoining part of Tamil Nadu and between 36 to 40°C and above also over remaining parts of the country

Actual Mean Maximum temperature anomaly ranged between 2 to 4°C and above over most parts Himachal Pradesh, Uttarakhand, East Uttar Pradesh, East India, Arunachal Pradesh, Chattisgarh, Andhra Pradesh, North Interior Karnataka, some parts of Jammu & Kashmir, Tamil Nadu, South Interior Karnataka, Maharashtra(except Konkan & Goa), -2 to 0°C most parts of West Rajasthan, some parts of Saurashtra & Kutch, Gujarat, Andaman & Nicobar Islands, 0 to 2°C over rest of the country.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 23.05.2012



Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 23.05.2012









Actual Mean Minimum Temperature ranged between 12 to 16°C over some parts Jammu & Kashmir, Himachal Pradesh, 16 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh, 20 to 24°C over most parts of Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Madhya Maharashtra, South & North Interior Karnataka, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, West Madhya Pradesh, Kerala, Tamil Nadu, Andaman & Nicobar Islands, 28 to 32°C over most parts of Vidarbha, Andhra Pradesh, Lakshadweep Islands, some parts of West Uttar Pradesh, East Rajasthan, Madhya Pradesh, Marathwada, North Interior Karnataka and between 24 to 28°C over remaining parts of the country.

Minimum Temperature anomaly ranged between 2 to 4°C over some parts of Gangetic West Bengal, Mizoram, -2 to 0°C over most parts of Arunachal Pradesh, Telangana, some parts of Assam & Meghalaya, Nagaland, Orissa, Chhattisgarh, Coastal Andhra Pradesh, -4 to -2°C over some parts of Madhya Maharashtra, Gujarat, 0 to 2°C over remaining parts of the country.

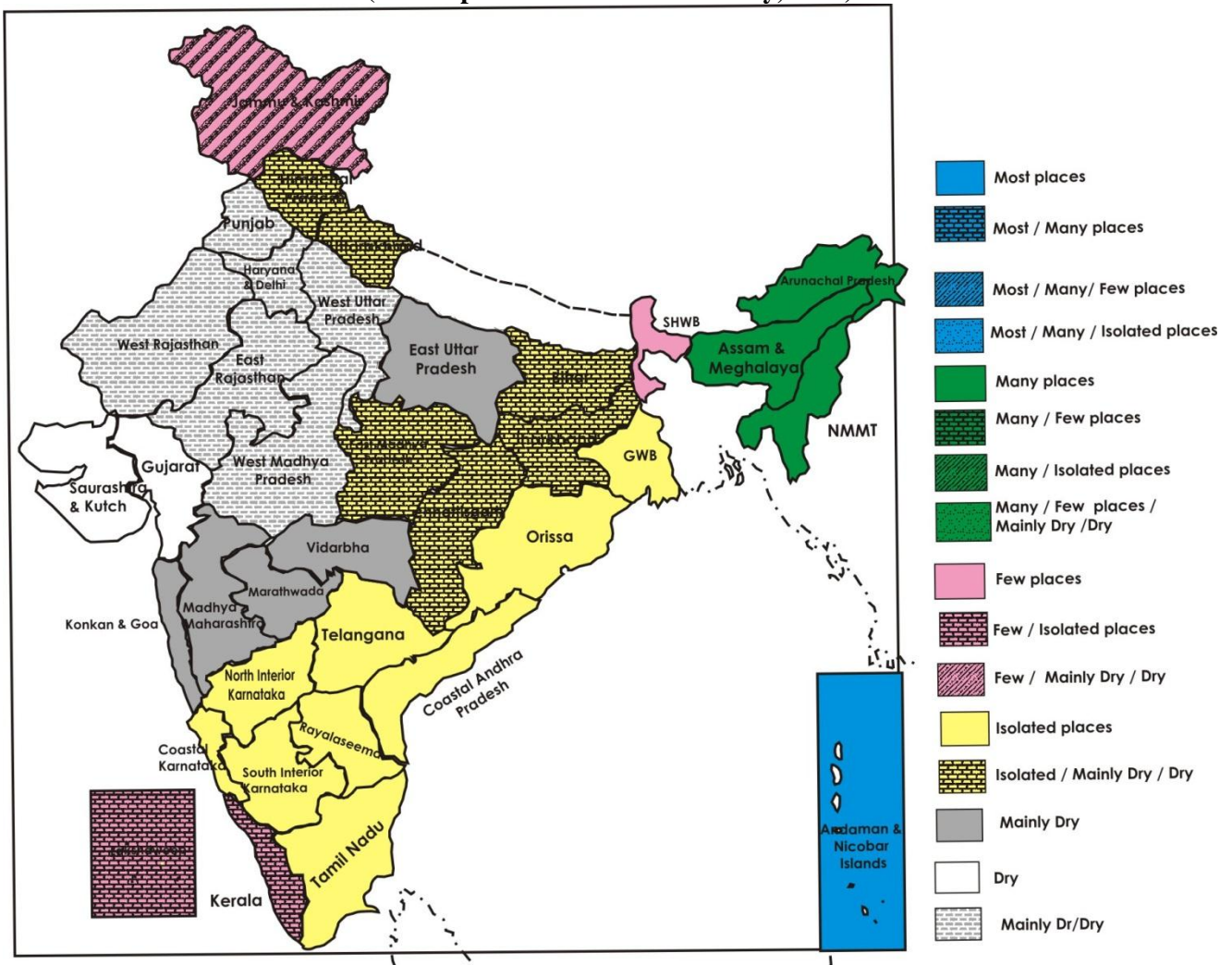
Distribution of rainfall of the country during week ending on 23.05.2012

State/Districts	Actual (mm)	% Departure			
Arunachal Pradesh			Badgam	21.3	4
Anjaw	**	**	Bandipore	**	**
Changlang	15.3	-83	Baramula	65.6	167
East Kameng	26.0	-53	Doda	15.6	-19
East Siang	94.5	11	Ganderwal	85.0	431
Kurung Kumey	**	**	Jammu	0.3	-94
Lohit	21.0	-71	Kargil	0.0	-100
Lower Dibang Valley	**	**	Kathua	0.0	-100
Lower Subansiri	8.0	-84	Kistwar	**	**
Papumpara	65.2	41	Kulgam	19.5	-11
Tawang	16.0	-78	Kupwara	44.7	104
Tirap	72.7	13	Ladakh(Leh)	0.0	-100
Upper Dibang Valley	30.0	-56	Poonch	0.0	-100
Upper Siang	76.0	-27	Pulwama	11.8	-41
Upper Subansiri	4.8	-88	Rajouri	1.0	-86
West Kameng	47.1	-34	Ramban	7.8	-59
West Siang	46.0	-27	Reasi	1.6	-81
Assam			Samba	1.9	-65
Baksa	19.4	-78	Shopian	0.0	-100
Barpeta	68.7	-21	Srinagar	21.0	31
Bongaigaon	95.1	8	Udhampur	2.0	-77
Cachar	72.8	-17	Bihar		
Chirang	85.0	-3	Araria	5.5	-83
Darrang	**	**	Arwal	0.0	-100
Dhemaji	141.0	79	Begusarai	0.0	-100
Dhubri	59.1	-35	Bhabua	0.0	-100
Dibrugarh	45.3	-16	Bhagalpur	1.2	-90
East Garo Hills	39.0	-37	Bhojpur	**	**
East Khasi Hills	73.1	-52	Buxar	0.0	-100
Goalpara	62.3	-29	Darbhanga	47.0	428
Golghat	19.8	-55	East Champaran	5.9	-49
Hailakandi	28.7	-65	Gaya	0.0	-100
Jaintia Hills	1.0	-99	Gopalganj	0.0	-100
Jorhat	25.0	-58	Jahanabad	0.0	-100
Kamrup(Metro)	16.7	-72	Jamui	0.0	-100
Kamrup	37.3	-36	Kathihar	0.0	-100
Karbi Analog	4.6	-89	Khagadia	3.8	-53
Karimganj	69.2	-52	Kishanganj	11.0	-69
Kokrajhar	79.8	-12	Lakhisarai	0.0	-100
Lakhimpur	77.1	-2	Madhepura	46.5	202
Morigaon	51.8	16	Madhubani	**	**
N.C.Hills	0.0	-100	Monghyar	0.0	-100
Nowgong	41.3	22	Muzaffarpur	19.8	77
Nalbari	20.5	-75	Nalanda	0.0	-100
Ribhoi	37.3	-30	Nawada	0.0	-100
Sonitpur	33.1	-45	Patna	0.0	-100
Sibsagar	5.9	-88	Purnea	12.5	-40
South Garo Hills	13.0	-85	Rohtas	0.0	-100
Tinsukia	14.4	-76	Saharsha	**	**
Udalgiri	36.2	-38	Samstipur	2.0	-80
West Garo Hills	4.1	-95	Saran	0.0	-100
West Khasi Hills	12.0	-87	Sheikpura	0.0	-100
Jammu & Kashmir			Sheohar	0.0	-100
Anantnag	25.0	14	Sitamarhi	2.0	-85
			Siwan	**	**
			Supaul	15.7	28
			Vaishali	0.0	-100
			West Champaran	5.0	-65
West Bengal					
GWB					
Bankura	11.2	-18			
Birbhum	6.1	-63			
Burdwan	18.7	-5			
East Midnapore	6.2	-70			
Hooghly	16.8	-49			
Howrah	1.1	-96			
Kolkata	16.3	-36			
Murshidabad	8.0	-63			
Nadia	8.5	-67			
24 Pargana (N)	14.4	-49			
Purulia	1.9	-85			
24 Pargana (S)	4.3	-85			
West Midnapore	22.9	17			
SHWB					
Cooch Behar	104.7	36			
Darjeeling	35.3	-42			
East Sikkim	36.2	-40			
Jalpaiguri	44.6	-36			
Malda	0.0	-100			
North Dinajpur	2.0	-94			
North Sikkim	23.7	-73			
South Dinajpur	5.5	-84			
South Sikkim	42.0	-31			
West Sikkim	18.0	-80			
Kerala					
Alappuzha	3.0	-96			
Kannur	0.4	-99			
Ernakulam	4.4	-95			
Idukki	23.2	-66			
Kasaragod	0.2	-99			
Kollam	2.6	-96			
Kottayam	3.6	-95			
Kozhikode	2.8	-96			
Malappuram	18.2	-68			
Palakkad	31.8	-28			
Pathanamthitta	6.0	-91			
Thiruvananthapuram	15.9	-73			
Thrissur	23.4	-73			
Wyanad	5.5	-89			
Tamil Nadu					
Ariyalur	3.5	-77			
Chennai	0.0	-100			
Coimbatore	20.7	5			
Cuddalore	2.1	-83			
Dharmapuri	11.7	-52			
Dindigul	25.9	36			
Erode	19.6	8			
Kanchipuram	3.5	-73			
Kanyakumari	0.0	-100			
Karikal	0.0	-100			
Karur	9.9	-32			
Krishnagiri	10.8	-57			
Madurai	14.5	5			
Nagapattinam	0.0	-100			
Namakkal	10.4	-52			

Nilgiris	13.1	-62	Thanjavur	1.2	-89	Toothukudi	2.7	-44
Perambalur	20.0	2	Theni	5.5	-59	Trichy	21.9	51
Puducherry	0.0	-100	Tirunelveli	0.5	-94	Vellore	9.0	-57
Pudukottai	2.9	-72	Tirupur	15.3	-16	Villupuram	4.6	-70
Ramanathapuram	0.0	-99	Tiruvallur	8.9	-45	Virudhunagar	19.7	51
Salem	18.1	-25	Tiruvannamalai	10.7	-42			
Sivaganga	10.3	-11	Tiruvarur	0.0	-100			

	(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 27th May, 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 27th May, 2012

- Rain / thundershowers would occur at a few places over Jammu & Kashmir and at one or two places over Himachal Pradesh from tomorrow onwards.
- Duststorms / thunderstorms would occur at one or two places over plains of northwest India from tomorrow onwards.
- Rain / thundershowers would occur at a few places over Sub-Himalayan West Bengal & Sikkim and at many places over northeastern states.
- Rain/thundershowers would occur at one or two places over Orissa and Gangetic West Bengal.
- Rain/thundershowers would occur at one or two places over Andhra Pradesh, Karnataka, Tamilnadu, Kerala and Lakshadweep. Rainfall activity would increase over Kerala and Lakshadweep from tomorrow onwards.
- Rain/thundershowers would occur at most places over Andaman & Nicobar Islands.
- Weather would be mainly dry over remaining parts of the country.
- Rise in maximum temperatures by about 1 - 2°C over northwest and adjoining central India during next 1 - 2 days.

Weather Warning

- Thundersqualls would occur at one or two places over Assam, Meghalaya, Gangetic West Bengal and Orissa during next 48 hours.
- Heat wave conditions would continue to prevail over some parts of east Rajasthan, Uttar Pradesh, Bihar, east Madhya Pradesh, Chhattisgarh, Vidarbha and Telangana during next 2 days. Heat wave conditions may also develop over isolated pockets of Punjab, Haryana and Delhi from tomorrow.
- Heavy to very heavy rainfall would occur at one or two places over Andaman & Nicobar Islands during next 48 hours.

Weather Outlook up to 0830 hours IST of 29th May, 2012

- Rain/thundershowers would continue to occur at most places over Andaman & Nicobar Islands.
- Rain/thundershowers would continue to occur at many places over northeastern states.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall occurred in many of the districts of the region.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over the States of the region.
- **Warning:** Thundersqualls would occur at one or two places over Assam and Meghalaya during next 48 hours.
- **Advisories:**
 - As thundersqualls would occur at one or two places over Assam & Meghalaya during next 48 hours, farmers are advised to arrange for mechanical support for young plants in orchards.
 - As significant rainfall occurred in many of the districts of the States of the region and rain / thundershowers would occur at many places over these States, farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures.
 - Farmers in the Hill Zone of Assam are advised to continue sowing of okra, ginger and cucurbitaceous crops. Undertake land preparation for sowing of *kharif* maize.
 - Farmers of Lower Brahmaputra Valley Zone of Assam are advised to complete transplanting of *ahu* rice.
 - Farmers of North Bank Plain Zone, Central Brahmaputra Valley Zone and Lower Brahmaputra Valley Zone of Assam are advised to undertake land preparation for nursery bed of *sali* rice.
 - Farmers in the Upper Brahmaputra Valley Zone of Assam are advised to continue planting of banana.
 - Farmers of Barak Valley Zone of Assam are advised to apply the first 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 in North Bank Plain Zone of Assam are advised to continue planting of banana, ginger and turmeric and sowing of summer vegetables like pumpkin and cow pea.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to continue sowing of *Jhum* rice and nursery preparation for early sown WRC crop. Farmers are also advised to complete sowing of maize and vegetables.
 - Farmers in Mild Tropical Plain Zone of Tripura are advised to complete sowing of sesame, arhar, groundnut and vegetables like ridge gourd, cucumber, ash gourd, okra etc.
 - Farmers in Temperate Sub Alpine Zone of Meghalaya are advised to continue sowing of maize, jute, turmeric and ginger. Undertake nursery preparation and sowing of *sali* rice and sowing and transplanting of *ahu* rice. Land preparation and sowing of Soybean in high altitude region may also be undertaken now.
 - Farmers of Sub tropical Plain Zone of Manipur are advised to continue land preparation for sowing of *kharif* rice, maize, soybean and groundnut.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to continue sowing of groundnut and soybean, planting of ginger, turmeric and nursery preparation of rice.
 - In Mild Tropical Hill Zone of Nagaland, farmers are advised to continue nursery preparation of rice.
 - 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 North Bank Plain Zone and Central 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.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In Lower Brahmaputra Valley Zone of Assam, bird flu like disease infestation in poultry and duck has been observed. Farmers are advised to consult immediately with veterinary doctors.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to deworm pigs and cattle.
 - Farmers in Manipur are advised to deworm cattle, buffalo against *Fasciola spp.*; deworm and vaccinate poultry against Ranikhet / Coccidiosis disease; deworm and vaccinate pig and goat against swine fever.
 - Farmers in Mild Tropical Plain Zone of Tripura are advised to vaccinate poultry against Ranikhet disease with R2B @ 0.50 ml through eye drop. Vaccinate cattle against Anthrax, Black Quarter (BQ) & *Haemorrhagic Septicaemia* and pig against Swine Fever.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to spray the sheds / barn and animals regularly with Butox liquid @ 2 ml per liter of water to prevent tick infestation in cattle. Poultry farmers are advised to maintain clean sanitary conditions of poultry sheds and equipment and provide balanced feed, fresh clean water as these are essential to prevent viral diseases.

- In Mild Tropical Hill Zone of Nagaland, farmers are advised to deworm pig and piglet.
- **Pishiculture**
 - Farmers of Barak Valley Zone and Central Brahmaputra Valley Zone of Assam are advised to release prawn in their fisheries. Clean up the pond well before releasing prawn.
 - In Mild Tropical Hill Zone of Nagaland, farmers are advised to put spoiled vegetables / vegetable wastes such as plant leaves into ponds for fish to eat or made into compost to help keep the water green and rich.

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

- **Realised Rainfall:** Significant rainfall occurred in Darbhanga and Madhepura districts in Bihar, Cooch Behar, Darjeeling and Jalpaiguri in Sub-Himalayan West Bengal, East Sikkim and South Sikkim districts in Sikkim. No significant rainfall occurred in remaining districts of the region.
- **Rainfall Forecast:** Rain / thundershowers would occur at a few places over Sub-Himalayan West Bengal & Sikkim and at isolated places over Gangetic West Bengal and Orissa. Mainly dry weather is likely over Bihar, Jharkhand during next 24 hours and rainfall is likely at isolated places thereafter.
- **Warning:** Heat wave conditions would continue to occur over some parts of Bihar. Thundersqualls would occur at one or two places over West Bengal and Orissa during next 48 hours.
- **Advisories:**
 - Thundersqualls would occur at one or two places over West Bengal and Orissa during next 48 hours. Farmers in these States are advised to complete harvesting and transport the produce to safer places; also arrange for mechanical support for vegetables and young plants in orchards.
 - Heat wave conditions prevailed over some parts of Bihar and Interior Orissa during last two days. Heat wave conditions would also continue to prevail over some parts of Bihar during next 2 days. Farmers in these States are advised to apply light and frequent irrigations and provide mulching to minimize evaporation from the soil.
 - As significant rainfall occurred in Darbhanga and Madhepura districts in Bihar, Cooch Behar, Darjeeling and Jalpaiguri in Sub-Himalayan West Bengal, East Sikkim and South Sikkim districts in Sikkim, farmers in these districts are advised to postpone irrigation to the crops. As there was no significant rain in remaining districts of the region and no significant rain is likely to occur, apply irrigation to the standing crops.
 - Farmers in East and South Eastern Coastal Plain Zone of Orissa are advised to undertake sowing of okra, yam and ginger. Farmers are also advised for sowing of maize for green cob purpose under irrigated conditions and planting of turmeric. Farmers are advised to undertake summer ploughing.
 - Farmers in North Central Plateau Zone of Orissa are advised to undertake planting of ginger and turmeric and provide irrigation to sunflower.
 - Farmers in North West Alluvial Zone of Bihar are advised to undertake harvesting and threshing of maize and also apply irrigation to vegetable crops.
 - Farmers in North East Alluvial Zone of Bihar are advised to undertake harvesting of *boro* rice, start nursery preparation for early *kharif* rice. Farmers are also advised to grow dhaincha as green manure crop for *kharif* rice.
 - Taking the advantage of less possibility of rainfall, farmers in Central and North Eastern Plateau Zone of Jharkhand are advised to undertake top dressing of urea @ 32 kg /acre in maize at knee high stage.
 - 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. Farmers are also advised to irrigate vegetables and undertake harvesting and threshing of summer rice.
 - Farmers in Coastal Saline Zone of West Bengal are advised to undertake land preparation for long duration direct seeded rice.
 - Farmers in New Alluvial Zone and Laterite and red Laterite Soil Zone of West Bengal are advised to complete nursery sowing of *aus* rice.
 - Farmers in New Alluvial Zone of West Bengal are advised to undertake intercultural operation in jute at three-week stage.
 - Farmers in Terai Zone of West Bengal are advised not to undertake planting of turmeric and ginger in wet field just after rain. Drain out excess water from already planted field.
 - Farmers in Old Alluvial Zone of West Bengal are advised to undertake intercultural operation in jute at three week stage on a non-rainy day.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.

- In East and South Eastern Coastal Plain Zone of Orissa, leaf folder has been noticed in late sown summer rice; spray 20 g Streptocycline along with 400 g Copper Oxochloride in 200 litres of water per acre. Fruit and shoot borer in brinjal and thrips in chilli have also been found. To control fruit and shoot borer in brinjal install Pheromone trap and spray 4 g Sevin WP or 2 ml Malathion in 1 litre water alternatively. To control thrips in chilli, spray 300 ml Ethion or 400 ml Carbosulphan or Chloropyrifos in 200 litre water / acre.
- Infestation of thrips and bud necrosis has been found in groundnut crop in East and South Eastern coastal plain Zone of Orissa. The farmers are advised to spray 2 ml Endosulphan in 1 litre water.
- In Western Plateau Zone of Jharkhand, in some pockets, rotting of fruits in Simla mirch (*Capsicum*) is reported. To control the rotting of fruits, spray fungicide Blitox-50 @ 3 g per litre of water. The crops are also attacked by the fruit borer insects. To control the insects spray Methyl Dematon (*Metasystox*) @ 1 ml per litre of water.
- Under prevalent weather situation, there is chance in increase of attack of stem rot in pointed gourd in New Alluvial Zone of West Bengal; apply Bavistin or Benlate @ 1 g / litre of water to control the disease. There is also chance of attack of weevil in jute; to control it, spray Dimethoate or Carbaryl @ 1 g / litre of water.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - 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.
 - There is possibility of attack of heat stroke in animals due to prevailing high day temperature in Central and 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. Rise in temperature increases the possibility of death in poultry. Preventive measures should be taken by giving mixture of vitamin C and cool water and spraying of cool water during noon time.
- **Pishiculture**
 - Due to high temperature fish may suffer from scarcity of oxygen. Farmers in Coastal Saline Zone of West Bengal are advised for proper aeration through netting in the pond.

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

- **Realised Rainfall:** Significant rainfall received in Anantnag, Baramula, Ganderwal, Kupwara, districts of Jammu & Kashmir. Mainly dry weather prevailed over rest part of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at a few places over Jammu & Kashmir and at one or two places over Himachal Pradesh from tomorrow onwards. Duststorms/ thunderstorms would occur at one or two places over plains of northwest India from tomorrow onwards.
- **Warning:** Heat wave conditions would continue to prevail over some parts of east Rajasthan, Uttar Pradesh, during next 2 days. Heat wave conditions may also develop over isolated pockets of Punjab, Haryana and Delhi from tomorrow.
- **Advisory:**
 - As there was no significant rain over the region and no significant rain is likely to occur, farmers are advised to apply irrigation to the standing *rabi* crops. Heat wave conditions may also develop over isolated pockets of Punjab, Haryana and Delhi from tomorrow. Farmers are advised to apply light and frequent irrigation to the crops.
 - In Delhi, optimum moisture level should be maintained in cucurbitaceous crops by light and frequent irrigation as dry conditions may lead to poor pollination and thus drop in yield of the crop. Stop irrigation in matured onion crop and harvest as earliest. Undertake sowing of pigeon pea and cotton during this week. Protect citrus orchards and banana against hot winds and irrigate frequently.
 - In Delhi due to present weather conditions, farmers are advised to give light and frequent irrigation in chilli, brinjal, bitter gourd, spinach, tomato, french bean, cluster bean, summer radish, summer green gram and cucurbit crops. Irrigation should be done in the morning hours or in the evening hours. Also sowing of cotton and pigen pea may be done in this week.
 - In Rajasthan, due to rise in temperature farmers are advised to irrigate summer vegetables, young fruit plants and other standing crops as per need. Undertake deep ploughing in hot summer to destroy soil borne

pests. Prepare nursery for rice and citrus fruits. Continue land preparation and sowing of cotton (Desi kapas, B.T. kapas with Non-BT kapas (Refugiya) and Narma kapas). Also undertake sowing of jowar / bajra mixed with guar, Sudan grass, oats, maize, sorghum etc. for green fodder. Undertake sowing of mirch, onion. Dig pits for planting of anola, guava, berry, lemon and papaya etc. Pick matured tomato, brinjal and chilli.

- 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. Continue sowing of summer fodder (maize + cowpea + jowar) in order to meet the fodder requirement in summer months. 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 / transplanting of brinjal, chillies cabbage, cauliflower, knolkhol, tomato in intermediate higher as well as in intermediate lower zone. Harvest berseem raised for seed purpose.
- Farmers in Cold Arid Zone (Leh) of Jammu & Kashmir are advised to undertake sowing / transplanting of cucurbits like summer squash under low tunnels.
- In Valley Temperate zone of Jammu & Kashmir, farmers are advised to undertake field preparation for sowing of rice, maize and *kharif* pulses. Continue transplanting of seedlings of solanaceous vegetables produced under open conditions and also seed sowing of cucurbits, kale, knol khol, bhindi and beans.
- Farmers in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh are advised to sow Chari, bajra and maize in low hills for green fodder. It is time for nursery transplanting and sowing of bhindi, shimla mirch, pepper, Khira, summer squash, bitter gourd, tori, and tomato in polyhouses, nursery of cucurbits having 2-4 leaf stage can be successfully transplanted in fields. In higher hill under dry and wet temperate climate region start sowing of wheat, red and white clover, and peas.
- In High Hill Temperate Dry Zone farmers are advised to go for nursery sowing of Cucumber, Summer squash, capsicum / tomato / planting in polyhouse and cauliflower / cabbage / Lettuce in open field can be taken up.
- 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 hill hills regions, Khira, summer squash, 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. Preparation of cabbage and cauliflower nursery and direct seed sowing in the field can also be done in high hills region in Mid Hills Sub-Humid, Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh.
- In Bhabar and Tarai Zone of Uttarakhand, farmers are advised to go for sowing of rice and also advise to continue sowing of Finger millets during this week. Litchi fruits are now partially turning to yellow in colour, hence in order to protect them from high temperature conditions, farmers are advised to spray cold water during morning hours for better fruit development.
- In Hill Zone of Uttarakhand farmers are advised to go for sowing of maize and ginger.
- Farmers in Punjab and Haryana are advised to complete sowing of recommended varieties / hybrid varieties of cotton / desi cotton including Bt cotton during this period as it ensures better yield. Farmers are also advised to prepare their field for sowing of paddy nursery, maize and also grow non-leguminous and leguminous crops in mixture i.e. maize + cowpeas to get more nutrients and undertake sowing of radish. Irrigate the standing vegetable crops once a week regularly. Due to prevailing hot weather conditions, irrigate sugarcane crop at 8 to 10 days interval. As temperature is increasing, give need based irrigation to the pulses.
- Farmers in Western Zone and Eastern Zone of Haryana are advised for sowing of desi and American cotton. Also prepare the field and start the sowing of rice with certified seeds in nursery.
- Farmers in Uttar Pradesh are advised to irrigate moong, banana, sugarcane and cucurbits crops. Undertake sowing of urad, maize, soyabean, cotton, sunflower and vegetables like okra, cucumber, pumpkin etc. After harvesting of berseem and jai, start sowing of maize, lobia etc., Sanai and Dhaincha also for green fodder purpose. Spray superfix plant development hormone (ANAA) when fruits are of pea size to protect fruit dropping in mango orchards and to increase the size of fruits. Also start nursery sowing of rice.
- Due to rise in temperatures, there are chances of yellow mosaic disease due to incidence of white fly in moong & urd crops are at flowering and pod formation stage. If symptoms of yellow mosaic disease are

appearing in some plants then for plant protection, farmers are advised to go for spraying of Metasystox @ 400 ml per 400 liters of water per acre crop area in Bhabar and Tarai Zone of Uttarakhand.

- In Central Plain Zone Ludhiana in Punjab, summer moong is severely attacked by thrips. Farmers are advised to spray the crop at flower bud initiation stage with 600 ml triazophos 40 EC or 100 ml Rogor 30 EC or Malathion 50 EC or 120 ml Metasystox 25 EC in 80-100 litres of water per acre.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In Punjab and Haryana provide cool and fresh water to birds. Provide sufficient water to avoid excess movement of birds. Proper vaccination schedule must be followed. Vaccinate the chicks of 6-8 weeks with Ranikhet disease vaccine and fowl pox vaccine at 8-10 weeks of age. Gal Ghotu, Black Quarter (Pat Soja) can cause heavy loss of animal life in unvaccinated animals. If it is not already done, get your animals vaccinated immediately against the disease. Provide plenty of water to poultry birds to meet the increasing requirement of water. Change the water frequently to provide cool water. Sprinkling of water around the shed, more green area surrounding this shed is helpful in reduction of heat. White washing of poultry shed from outside will be helpful in reflecting the sun rays back from the shed. Increase protein, minerals and vitamins in feed as the feed intake is reduced during summer.
 - In Bhabar and Tarai Zone of Uttarakhand, keep all animal under shed during day time to protect them from heat stroke & feed them properly. Go for vaccination in all animals for disease control, make alternate light arrangement in Brooder houses in the night.
 - In Semi-Arid Eastern Plain Zone (Jaipur) of Rajasthan, it is advised to adopt adequate measures to protect animal from heat stroke. Keep them in cool & shade area & give them cold water for drinking. Do not bath them in midday.
- **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 sim 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.
 - It is time for raising nursery of summer flowers viz. China aster, glardia, rudevekia, Kochia, African marigold, French marigold, partulaca, Tithinia, Torinia and cleome in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh.

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

- **Realised Rainfall:** Idukki, Palakkad and Thrissur in Kerala, Coimbatore, Trichy and Dindigul in Tamil Nadu, Dakshin and Uttar Kannada in Coastal Karnataka, Haveri in North Interior Karnataka, almost all districts in South Interior Karnataka except Bangalore Rural & Urban and Chickballapur received sufficient rainfall last week. No significant rainfall occurred over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Andhra Pradesh, Karnataka, Tamil Nadu and Kerala.
- **Advisories:**
 - As Idukki, Palakkad and Thrissur in Kerala, Coimbatore, Trichy and Dindigul in Tamil Nadu, Dakshin and Uttar Kannada in Coastal Karnataka, Haveri in North Interior Karnataka, almost all districts in South Interior Karnataka except Bangalore Rural & Urban and Chickballapur received sufficient rainfall last week, postpone irrigation to the crops. Apply irrigation to the standing crops in the remaining parts of the region, since there was no significant rainfall during last week.
 - Farmers in the Coastal Zone of Karnataka are advised to undertake summer ploughing to expose the soil to bright sunlight in order to absorb the moisture and procure good quality paddy seeds of MO-4 and Champaka variety for raising nursery and undertake raising paddy nursery by Dapog method, since mechanical transplanting is suitable for coastal area.
 - During next five days, as on an average 6 mm/day rainfall is expected, the 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.
 - Farmers in the Southern Dry Zone of Karnataka are advised to grow and incorporate green manure crop in the soil, whenever the farmers are intending to take up paddy and sugarcane in kharif season.

- Farmers in the Southern Transition Zone of Karnataka are advised to go in for harvesting and threshing of paddy.
- Farmers in the North East Dry Zone of Karnataka are advised to continue summer cultivation, build moisture conservation structures and procure the required seeds for kharif sowings before onset of monsoon season.
- Farmers in the Western Zone of Tamil Nadu are advised to apply 3rd dose fertilizer on sugar-cane after 90 days, undertake earthing after 150 days after planting and utilize the summer rain for ploughing and land preparation in order to sow rainfed crops.
- Farmers in the North Western Zone of Tamil Nadu are advised to start castor sowing, since June is the best time to start castor cultivation in this zone.
- Farmers in the Southern Zone of Tamil Nadu are advised to carry out summer ploughing, clean the drains/waterways using the rainfall depending upon the amount and soil condition at the field level, remove perennial weeds in rain fed fields such as hariyali/nuna either through manual methods or using chemicals.
- As there is forecast for heavy rainfall, farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to schedule spraying of chemicals and sprays may be given after the showers.
- Farmers in the Southern 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, pigeon pea, green gram etc. and dig the pits for planting new orchards.
- Farmers in the Northern Telangana Zone of Andhra Pradesh are advised to harvest paddy and sesamum and carry out inter cultivation and earthing up of sugar-cane, since there is no forecast of rainfall.
- Farmers in the Problem Area Zone of Kerala are advised to undertake land preparation and dry seeding of *virippu* and upland rice, plough the harvested field and inundate water to maintain soil property and prevent drying and apply fertilizers. They are also advised to undertake planting of ginger and turmeric cultivation after receipt of pre-monsoon showers (varieties of ginger and turmeric are given in Annexure I) and planting of coconut seedlings, provide irrigation to coconut, nutmeg and vegetables.
- Moderate cloud cover and humidity expected during the coming days is conducive for the incidence of sucking pests in cotton, pod borer in rice follow pulses and thrips in rice nursery in the South Zone of Tamil Nadu. Farmers are advised to undertake plant protection measures to prevent attack of pests.
- Farmers in the North East Transition Zone of Karnataka are advised to spray Dimethoate (Rogor) @ 1.7 ml or 1.0 ml of Oxydemeton Methyl per liter of water to control sucking pest in case of tomato, brinjal and chilli.
- Farmers in the Southern Transition Zone and Hill Zone of Karnataka are advised to take up spraying of Dimethoate 2 ml/lit of water to control mealy bug infestation in papaya plantations and undertake plant protection measures.
- High temperatures may prevail in the ensuing five days in the North Coastal Zone of Andhra Pradesh, which results in the incidence of sucking pests in summer vegetables and early shoot borer in sugarcane. Farmers are advised to spray dimethoate @ 2 ml/l for control of sucking pests and chlorpyrifos @ 2.5 ml/l to control early shoot borer.
- Prevailing dry conditions are favourable for incidence of leafminer/ leaf webber in groundnut, thrips in cotton, bud worm and mite damage in jasmine and fruit fly in mango in the Scarce Rainfall Zone of Andhra Pradesh. Farmers are advised to undertake plant protection measures.
- Farmers in the Central Zone of Kerala are advised to improve the drainage condition and inspect ginger and turmeric crop for rhizome rot, dig out the rotted plants and drench the field with fungicides and care has to taken to rough out the cucumber mosaic infested cucubits from banana field.
- Farmers in the Problem Area Zone of Kerala are advised to undertake plant protection measures to control fruit fly, leaf caterpillars in cowpea and aphid attack in bhindi, cowpea, brinjal etc.
- **Animal Husbandry**
 - Farmers in the North East Transition Zone of Karnataka are advised to maintain optimum temperature by applying 4-6 inch thick hay thatch as a roofing material, use water for spraying the floor and roof of shelter, periodically during peak hot hours to lower the temperature in poultry and make cool water available to the birds because of peak hot temperature. Proper ventilation should be maintained for free circulation of air and young calves are to be protected against exposure to heat. Dry fodder is to be fed after uniform mixing with 2% urea and 10% molasses or jaggery to improve palatability.

- Farmers in the Southern Dry Zone of Karnataka are advised to vaccinate the animals (cow, buffalow, bullock) against Foot and mouth disease (FMD vaccination), BC vaccination against Black Quarter and also vaccinate cow, buffalo and bullock against Haemorrhagic Septicaemia (ET vaccine) sheep and goats against Enterotoxemia before onset of monsoon.
- Farmers in the North Western Zone of Tamil Nadu are advised to continue summer management measures in order to reduce the shed temperature till the first week of June, the onset time of SW monsoon. With some rains and subsequent hot effect, kids and lambs get the viral disease 'Peste-De-Petits Ruminant' disease with symptoms of diarrhoea and death. Hence, farmers are advised to give vaccination for this disease in the nearby veterinary dispensaries immediately to protect them.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Dry weather prevailed over Gujarat State and mainly dry weather prevailed over Maharashtra during last week.
- **Rainfall Forecast:** Weather would be mainly dry in Maharashtra and dry in Gujarat.
- **Advisories:**
 - As dry weather prevailed during last few weeks in the States of the region and mainly dry weather is likely to prevail during the period, farmers are advised to apply irrigation to the standing crops.
 - Farmers of East Vidarbha are advised to plough the fields upto 20-22 cm depth for planting of turmeric.
 - As mango fruits are at maturity stage, farmers of Konkan are advised to harvest Alphonso variety at 85% maturity stage for control of spongy tissue disorder. Store them in shed after harvesting. The mango harvesting may be done early in the morning or late in the evening to reduce spongy tissue.
 - Farmers of Konkan are advised to prepare rice nursery bed for *kharif* season and procure improved seeds of rice and nagli (ragi).
 - Farmers in Madhya Maharashtra are advised to start harvesting of already matured summer bajra, groundnut and maize early in the morning.
 - Farmers in Madhya Maharashtra and Marathwada are advised to plant suitable varieties of turmeric and ginger.
 - Farmers of North Madhya Maharashtra are advised to undertake sowing of BT cotton during 25th May to 15th June. Sowing may be done at 90 X 90 cm or 120 X 60 cm distance. Suitable varieties of the crop for sowing are mentioned in Annexure II.
 - Farmers in Middle Gujarat Zone are advised to apply irrigation in groundnut and vegetable crops in morning hours. Harvest mature mango fruits using mango harvester. As bajra crop is in maturity stage, arrange for bird watching. Harvest bajra crop if most of leaves are dried.
 - Farmers in Bhal and Coastal Zone of Gujarat are advised to irrigate vegetable and fodder crops at 7 to 9 days interval. Taking the advantage of dry weather, spray 1 liter of glyphosate or gramoxen in 500 liter of water per acre to control weeds in fallow land. Undertake deep ploughing of fields to control weeds and soil borne pathogens.
 - Farmers in North West Zone of Gujarat are advised to irrigate bajra and vegetable crops. Undertake intercultural operation in summer bajra.
 - Farmers in South Saurashtra Zone of Gujarat are advised to prepare land for sowing of *kharif* crops. Carry out harvesting of bajra, groundnut and mango.
 - Due to high temperature forecast, farmers in South Gujarat Heavy Rainfall Zone are advised to irrigate fruits, vegetables and groundnut during morning hours. Stop irrigation to cowpea and bajra crop and harvest during morning hours. Apply wheat or mustard straw mulch under mango tree to reduce impact injury and spongy tissue.
 - In view of increase in temperature, farmers in South Gujarat Zone are advised to protect banana bunch with plastic cover. New grafts and newly planted fruit crops may be protected from sun burn by erecting temporary shed. For effective utilization of available water, drip irrigation system should be adopted for irrigating the fruit crops. Farmers are advised to prepare field for sowing of cotton with irrigation facilities.
 - Due to prevailing high temperature, farmers in North Saurashtra Zone are advised to apply irrigation in groundnut and sugarcane at 8-10 days interval. Prepare pits for new cultivation of orchard crops like lemon, pomegranate, sapota and custard apple.
 - Due to high temperature farmers in North Gujarat Zone are advised to apply regular irrigation in summer crops. Due to favourable weather carry out land leveling and bunding to increase water holding capacity of soil and plough field against the slope to avoid soil erosion and increasing soil moisture retention.

Regularly pluck matured mangoes fruits and vegetables. Cover papaya fruits using gunny bags. Prepare land for sowing of irrigated hybrid cotton and B.T. cotton.

- Suitable varieties of the crops for sowing are mentioned in Annexure II.
- Under prevailing weather condition there may be attack of sap sucking pests in summer chilli, brinjal, okra and guar in Marathwada, spray 5 % Neemark or Monocrotophos @500 ml/ha in 500 litres of water.
- Due to high temperature, there is infestation of white fly, aphids and mite in summer okra in Western Maharashtra Scarcity Zone, spray Imidachloprid @4 ml or Thiomethaxam@ 4 g or Methyl Demeton @10 ml in 10 litres water.
- Prevailing weather is congenial for infestation of blight or downy mildew in water melon and musk melon in Pune division, spray Mancozeb or Copper oxy chloride@25g in 10 litres of water for control of blight. For control of downy mildew spray, Metalaxyl F-Z 72@ 25 g or Mosestil @20g +Mancozeb@20g in 10 litres water at 10 days interval.
- 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. Vaccinate the animals against FMD and BQ to avoid disease outbreak during ensuing monsoon season. Avoid transportation of poultry birds during noon time. Put curtains on west side of poultry house and sprinkle water on curtains during noon time.
 - In Konkan and Madhya Maharashtra, provide clothing from outside the poultry shed and sprinkle it with water and apply layer of grass or gunny bags on the roof of poultry shed and sprinkle water on it for protection of poultry birds from heat. Provide fresh and cool drinking water for the poultry birds and chicks.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Mainly dry weather prevailed over the region.
- **Rainfall Forecast:** Dry / mainly dry weather is likely over West Madhya Pradesh and Chhattisgarh. Mainly dry weather is likely over East Madhya Pradesh during next 48 hours and isolated rainfall thereafter.
- **Advisories:**
 - As mainly dry weather prevailed during last week in Chhattisgarh and Madhya Pradesh and no significant rainfall is likely, farmers in these regions are advised to provide irrigation to the standing crops.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to clean the dried leaves and weeds in harvested sugarcane fields to take ratoon crop; hoeing / earthing and gap filling followed by irrigation is also advised. They are also advised that after harvesting of sugarcane.
 - Farmers in Gird Zone of Madhya Pradesh are advised to give irrigation during evening to urad, moong, chilli, okhra, tomato and fodder crop as per requirement.
 - Farmers in Bundelkhand region of Madhya Pradesh are advised to start summer deep ploughing (20-25cm) in their bare field. Summer ploughing is very beneficial to destroy the seeds of weeds, spores of diseases and eggs of insect and also modifies the physical properties of soils. In view of high temperature, farmers are advised to irrigate vegetables and newly planted orchard crops.
 - Farmers in Malwa Plateau Zone of Madhya Pradesh are advised to provide irrigation to summer crops such as moong, urad and fodder crops. Deep ploughing may also be done.
 - 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, jawar and maize. Practice deep ploughing in the field after harvesting of *rabi* crops. Farmers are advised for picking of okra and spinach.
 - Farmers in Chhattisgarh Plain Zone are advised drying of harvested rice by harvester under well ventilated shaded place to avoid breakage of rice during milling. Similarly harvested groundnut should also be dried in well ventilated shaded area. At present the evaporation rate is about 13 mm/day. Hence, farmers are advised for proper water management in summer vegetables, groundnut and sunflower as per the requirement. The farmers having drip irrigation system for vegetables and

plantation crops should regulate the water discharge rate accordingly to maintain proper soil moisture around root zone. At present groundnut is at pod filling stage which is crucial for moisture. Hence it is advised to irrigate the crop as per requirement to avoid moisture stress condition. Also, where the crop is at harvesting stage, light irrigation before uprooting the crop is advised.

- Farmers in Bastar Plateau Zone of Chhattisgarh are advised that summer crops like okra, ridge gourd, watermelon etc. should be irrigated at an interval of 12-15 days. Summer ploughing should be done in the fields and left open so that seeds of weeds, spores of diseases and eggs of insects are destroyed.

- **Animal Husbandry & Poultry**

- Farmers in Kymore Plateau and Satpura Hills region, Central Narmada Zone, Malwa Plateau Zone and Gird Zone of Madhya Pradesh are advised to provide enough potable water to the cattle.
- In view of high temperature conditions in Bundelkhand Zone, farmers are advised to cover the window and doors of poultry house with gunny bags between 11 am to 4 pm and keep it wet with water and remove the gunny bag after 4 pm.

Annexure I

Major Crops

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

- Sugarcane (early vegetative / vegetative), *boro* rice (maturity / harvesting), *ahu* rice (direct seeded) (tillering), *ahu* rice (transplanted) (transplanting / tillering), *sali* rice (nursery preparation), okra (sowing / vegetative / flowering / fruiting), black gram, green gram (branching / flowering / pod formation), *kharif* maize (field preparation), maize (silking / cob formation), *Capsularis* / *Olitorius* jute (seedling / vegetative), summer vegetables (vegetative / flowering / fruiting), cow pea (sowing / early vegetative / vegetative), cucurbits (sowing / vegetative / flowering), banana (planting), ginger / turmeric (planting / vegetative) in Assam.
- *Jhum* and WRC rice (sowing), maize (sowing / vegetative), black gram, green gram (early vegetative / vegetative), okra, cucurbitaceous vegetables (sowing / vegetative / flowering), beans (vegetative / flowering / pod formation) in Arunachal Pradesh.
- Pre-*kharif* rice (late transplanted) (tillering / panical initiation), pre-*kharif* rice (panicle initiation / flowering), soybean, groundnut (sowing), *kharif* maize (sowing / early vegetative), cucurbits (sowing / transplanting / vegetative / flowering / fruiting), tomato (fruiting / harvesting), chilli (new) (transplanting), okra, cow pea, French bean (sowing / vegetative), ginger, turmeric (planting / vegetative) in Manipur.
- *Sali* rice (nursery sowing), *ahu* rice (transplanting), black gram, green gram (vegetative / branching), brinjal (fruiting / harvesting), soybean (sowing), maize, tomato (seedling / transplanting / vegetative / tillering), potato (planting / vegetative), turmeric, ginger (sowing / vegetative), jute (sowing / vegetative) and vegetables like bottle gourd, ash gourd, cauliflower, cabbage etc. (flowering / fruiting) in Meghalaya.
- Rice (nursery preparation), groundnut, soybean (sowing), *Khasi* mandarin (vegetative / flowering / fruiting), banana (vegetative / fruiting / maturity / harvesting), *kharif* maize (field preparation), okra, cucurbits (flowering / fruiting / harvesting), *kharif* okra, cucurbits (sowing / early vegetative), ginger / turmeric (planting) and urad, moong (seedling) in Mizoram.
- Rice (nursery sowing / germination), maize (tasseling / silking / cob formation), ginger, turmeric (vegetative), rajma (vegetative / flowering) and banana (vegetative / fruiting / harvesting) in Nagaland.
- *Aus* rice (tillering), upland *kharif* rice (tillering), *aman* rice (nursery preparation), sesame, arhar (early vegetative), maize (tasseling / silking), cucurbits (sowing / seedling), okra (flowering / 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 (pod maturity), summer maize (grain formation) in Bihar.
- Turmeric, ginger and elephant foot yam (planting), okra (sowing), summer moong (pod formation / maturity), summer rice (grain filling / maturity / harvesting), summer vegetables (flowering / fruiting / harvesting), summer maize (grain formation) in Jharkhand.
- Summer rice (harvesting), summer groundnut (harvesting), sunflower (head formation / early maturity), sugarcane (new) (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.
- *Boro* rice (grain maturity / harvesting), *aus* rice (sowing / germination), summer vegetables (flowering / fruiting / harvesting), sesame (capsule formation / early maturity / maturity), groundnut (seed maturity / harvesting), chilli (flowering / fruiting / harvesting), mango (fruiting / maturity / harvesting), green gram (pod maturity), jute (sowing / early vegetative) in West Bengal.
- Ginger (germination / early vegetative), orange (flowering / transplanting), large cardamom (vegetative / primary flowering), vegetables (vegetative) in Sikkim.

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

- Vegetables (bhindi, cucurbits), potato (sowing / germination), mirch, brinjal (nursery sowing/transplanting), cucurbits viz. cucumber, summer squash, bitter gourd, bottle gourd (nursery sowing/transplanting), bush-type French bean (Contender), bhindi, surajmukhi (sowing / germination), tur,

brinjal, Shimla mirch, and tomato (transplanting / seedling), apple and other temperate fruits (vegetative), arbi, amaranthus, turmeric, rice, maize, barley, radish, onion, pea, garlic, coriander, cabbage, knolkhol, parsley, lettuce, fennel, cauliflower, broccoli (sowing / planting / germination), in Himachal Pradesh.

- Late onion (vegetative), Chilli, tomato, brinjal 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.
- Cole crops viz. early cauliflower, cabbage, knoll khol, broccoli (sowing / transplanting / vegetative/flowering), onion (transplanting), bhindi (emergence / fruiting), radish, turmeric, ginger (sowing), berseem (harvesting), summer moong, mash (vegetative), fodder (jowar, dhaincha, berseem), summer fodder (maize + cowpea + jowar) (land preparation / sowing), maize (sowing / emergence / 6th leaf stage), turnip, cruciferous crop (viz. cabbage, cauliflower, knolkhol, kale, broccoli), solanaceous crops (tomato, 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), ber, orange & guava (fruiting)] in Jammu & Kashmir.
- Chilli, capsicum, cauliflower, broccolli (germination/vegetative), sugarcane (planting), litchi, loquat, peach, citrus (fruiting / maturity), mango (early varieties) (fruiting / maturity / harvesting), foxtail millet, okra, bottle gourd, bitter gourd, ginger, turmeric (flowering / maturity), papaya (planting), urd and moong (flowering / pod formation), pearl millets (early vegetative/vegetative), onion, garlic (transplanting/ germination), brinjal, potato (vegetative), sunflower (germination), Chaitee dhan, maize, lobia, sunhemp, cowpea, jowar for green fodder (sowing/germination), French bean, ginger, okra, maize (sowing), irrigated rice (land preparation / nursery sowing) in Uttarakhand.
- Winter sugarcane (vegetative growth), sunflower, summer moong, urad (germination/ vegetative), vegetables [tomato, brinjal, lady's finger, cucurbits like bottle gourd, bitter gourd, cucumber] (sowing / germination / vegetative / flowering / fruiting), coriander (vegetative / flowering / maturity / harvesting), onion (vegetative growth), maize (grain formation), fodder maize, lobia, jowar (sowing), Sanai, Dhaincha (sowing / early vegetative), summer sugarcane (planting/ initial growth (tillering)), mango (flowering / fruiting), cotton, soyabean (sowing) in Uttar Pradesh.
- Paddy (land preparation), spring sugarcane (sprouting / tillering), berseem (harvesting), barley (harvesting), radish (sowing), carrot, turnip, cauliflower (transplanting / vegetative), summer pulses (germination), tomato, cucurbits, sunflower (sowing), cotton (sowing), okra, chilli, brinjal (sowing / transplanting) in Punjab.
- Paddy (land preparation), Sugarcane (spring season) (early vegetative), barseem (vegetative / last cut), moong, mash, pigeon pea (vegetative), cauliflower, cabbage, carrot, potato (transplanting), barley (heading/pre heading) and radish, cotton (sowing), turnip (sowing) in Haryana.
- Sweet potato(tuberization / maturity), cluster bean (vegetative / pod formation), vegetables (potato, brinjal, radish, carrot, palak, berseem, isabgol, ajwain, garlic (vegetative growth / flowering / fruiting), tomato, brinjal, chilli (picking), cauliflower, cabbage, onion (transplanting / germination), summer cucurbits, summer green fodder (sowing / germination), okra, *zaid* pearl millet fodder, *zaid* sorghum fodder, *zaid* green gram, groundnut, sweet corn (sowing / seedling), sugarcane (new planting), cotton (Desi kapas, B.T. kapas, Narma kapas, American Cotton) (land preparation / sowing), jowar and bajra mixed with guar, Sudan grass, oats, maize, sorghum etc. for green fodder (land preparation / sowing), mirch (sowing) in Rajasthan.

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

- Sugarcane (ratooning / vegetative), summer groundnut (harvesting), maize (harvesting), late planted paddy (harvesting), wheat (harvesting), black gram / green gram (harvest), mango (fruiting), cotton (boll development/picking), vegetables (fruiting) and horticultural crops (fruiting) in Karnataka.
- Rabi groundnut (harvesting), rabi paddy (maturity/harvest), early sown groundnut (vegetative), rabi maize (harvesting), rice fallow maize (grain filling), rice fallow jowar (grain maturity), rice fallow pulses (pod maturity), sunflower (seed formation), sugarcane (vegetative / ratooning), jowar (grain maturity), vegetables (fruiting), chilli (fruiting), green gram & black gram (harvest), tomato (fruiting) and bhindi (fruiting), mango (fruiting), fruit crops (fruiting), water melon (fruiting) and sesasum (harvest) in Andhra Pradesh.

- Pepper (planting/flowering), ginger (vegetative), rubber (tapping), irrigated banana (harvesting/ planting), cardamom (nursery/planting), nutmeg (maturity / harvest), sugarcane (grand growth), vegetables (nursery/planting), summer vegetables (harvesting), pancha paddy (harvest), virippu paddy (nursery sowing), coconut (planting), in Kerala.
- Rice - Samba (harvest/ nursery sowing/ transplanting), Thaladi (harvest/ nursery sowing/ transplanting), paddy kuruvai (land preparation /nursery management), rice fallow black gram (maturity), rice fallow black pulses (pod development), sugarcane (formative growth stage), gingelly (vegetative / flowering), tomato (fruiting), summer irrigated cotton (flowering), pulses (pod development), cotton (vegetative/ flowering/ boll development), vegetables (harvest), maize (tasseling/harvesting), pearl millet (vegetative), sorghum (harvesting), irrigated groundnut (harvesting), chilli (fruiting), ginger, sunflower (vegetative) and turmeric (harvesting) in Tamil Nadu.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane new *adsali* (active tillering), sugarcane new pre-seasonal (tillering), sugarcane new *suru* (early vegetative in Madhya Maharashtra and Marathwada), summer rice (grain maturity / harvesting in South Konkan, grain maturity in North Konkan, grain formation in East Vidarbha), summer groundnut (pod maturity / harvesting in South Konkan and pod formation / maturity in Madhya Maharashtra, Marathwada and West Vidarbha), bajra (grain harvesting in Pune and Nashik Division) in Maharashtra.
- Summer groundnut (pod maturity), sesame (flowering / capsule formation), summer rice (grain maturity), summer bajra (grain maturity), summer moong, urad, cowpea (vegetative / flowering / pod formation), sugarcane (early vegetative / vegetative), vegetables (flowering / fruiting / harvesting), green gram (maturity) in Gujarat.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Vegetables (fruiting), moong (early vegetative / vegetative), tomato, brinjal (transplanting/seedling), fodder crops (sowing) in Madhya Pradesh.
- Sugarcane (planting), 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 (tillering), summer vegetables (land preparation / sowing / vegetative), moong, urad and maize (sowing/ early vegetative) in Chhattisgarh.

Annexure II

List of Varieties

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.

Capsularis jute: JRC 321 (Sonali), UPC 94 (Reshma), JRC 212, JRC 7447.

Olitorius Jute: JRO 524 (Navin), JRO 785 (Basudev), JRO 632 (Baisakhtissa), Set-2 (Bahagi), Tarun.

Cow pea: Pusa Barsati.

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

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

Cucumber: Chinese Green, Pusa Sanyog, Japanese long, Straight 8.

Bitter gourd: Long Green, Extra Long.

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

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

Banana: Jahaji, Chenichampa, Malbhog, Barjahaji.

Pumpkin: Arke Suryamukhi, Arka Chandan and selected Local cultivars.

Meghalaya

Kharif maize: Vijay, RCM-76, Local White and Yellow, DA-61-A and QPM.

Capsularis jute: JRE-21, JRC-321, D-154, JRC-7447.

Olitorious jute: JRO-632, JRO-514, JRO-7835, JRO-878.

Mizoram

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

Okra: Pusa Sawani, Pusa Makhmali, Punjab Padmini, Arka Anamika, Arka Abhay, VRO-3, Parbhani Kranti.

Manipur

Cow pea: Rainy Royal, Long Green.

Soybean : JS 335

Groundnut : ICGS-76

Tripura

Ridge gourd: Pusa Nasdar, Satputia.

Cucumber: Japanese Long, Straight 8.

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

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

Maize: Navjot, Shakti, Decan-107.

West Bengal

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

Jharkhand

Ginger: Vardhaman or Nadia.

Turmeric: Rajendra, Sonia.

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

Elephant foot yam: Gajendera, Shree Padma, Santragachhi.

Himachal Pradesh :

Brinjal: ArkaNidhi, 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 : Kiyam 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
Summersquash : 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) : Var. of dhaincha seed K-84, K-39 having southern aspects, Giza-14 IET-1410, K-39, Ratna, PC-19, Jaya RR-8585, Basmati 370 and Ranbir Basmati

Punjab

Paddy : PR 118, PR 116, PR 114, PR 113, PR 111, PR 115.
Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), CoJ-88, CoS-8436 for mid season and CoJ-89 and Co-1148 (late maturing variety).
Summer moong: SML-668, SML 832
Summer mash: Sathi mash, Mash 1008 , Mash-414 ,Mash-218.
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

Haryana

Paddy : PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115.
Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), CoJ-88, CoS-8436 for mid season and CoJ-89 and Co-1148 (late maturing variety).
Summer moong: SML-668, SML 832
Summer mash: Sathi mash, Mash 1008 , Mash-414 ,Mash-218.
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

Delhi

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

Sunflower: KBSH-44, PAC-36, PAC-1091, PAC-3776, PAC-6457, DRS-1.

Okra: Pusa Savani, Punjab Padmini, Selection -1, HissarUnnat, Vaishali, Madhu, Parbhani Kranti, VL Bhindi-1 etc.

Sugarcane :Co Pant 84211, Co-238, Co-241, Co Pant 3220, COS-8436, COS-88230 etc. and medium to late sown varieties like Co Pant 90223, Co Pant-96219, COS-97222, COS-767, COS-1148 etc.

Urd : PU-19, PU-30, Pant Urd-31, Pant Urd-35, Pant Urd-40, Narendra Urd-1 etc.

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

Cucurbits: Pant Kheera-1 of cucumber, Pant Kakari-1 of Long melon, Pant Karela-1 of Bitter Gourd, Pant Summer Lokee-1,2 of Bottle Gourd and of Water Melon and Musk Melo

ChiateeDhan : VL-dhan-206, VL-Dhan-207, VL-Dhan 208, VL - Dhan 209, Pant Majdera-7

For green manuring : Pant Dhincha-1.

Irrigated rice : Vivek Dhan 85, B.L. Dhan 65, B.L. Dhan 66, Pant Dhan 11

Jhangore : P.R.J.-1, V.L.-172

Green fodder (Maize) : Ganga-2, Ganga-7, African Tall

Green fodder (Lobia) : Russian Joint, EC-4216, UPC-5286

Maize (for green cob) : Sweta or Surya

Maize : hybrid var. Him.-129, VL-42, Vivek-5, Vivek Sankar Makka-9, **composite var.** V.L. Makka-88, V.L. Makka-41, Navin, Sartaj, V.L. Makka 16.

Rice: Pusa-44, Jaya, Serju-52, NDR-359, Pant Dhan-4, PR-113, PR-114, Pant Dhan-18, Pant Dhan-19

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, Malviya Jagruti, Samrat, Pusa Vaishakhi 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.

Vegetables : Bitter gourd: KalyanSona, Arka, Harit, Bottle gourd: KalyanpuriHari, Lambi Azad, Nootan, Pusa, Navin, Narendra, NarendraDharidar, NarendraBhankar, Lowki-4, Pumpkin: PusaVishwas, Coimbatore-1,2, Kalyanpur Pumpkin-1, NarendraAgrim, NarendraAmrut, Cucumber: Fine set, China, Japoni, Langreen, Taroi: Pusachikani, PusaNasdar, Satputiya, Punjab, Sadabahar, Lady's Finger: Azad Bhindi-1,2, ParmaniKranti, P-7, Varsha, Uphar, Hissar, Unnat, P-Kanti.

Rajasthan

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 (Jawar) : 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, Pusa Sadabahar, Pant C-2 and Jawahar.

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

Gujarat:

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

Maharashtra:

BTcotton: H-10, Phule 688, Phule 388 and LRA 5166

Turmeric: Selam, Lokhandi and Krishna (in Marathwada) and Phule –Swarupa, Selam, Krishna, Tekurpeta and Rajapuri (in Madhya Maharashtra).

Ginger: Mahim, Suruchi and Suprabha (in Marathwada), Mahim, Rio-de-Jeneiro, Kalikat etc. (in Madhya Maharashtra).

Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 23.05.2012

