

National Agromet Advisory Bulletin

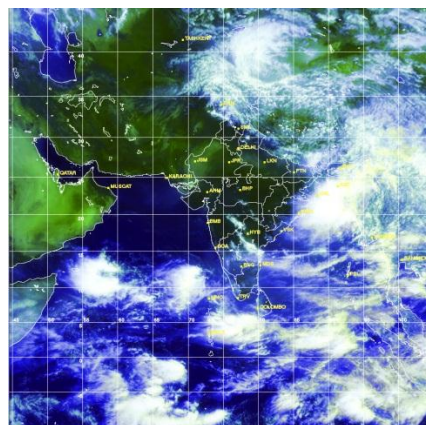
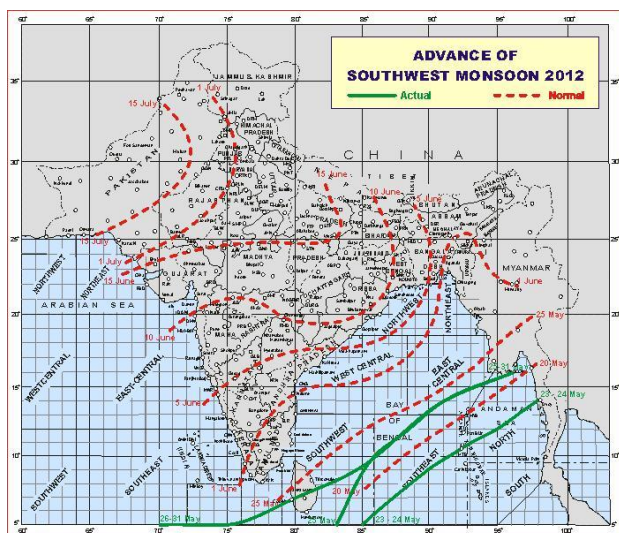
Thursday, 31st May, 2012

(For the period 31st May to 4th June, 2012)



Monsoon Watch

- The Northern Limit of Monsoon (NLM) continues to pass through Lat. 5.0°N/Long. 70.0°E, Lat. 5.0°N/Long. 75.0°E, Lat. 7.0°N/Long. 80.0°E (near Colombo), Lat. 10.0°N/Long. 86.0°E, Lat. 14.0°N/Long. 91.0°E and Lat. 16.0°N/Long. 96.0°E.



Satellite image 0600 UTC dated 1st June, 2012

Severe heat wave conditions were prevailing over some parts of Punjab, Haryana, Uttarakhand and North Rajasthan. Heat wave conditions were also prevailing over rest of Punjab, Haryana and Rajasthan, many parts of Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Vidarbha and some parts of Telangana and interior Orissa. Heat wave to severe heat wave conditions would continue to prevail over Punjab, Haryana & Delhi, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Vidarbha, interior Orissa and North Andhra Pradesh during next 48 hours with decrease in severity from tomorrow onwards. Farmers in these States are advised to apply light and frequent irrigation to the standing crops and provide mulching in the field to minimize evaporation.

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

- Assam:** Nursery sowing of *sali* rice, cowpea and soybean and transplanting of *ahu* rice.
- Arunachal Pradesh:** Nursery sowing of *jhum*, WRC rice and sowing of soybean.
- Meghalaya:** Nursery sowing of *sali* rice, sowing of maize and jute and transplanting of *ahu* rice.
- Mizoram:** Sowing of maize, groundnut and soybean.
- Manipur:** Nursery sowing of rice and sowing of cucurbitaceous vegetables, maize, groundnut and soybean.
- West Bengal:** Planting of turmeric and ginger.
- Orissa:** Sowing of maize and planting of ginger.
- Punjab & Haryana:** Nursery sowing of rice.
- Andhra Pradesh:** Nursery sowing of rice.
- Kerala:** Sowing of *virippu* rice.



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

Severe heat wave conditions were prevailing over some parts of Punjab, Haryana, Uttarakhand and North Rajasthan. Heat wave conditions were also prevailing over rest of Punjab, Haryana and Rajasthan, many parts of Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Vidarbha and some parts of Telangana and interior Orissa. Heat wave to severe heat wave conditions would continue to prevail over Punjab, Haryana & Delhi, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Vidarbha, interior Orissa and North Andhra Pradesh during next 48 hours with decrease in severity from tomorrow onwards. Farmers in these States are advised to apply light and frequent irrigation to the standing crops and provide mulching in the field to minimize evaporation.

Significant rainfall occurred over many districts of Assam, Arunachal Pradesh and Sub-Himalayan West Bengal and Sikkim and Kishanganj district in Bihar, Kolkata, North 24 Parganas in Gangetic West Bengal and Ganderwal district in Jammu & Kashmir. Farmers in these regions are advised to start land preparation and sowing of *kharif* crops. Rain / thundershowers are also likely to occur at many places over Sub-Himalayan West Bengal and Sikkim and Northeastern States and hence 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.

Thundersqualls would occur at one or two places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, West Bengal & Sikkim 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.

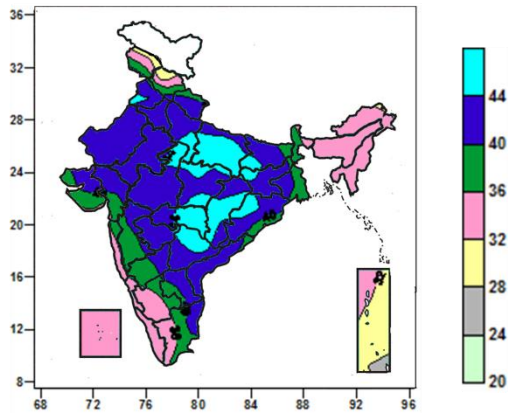
Due to favourable weather conditions, incidences of aphids in bhindi, cowpea and brinjal in Kerala, early stem borer in sugarcane in Orissa, rice bug in rice in Assam, white fly, aphid and mite in bhindi in Maharashtra and wooly aphids in sugarcane in Karnataka below economic threshold level (ETL) have 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:

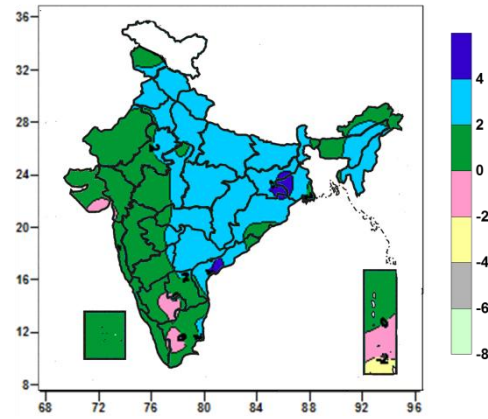
- **Assam:** Nursery sowing of *sali* rice, cowpea and soybean and transplanting of *ahu* rice.
- **Arunachal Pradesh:** Nursery sowing of *jhum*, WRC rice and sowing of soybean.
- **Meghalaya:** Nursery sowing of *sali* rice, sowing of maize and jute and transplanting of *ahu* rice.
- **Mizoram:** Sowing of maize, groundnut and soybean.
- **Manipur:** Nursery sowing of rice and sowing of cucurbitaceous vegetables, maize, groundnut and soybean.
- **West Bengal:** Planting of turmeric and ginger.
- **Orissa:** Sowing of maize and planting of ginger.
- **Punjab & Haryana:** Nursery sowing of rice.
- **Andhra Pradesh:** Nursery sowing of rice.
- **Kerala:** Sowing of *virippu* rice

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 30.05.2012

Actual Mean Maximum Temperature (°C) in India for the week ending 30.05.2012



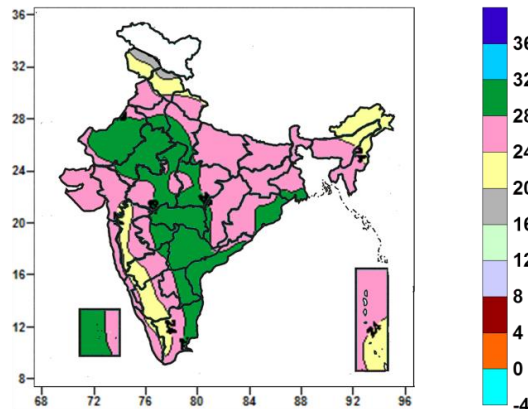
Maximum Temperature (°C) Anomaly in India for the week ending 30.05.2012



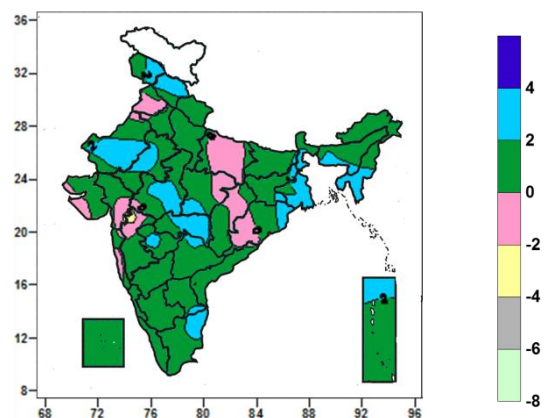
Actual Mean Maximum temperature ranged between 40 to 44°C and above also over most parts of Northwest India (except Jammu & Kashmir, Himachal Pradesh), East India (except some part of West Bengal & Sikkim), Central India, Gujarat, Saurashtra, Marathwada, eastern part of Madhya Maharashtra and North Interior Karnataka, Andhra Pradesh, Northern part of Tamil Nadu. 28 to 32°C over most parts of Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh and between 32 to 40°C over remaining parts of the country

Actual Mean Maximum temperature anomaly ranged between 2 to 4°C and above also over most parts Northwest India (except Jammu & Kashmir, Rajasthan), East India, Northeast India (except Arunachal Pradesh, some part of Assam & Meghalaya), Central India (except most part of West Madhya Pradesh), Telengana, Coastal Andhra Pradesh, -2 to 0°C some parts of Kutch, South Interior Karnataka, Tamil Nadu, Andaman & Nicobar Islands, -4 to -2°C over some parts of Andaman & Nicobar Islands, 0 to 2°C over rest of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 30.05.2012



Minimum Temperature (°C) Anomaly in India for the week ending 30.05.2012



Actual Mean Minimum Temperature ranged between 28 to 32°C and above over most parts of Haryana, Delhi, Rajasthan, Madhya Pradesh, Vidarbha, Marathwada, Andhra Pradesh, Lakshdweep Islands, some parts of West Uttar Pradesh, Gangetic West Bengal, Coastal Orissa, Chhattisgarh, Tamil Nadu and below 28°C over remaining parts of the country.

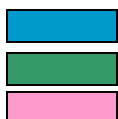
Minimum Temperature anomaly ranged between 2 to 4°C and above over many part of Himachal Pradesh, Rajasthan, West Bengal, Mizoram, Tripura, Vidarbha, some parts of Jammu & Kashmir, Jharkhand, Assam & Meghalaya, Orissa, Madhya Pradesh, Marathwada, Telengana, Rayalaseema, Tamil Nadu, Andaman & Nicobar Islands, -2 to 2°C over remaining parts of the country.

Distribution of rainfall of the country during week ending on 30.05.2012

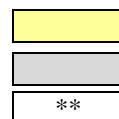
State/Districts	Actual (mm)	% Dep.
Arunachal Pradesh		
Changlang	23.9	-66
East Kameng	35.1	3
East Siang	92.3	14
Kurung Kumey	**	**
Lohit	26.9	-56
Lower Dibang Valley	**	**
Lower Subansiri	26.0	-55
Papumpara	81.5	-41
Tawang	19.0	-81
Tirap	0.1	-99
Upper Dibang Valley	15.0	-82
Upper Siang	48.4	-60
Upper Subansiri	7.4	-82
West Kameng	31.1	-69
West Siang	8.0	-88
Assam		
Baksa	68.0	-34
Barpeta	19.6	-81
Bongaigaon	37.8	-68
Cachar	46.7	-48
Chirang	49.8	-58
Darrang	24.0	-69
Dhemaji	68.0	-20
Dhubri	29.4	-72
Dibrugarh	31.9	-57
East Garo Hills	0.0	-100
East Khasi Hills	93.1	-50
Goalpara	12.5	-88
Golghat	58.3	10
Hailakandi	51.6	-52
Jaintia Hills	1.0	-99
Jorhat	27.9	-56
Kamrup(Metro)	57.2	-21
Kamrup	21.6	-70
Karbi Analog	8.8	-73
Karimganj	111.5	-14
Kokrajhar	30.3	-80
Lakhimpur	75.8	-11
Morigaon	2.8	-92
N.C.Hills	20.1	-72
Nowgong	1.3	-97
Nalbari	43.0	-38
Ribhoi	68.0	-1
Sonitpur	46.6	-31
Sibsagar	31.1	-40
South Garo Hills	0.0	-100
Tinsukia	40.8	-28
Udalgiri	61.6	-21
West Garo Hills	14.2	-81
West Khasi Hills	13.0	-83

State/Districts	Actual (mm)	% Dep.
Jammu & Kashmir		
Anantnag	9.3	-50
Badgam	5.4	-51
Baramula	3.8	-83
Doda	7.6	-40
Ganderwal	26.8	114
Jammu	0.1	-98
Kargil	0.0	-100
Kathua	0.0	-100
Kistwar	**	**
Kulgam	6.6	-65
Kupwara	3.8	-79
Ladakh(Leh)	0.0	-100
Poonch	0.0	-100
Pulwama	3.0	-75
Rajouri	0.0	-100
Ramban	3.3	-74
Reasi	0.2	-97
Samba	0.8	-84
Shopian	0.0	-100
Srinagar	6.2	-50
Udhampur	0.0	-100
Bihar		
Araria	10.2	-73
Arwal	0.0	-100
Begusarai	0.0	-100
Bhabua	0.0	-100
Bhagalpur	18.4	-1
Bhojpur	**	**
Buxar	0.0	-100
Darbhanga	0.0	-100
East Champaran	0.0	-100
Gaya	0.0	-100
Gopalganj	0.0	-100
Jahanabad	0.0	-100
Jamui	**	**
Kathihar	0.0	-100
Khagadia	0.0	-100
Kishanganj	60.4	9
Lakhisarai	0.0	-100
Madhepura	0.0	-100
Madhubani	**	**
Monghyar	0.0	-100
Muzaffarpur	0.0	-100
Nalanda	0.0	-100
Nawada	0.0	-100
Patna	0.0	-100
Purnea	0.0	-100
Rohtas	0.0	-100
Saharsha	**	**
Samstipur	0.0	-100
Saran	0.0	-100

State/Districts	Actual (mm)	% Dep.
Sheikpura	0.0	-100
Sheohar	0.0	-100
Sitamarhi	0.0	-100
Siwan	**	**
Supaul	2.4	-89
Vaishali	0.0	-100
West Champaran	0.0	-100
West Bengal		
GWB		
Bankura	14.1	-13
Birbhum	5.6	-74
Burdwan	3.0	-85
East Midnapore	5.7	-83
Hooghly	8.1	-67
Howrah	0.0	-100
Kolkata	25.8	-20
Murshidabad	13.0	-52
Nadia	4.1	-79
24 Pargana (N)	27.2	-2
Purulia	0.0	-100
24 Pargana (S)	6.2	-79
West Midnapore	4.8	-87
SHWB		
Cooch Behar	107.0	-7
Darjeeling	45.9	-38
East Sikkim	92.9	28
Jalpaiguri	89.4	-23
Malda	21.5	-26
North Dinajpur	0.0	-100
North Sikkim	47.8	-50
South Dinajpur	0.0	-100
South Sikkim	83.4	15
West Sikkim	102.0	8
Kerala		
Alappuzha	23.6	-73
Kannur	0.4	-99
Ernakulam	17.5	-81
Idukki	8.6	-87
Kasaragod	7.1	-91
Kollam	1.7	-97
Kottayam	15.6	-82
Kozhikode	0.2	-99
Malappuram	2.5	-96
Palakkad	1.4	-96
Pathanamthitta	13.1	-84
Thiruvananthapuram	4.8	-92
Thrissur	15.0	-83
Wyanad	0.0	-100

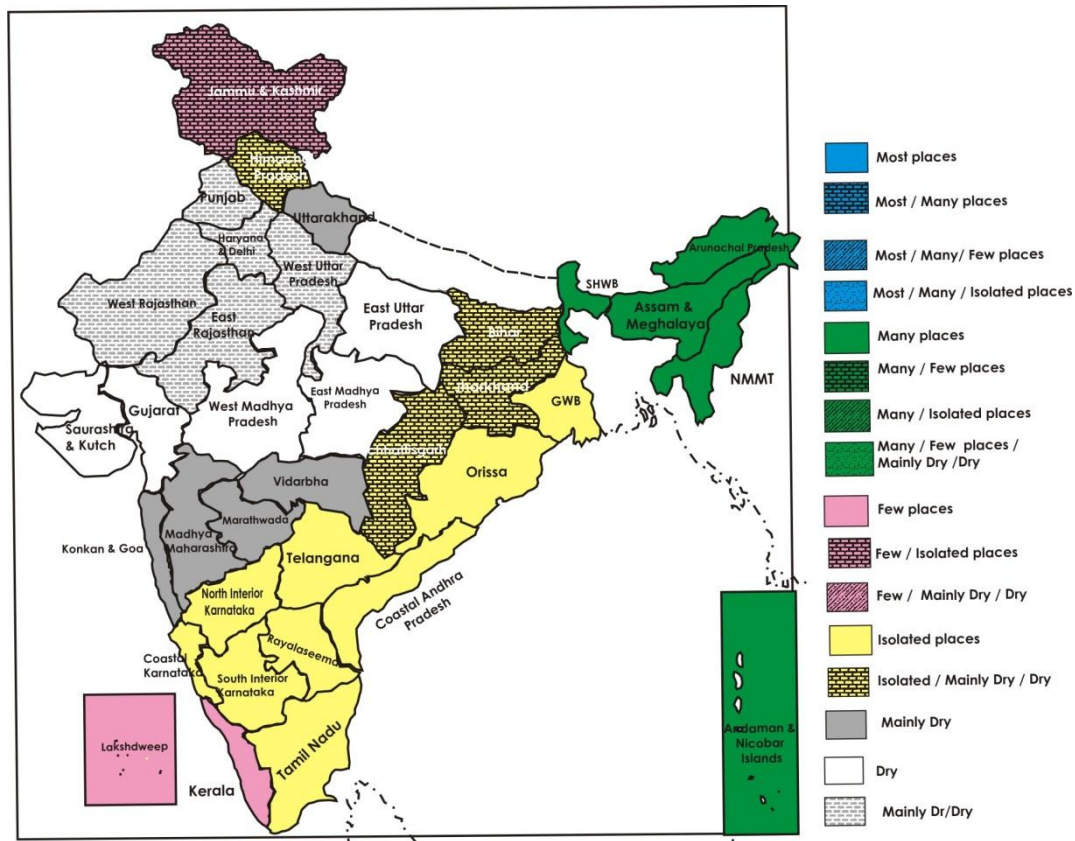


(20% or more) excess rainfall
 (-19 to +19%) normal rainfall
 (-20 to -59%) deficient rainfall



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

Weather Forecast (Valid upto 0830 hours of 3rd June, 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 3rd June, 2012

- Rain/thundershowers would occur at a few places over Jammu & Kashmir during next 24 hours and at one or two places thereafter.
- 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 Gangetic West Bengal and Orissa.
- Rain/thundershowers would occur at a few places over Kerala and Lakshadweep and at one or two places over Andhra Pradesh, Karnataka and Tamilnadu.
- Rain/thundershowers would occur at many places over Andaman & Nicobar Islands.
- Strong westerly dry winds would prevail over plains of northwest India during next 2 days.
- No significant change in maximum and minimum temperatures over northwest, central and adjoining east India during next 2 - 4 hours and fall thereafter by 2 - 3°C.
- Weather would be mainly dry over remaining parts of the country.

Weather Warning

- Thundersqualls would occur at one or two places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, West Bengal & Sikkim and Orissa during next 48 hours.
- Heat wave to severe heat wave conditions would continue to prevail over Punjab, Haryana & Delhi, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Vidarbha, interior Orissa and north Andhra Pradesh during next 48 hours with decrease in severity from tomorrow onward.

Weather Outlook up to 0830 hours IST of 5th June, 2012

- Rain/thundershowers would continue to occur at many places over Andaman & Nicobar Islands.
- Rain/thundershowers would continue to occur at many places over SubHimalayan West Bengal & Sikkim and northeastern states.
- Increase in rainfall activity along west coast of India.

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 Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during next 48 hours.
- **Advisories:**
 - As thundersqualls would occur at one or two places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during next 48 hours, farmers are advised to arrange for mechanical support for seedlings /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.
 - Farmers of Barak Valley Zone, North Bank Plain Zone, Central Brahmaputra Valley Zone and Lower Brahmaputra Valley Zone of Assam are advised to continue land preparation for nursery bed and sowing *sali* rice.
 - Farmers in the Upper Brahmaputra Valley Zone of Assam are advised to continue planting of banana and sowing of vegetables.
 - 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 in North Bank Plain Zone of Assam are advised to continue planting of banana, ginger and turmeric.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to continue transplanting of rice and undertake sowing of soybean. Apart from providing lifesaving irrigation to the crop, farmers are advised to use crop residues as mulch to conserve the moisture.
 - Farmers in Mild Tropical Plain Zone of Tripura are advised to complete harvesting of *boro* rice.
 - Farmers in Temperate Sub Alpine Zone of Meghalaya are advised to complete sowing of maize, jute, turmeric and ginger. Complete nursery preparation and sowing of *sali* rice in low and medium altitude areas and sowing and transplanting of *ahu* rice. Field preparation for sowing of soybean and *sali* rice may be started in high altitude areas. Transplanting of *ahu* rice seedling may be started in low lying areas.
 - Farmers of Sub tropical Plain Zone of Manipur are advised to continue land preparation and sowing of *kharif* rice, soybean and groundnut. Undertake nursery raising for early cauliflower.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to continue sowing of groundnut and soyabean, 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. Rajma may be supported by bamboo sticks 15-20 days after sowing as it increases pod yield as well as seed quality. Farmers are advised to prepare the field for planting of banana for planting with the onset of monsoon (June-August).
 - 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, 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.
 - Rice bug infestation has been observed in some *boro* paddy fields at milky stage in Nagaon area. Farmers of Central Brahmaputra Valley Zone of Assam are advised to apply Malathion 5% powder if infestation is noticed above ETL.
 - 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. Vaccinate bovines against Brucellosis and Anthrax.

- 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. To prevent tick infestation in cattle, spray the sheds / barn and animal regularly with Blutox liquid 2ml per liter of water.
- 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.
- **Pisculture**
 - 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 Kishanganj district in Bihar, many districts in Sub-Himalayan West Bengal and Sikkim and Kolkata, North 24 Parganas in Gangetic West Bengal. No significant rainfall occurred in remaining districts of the region.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim and at isolated places over Gangetic West Bengal and Orissa. Mainly dry weather is likely in Bihar during next 24 hours and isolated places thereafter. Rainfall is likely at isolated places over Jharkhand during next 24 hours and mainly dry weather thereafter.
- **Warning:** Heat wave to severe heat wave conditions would continue to prevail over Bihar, Jharkhand and Interior Orissa during next 48 hours with decrease in severity from tomorrow onward. Thundersqualls would occur at one or two places over West Bengal, Sikkim and Orissa during next 48 hours.
- **Advisories:**
 - Thundersqualls would occur at one or two places over West Bengal, Sikkim 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.
 - As significant rainfall occurred in Kishanganj district in Bihar, many districts in Sub-Himalayan West Bengal and Sikkim and Kolkata, North 24 Parganas district in Gangetic West Bengal, 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.
 - As heat wave conditions prevailed over Bihar, Jharkhand and Interior Orissa and heat wave to severe heat wave conditions would likely to continue to prevail during next 48 hours with decrease in severity from tomorrow onward, farmers are advised to apply light and frequent irrigation to the standing crops.
 - Farmers in East and South Eastern Coastal Plain Zone of Orissa are advised to undertake sowing of okra. Farmers are also advised for sowing of maize for green cob purpose under irrigated conditions.
 - Farmers in North Central Plateau Zone of Orissa are advised to undertake planting of ginger and turmeric and provide irrigation to sunflower.
 - Prevailing weather in East and South Eastern Coastal plain Zone of Orissa is favourable for commercial cultivation of fruit crops. Farmers are advised to prepare field and digging of pits before onset of monsoon for planting of fruit crops in July and August. For mango citrus, coconut, guava, Jackfruit and litchi, make the pits of size of 1x1x1 m; for banana and papaya of size 0.5 x 0.5 m and for pineapple make trenches of 30 cm wide and 15 cm deep of any convenient length. Pits may be dug out at a spacing as follows. Mango and jack fruit – 10 x 10 m, coconut, cashew nut and litchi – 8 x 8m, guava- 6 x 6 m, banana-2.4 x 2.4 m, papaya – 3 x 3 m and pine apple - 0.6 x 0.3 m.
 - Farmers in North West Alluvial Zone of Bihar are advised to undertake harvesting and threshing of maize and also apply irrigation to vegetable crops. Prepare the land for sowing of *kharif* crops. Prepare the nursery for sowing of long duration rice varieties and sowing of *kharif* maize.

- 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.
- 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 sowing of long duration direct seeded rice. Farmers are also advised to undertake planting of Arum and complete land preparation for planting of turmeric and ginger.
- Farmers in New Alluvial Zone and Laterite and red Laterite Soil Zone of West Bengal are advised to complete transplanting of early varieties *aus* rice. Farmers are advised to undertake intercultural operation in jute and apply top dressing and irrigation.
- Farmers in Old Alluvial Zone of West Bengal are advised to undertake harvesting of early transplanted rice.
- Farmers in Terai Zone of West Bengal are advised to undertake planting of ginger and turmeric and avoid planting in wet field just after rain. Drain out excess water from already planted field.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- Early stem borer infestation on sugarcane crop has been found in Nayagarh district of East and South Eastern coastal plain Zone of Orissa. If it crosses the ETL level (5% dead heart), farmers are advised to go for hoeing, weeding and apply 4 kg Phorate or 12 kg Carbofuran or 10 kg Cartap followed by earthing up or spray 400 ml Monocrotophos / Tryozophos / Profenophos.
- Under prevailing weather situation, there is chance of attack of fruit borer in mango in New Alluvial Zone of West Bengal; spray Dichlorovos @ 1.5 – 2.0 ml per litre of water to control the pest. There is also chance of attack of mite in chilli; to control it, 1ml Monocrotophos per lit of water and after seven days, 2 ml Kelthane per lit of water.
- Due to prevailing weather condition, neck blast may be occurring in rice in Terai Zone of West Bengal. To manage this disease spray Bavistin @ 1 gm per litre of water or Tricyclazole @0.05%.
- In the Hill zone of West Bengal sucking pests like jassid may infest the okra and cucurbits. For their management, the crop should be sprayed either with Monocrotophos @ 1.5ml/litre or Imidacloprid @ 1ml/7.5 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.
- **Pisciculture**
 - 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 Ganderwal district of Jammu & Kashmir. Mainly dry weather prevailed over rest part of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at a few places during next 24 hours and at isolated places thereafter over Jammu & Kashmir and at isolated places during next 24 hours during next 24 hours and mainly dry weather thereafter over Himachal Pradesh. Dry / mainly dry weather would prevail over remaining States of the region. Strong northwesterly dry winds would prevail over plains of northwest India during next days.

- **Warning:** Heat wave to severe heat wave conditions would continue to prevail over some parts of Punjab, Haryana & Delhi, Rajasthan, Uttar Pradesh during next 48 hours.
- **Advisory:**
 - As there was no significant rain over the region and severe heat wave conditions were prevailing over some parts of Punjab, Haryana, Uttarakhand and North Rajasthan. Heat wave conditions were also prevailing over rest of Punjab, Haryana and Rajasthan, many parts of Uttar Pradesh. Heat wave to severe heat wave conditions would continue to prevail over some parts of Punjab, Haryana & Delhi, Rajasthan, Uttar Pradesh during next 48 hours. Farmers are advised to apply light and frequent irrigation to the crops.
 - In Delhi, optimum moisture level may 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. Undertake sowing of pigeon pea and cotton during this week. Protect citrus orchards and banana against hot winds and irrigate frequently. 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 may be done in the morning hours or in the evening hours. It is also advised to prepare field for nursery of chilli, brinjal and early cauliflower.
 - 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. Start field preparation for sowing of irrigated groundnut and complete land preparation and sowing of cotton. Undertake sowing of mirch, planting of *kharif* onion nursery. 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 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 / transplanting of brinjal, chillies cabbage, cauliflower, knolkhol, tomato in intermediate higher as well as in intermediate lower zone. Complete harvesting of berseem raised for seed purpose. Provide irrigation to protect fruit plants from sun scorching and also provide shade through organic mulch with parali.
 - 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 continue field preparation for sowing of rice, *kharif* pulses and maintain nursery water level 5 cm during night hours. Also complete sowing of maize and transplanting of seedlings of solanaceous vegetables. Continue seed sowing of cucurbits, kale, knol khol, bhindi and beans.
 - 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, ogla 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. It is time for harvesting of potato. 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. 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 undertake transplanting of rice with irrigation facilities if age of the nursery is of 21 to 25 days and also advised to continue sowing of rice and finger millets during this week. Continue harvesting of potato in valley. Harvesting of matured pods of timely sown moong and urad crops may be carried out. Due to expected pre-monsoon rainfall during next week farmers are advised to prepare field for sowing of *kharif* season crops like groundnut, sorghum, millets, pigeon pea, urad, moong, soyabean, rajma and arhar. In Hill Zone of Uttarakhand farmers are advised to go for sowing of maize and ginger.

- 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.
 - Farmers in Punjab and Haryana are advised to undertake nursery sowing of rice with irrigation facilities. Prepare field for sowing of groundnut and start sowing of maize, grow non-leguminous and leguminous crops in mixture i.e. maize + cowpeas. Continue sowing of cotton. Undertake picking of bottle gourd, ridge gourd, pumpkin, chilli, capsicum, long melon, water melon, squash melon, muskmelon, brinjal, cucumber, cowpea, luffa, tomato, and bhindi at the peak of development and at edible stage. To avoid the adverse effect of hot weather on fruit trees apply white wash on the trunks of the trees. Give irrigation to standing crops as well as vegetables.
 - Farmers in Uttar Pradesh are advised to irrigate moong, banana, sugarcane and cucurbits crops. Continue 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. Also start land preparation and nursery sowing of rice upto 15th of June.
 - In Central plain zone of Uttar Pradesh, due to present weather condition there is chances of yellow blight diseases in urd, moong crops. Farmers are advised such plants should be remove and buried in the field.
 - In Bhabar and Tarai Zone of Uttarakhand, due to dry weather, there are chances of fruit borer in tomato and capsicum. Hence, farmers are advised to spray 50 EC Prophenophas @ 1 ml per litre of water on these crops if insect population is more than 10 % and also due to high temperature lemon fruits are damaged, hence it is advised to spray Zibrelic acid @ 10 mg per litre of water if damage is more than 5 %.
 - In Semi-Arid Eastern Plain Zone (Jaipur) of Rajasthan, summer okra may be affected with fruit borer. This grub affects quality of okra fruits. Farmers are advised to spray Malathion 50 EC @ 1.0 ml per litre water to control the pest.
 - In Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, red beetle and fruit fly attack is seen in the cucurbits, for its control, spray Malathion 1ml/litres or Carbaryl 2 gram/litre of water.
 - 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 900 ml Endosulfan 35 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 stock & 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.
 - 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. Clean the cow sheds properly as occurrence of flies increases during this period.
 - **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.

- 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:** No significant rainfall occurred over most parts of the region except in Alapuzha in Kerala which received sufficient rainfall.
- **Rainfall Forecast:** Rain/thundershowers would occur at a few places over Kerala and at one or two places over Andhra Pradesh, Karnataka and Tamil Nadu.
- **Advisories:**
 - Severe heat wave conditions were prevailing over some parts of Telangana. Heat wave to severe heat wave conditions would continue to prevail over North Andhra Pradesh during next 48 hours with decrease in severity from tomorrow onwards. Farmers in these states are advised to apply light and frequent irrigation and provide mulching to minimize evaporation.
 - Apply irrigation to the standing crops in most parts of the region, as there was no significant rainfall during last week.
 - Farmers in the Coastal Zone of Karnataka are advised to procure good quality paddy seeds of MO-4 and Champaka variety for raising nursery and green manuring crops like daincha, sunhemp etc can be grown by sowing seeds (20-25kg seeds/hect).
 - Farmers in the North East Transition Zone of Karnataka are advised to take up sowing of paddy seeds in the nursery and take up repair works of bunds, check dams and irrigation canals so as to reduce run off of rain water and also to check the soil erosion.
 - During next five days, as on an average 4 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 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 Central Dry Zone of Karnataka are advised to provide drip irrigation to save more water for future use, to control the heavy evaporation of water and undertake mulching around the trees/plants.
 - Farmers in the Western Zone of Tamil Nadu are advised to plough the field and prepare the land for sowing rainfed crops, utilizing the summer rain.
 - Farmers in the Southern Zone of Tamil Nadu are advised to carry out careful planning for spraying and fertilizer application to all standing crops since there is forecast of rainfall and take appropriate measures for propping young seedlings of banana and sugar-cane as there is forecast for high wind.
 - Farmers in the Northern Telangana Zone of Andhra Pradesh are advised to take up sowing of paddy. (Details of varieties are given in Annexure-I). Farmers are also advised to maintain alternate wet and dry beds during first week. Beds can be flooded 2-3 cm depth depending upon height of seedlings. At the time of uprooting, the nursery should be flooded two days before, to avoid root damage
 - Farmers in the High Altitude Zone of Kerala are advised to start nursery preparation for the first paddy crop, plough the field after the harvest for taking next crop, allow the stubbles to decay, test the soils before the next crop, take necessary phyto-sanitary measures and provide proper drainage facilities.
 - 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.

- Farmers in the Southern Zone of Kerala are advised to prepare field for *virippu* crop, as light rain is expected, remove weeds and carry out top dressing for crops planted in April, close coconut basins after the application of organic manures and chemical fertilizers before the start of monsoon, do propping in bunched banana plants, since strong winds are expected and fix tapping shades for rubber before start of monsoon and start tapping after a few good showers.
- Farmers in the Western Zone of Tamil Nadu are advised to undertake plant protection measures to prevent attack of mealy bug incidence in horticulture crops and red palm weevil incidence in coconut, since current and expected weather is conducive for their attack.
- Sucking pest incidence is noticed in the Southern Zone of Tamil Nadu. Farmers are advised to go for sticky traps and spray 3% neem oil before it reaches the ETL and if it is above ETL, spray systemic insecticide Imidacloprid @ 100 ml/ha to control it.
- 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, thrips in rice nursery and anthracnose or bird eye spot in mango in the South Zone of Tamil Nadu. Farmers are advised to undertake plant protection measures to prevent attack of pests.
- Farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to ensure good drainage and give prophylactic sprays of Mancozeb for preventing late blight in potato, as there had been rains last week.
- Incidence of Woolly aphid in sugarcane has been noticed in the North East Transition Zone of Karnataka. The farmers are advised to remove the infested leaves and burn, spray the crop with 3 ml Chloropyrifos dissolved in 1 litre of water, if the crop is of suitable height and mix 6 kg of phorate granules in 20 kg of sand and spread this mixture uniformly on the soil and then give light irrigation if the crop is of suitable height if the height of the crop is not suitable to spray the pesticide.
- Incidence of leaf spot in Udupi Jasmine is observed in the Coastal Zone of Karnataka due to increase in temperature. Farmers are advised to take up spraying of DM-45 @ 2.5 g/lit of water to control it and seed treatment by soaking paddy seeds (30 minutes) in the solution of Carbendazium 1g/ lit of water to prevent the leaf spot disease incidence in the nursery.
- **Animal Husbandry**
 - Farmers in the North East Transition Zone and Coastal Zone of Karnataka are advised to vaccinate the animals for Black Quarter and foot and mouth diseases.
 - Due to the elevated day time temperature, milk yield of Friesian and Jersey cows are likely to go down. To overcome reduction in milk yield of these crossbred animals, Farmers in the North Western Zone of Tamil Nadu are advised to sprinkle water over the animal during morning and evening hours, keep them under shades and feed them with lots of green grasses.
 - 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:** Dry weather prevailed over Gujarat and Maharashtra States during last week.
- **Rainfall Forecast:** Weather would be dry / mainly dry over the region.
- **Advisories:**
 - As dry weather prevailed during last week in the region and mainly dry / dry weather is likely to prevail during the period, farmers are advised to apply irrigation to the standing crops.
 - Farmers of Konkan are advised to prepare rice nursery bed for *kharif* season and procure improved seeds of rice and nagli.
 - Farmers in Western Ghat Zone are advised to undertake pit preparation, fill it with soil and compost for new planting of fruit crops in *kharif* season.
 - Farmers in Konkan are advised to arrange seedlings and filling materials like soil mixture and FYM for new plantations of mango, cashew, coconut and arecanut. For mango and coconut dig the pits of 1 x 1 x 1 m. size at the distance of 10 x 10 m (5 x 5 m for high density planting for mango) and 7.5 x 7.5 m for cashew and arecanut pits of 0.6 x 0.6 x 0.6 m. size at the distance of 7 x 7 m and 2.7 x 2.7 m. Refill the pits with mixture of soil, 20 to 30 kg of FYM or Compost and 2 kg single super phosphate and 100 g Follidol powder or 50 g Chloropyrifos granules to prevent attack of white ants.

- Farmers in Sub-Montane Zone are advised undertake preparatory tillage for sowing of *kharif* crops.
- Farmers in Western ghat zone are advised to undertake preparatory tillage operation for sowing of *kharif* crops and preparation of nursery beds for *kharif* rice may be undertaken. Suitable varieties of the crop for sowing are mentioned in Annexure II.
- As mango fruits are at maturity stage, farmers of Konkan are advised to harvest fruits at 85% maturity stage in Alphonso 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. Harvesting of fruits may be done with the help of '*nutan*' mango harvester.
- Farmers in Sub Montane Zone are advised to undertake harvesting of summer groundnut.
- Farmers in Sub Montane Zone are advised to apply last dose of Nitrogen fertilizer to pre – seasonal sugarcane followed by earthing up and apply irrigation to summer vegetable crops.
- Farmers in South Konkan are advised to undertake pre - monsoon sowing of vegetable crops.
- Farmers in North Konkan are advised to provide shade to saplings of coconut, arecanut, cinnamon, nutmeg, clove, etc. to protect from sun scorching.
- Farmers of North Madhya Maharashtra are advised to undertake sowing of BT cotton upto 15th June. Sowing may be done at 90 X 90 cm or 120 X 60 cm distance.
- Farmers are advised to continue harvesting of already matured summer bajra, groundnut and maize in the morning.
- New graft and newly planted fruit crops in Sub Montane zone be protected from sun scorching by providing shading. Farmers are also advised to keep the basins of the fruit crops weed free and cover with suitable mulch for conservation of available soil moisture. The orchards taken on sloppy marginal land should be protected from fire during summer. For this purpose the dry grass should be cut at ground level and fire traps should be taken along field boundaries.
- Farmers in Middle Gujarat Zone are advised to prepare field for sowing of *kharif* crops. Purchase certified seeds for *kharif* crops only from authorized dealer. Apply irrigation in groundnut, if required and brinjal, tomato, okra and other vegetable crops in the morning hours.
- Farmers in Bhal and Coastal Zone of Gujarat are advised for timely weeding and inter culturing in bajra and groundnut. Apply irrigation in groundnut. Spray 100 gram ferrous sulphate + 10 gram citric acid in 10 liter water two times at 8 days interval to control yellowish leaf in groundnut crop.
- Farmers in North West Zone of Gujarat are advised to harvest summer crops and prepare land for *kharif* crops. Selection of crops may be done as per irrigation facility. Arrange certified seeds, fertilizers and other inputs as per crop planning.
- 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 South Gujarat Heavy Rainfall Zone are advised to harvest matured fruits of pomegranate. Apply irrigation in groundnut. Prepare land for pre monsoon sowing of hybrid cotton and procure seeds of Govt. notified variety of BT cotton or HYV.
- Due to prevailing weather conditions, there may be infestation of mango fruit fly on mango in South Konkan, install Rakshak traps @ 4 traps per ha. To avoid further spread of the pest, collect and destruct fallen infested fruits of mango in the orchard.
- 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 FZ 72@ 25 g or Mosestil @20g +Mancozeb@20g in 10 litres water at 10 days interval.
- Due to increase in maximum temperature in North Konkan, there is a possibility of incidence of thrips on okra. Farmers are advised to spray Acephate @ 15 gm per 10 lit of water. If incidence of fruit and shoot borer is noticed on okra, spray 50000 ppm Nimazol 8 ml per 10 lit.
- Due to increase in maximum temperature, there is a possibility of incidence of thrips on new flush of fruit crops in North Konkan. For control of thrips, spray aciphate @ 1.5 gm/lit of water. Apply 25 micron black polythene mulch in between two trenches or beds of fruit crop nursery to control weeds, increase soil temperature and improving soil water conservation.

- There is possibility of incidence of thrips on new flush of various grafts fruit crops. For control of thrips spray Acephate @ 1.5 gm/lit of water.
- As day temperature is rising there may be infestation of early shoot borer in *suru* sugarcane in Sub Montane Zone, spray Endosulfan 35 EC @ 15 ml in 10 liter of water. Infested and grassy shoot may be removed and destroyed.
- In view of increase in temperature, farmers in South Gujarat Zone are advised to protect banana bunch with plastic cover. For effective utilization of available water, drip irrigation system may be adopted for irrigating the fruit crops. As temperature is high, fruit crops should be kept weed free and covered with suitable mulch for conservation of available soil moisture.
- In view of prevailing weather conditions, 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 forecast, farmers in North Gujarat Zone are advised to cover papaya fruits using gunny bags. Harvesting of early sown pearl millet and sorghum crop may be done utilizing dry weather conditions. Taking advantage of prevailing weather conditions, prepare land before sowing of groundnut by applying FYM @ 10 t / ha or castor oil cake @ 1 t /ha. Before sowing apply nitrogen @ 12.5 kg/ ha and phosphorous @ 25 kg/ ha as basal dose. Prepare land for sowing of irrigated hybrid cotton and B.T. cotton by applying FYM @ 15 - 20 t / ha. Before sowing apply nitrogen @ 40 kg/ ha in the form of Ammonium sulphate and phosphorous @ 20 kg/ ha as basal dose. Harvest matured mangoes fruits. Prepare land for plantation of orchard crops in ensuing monsoon season.
- Stages of major crops are mentioned in Annexure-I.
- **Animal Husbandry:**
 - Due to high temperature forecast in North Gujarat Zone, Middle Gujarat Zone keep animals under shade during noon hours and provide clean drinking water. Put curtains on 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.
 - Due to high temperature forecast in South Gujarat Heavy Rainfall Zone, 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 weather is likely over Madhya Pradesh and isolated rainfall is likely over Chhattisgarh during next 24 hours and mainly dry weather thereafter.
- **Weather Warning:** Heat wave to severe heat wave conditions would continue to prevail over Madhya Pradesh and Chhattisgarh during next 48 hours with decrease in severity from tomorrow.
- **Advisories:**
 - As mainly dry weather prevailed during last week along with heat wave conditions in Chhattisgarh and Madhya Pradesh and heat wave to severe heat wave conditions would continue to prevail over Madhya Pradesh and Chhattisgarh during next 48 hours with decrease in severity from tomorrow, farmers in these regions are advised to provide light and frequent 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. Undertake hoeing / earthing and gap filling followed by irrigation in sugarcane. Due to high evaporative demand give irrigation at regular intervals in moong and urad.
 - 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. 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 Malwa Plateau Zone of Madhya Pradesh are advised to provide irrigation to moong, urad, vegetables 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 interval, also provide irrigation in cucurbitaceous crops, okra, cowpea, and other vegetables. Also do intercultural operation in lobia, cowpea, jawar and maize. Deep ploughing in the field after harvesting of *rabi* crops may be done. Farmers are advised for picking of okra and spinach.
 - Farmers in Chhattisgarh Plain Zone are advised to dry harvested rice 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 14 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. may 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.
 - In Bundelkhand region of Madhya Pradesh present weather is favourable for attack of fruit borer in brinjal. Farmers are advised to spray Malathion 50 EC@ 1.5ml per litre of water.
- **Animal Husbandry & Poultry**
 - Farmers in Kymore Plateau and Satpura Hills region, Central Narmada Zone, Malwa Plateau Zone and Bundelkhand region 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 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 (vegetative), *boro* rice (maturity / harvesting), *ahu* rice (direct seeded) (seedling/ tillering), *ahu* rice (transplanted) (transplanting / tillering), *sali* rice (nursery preparation / sowing), okra (vegetative/ flowering/ fruiting), black gram, green gram (flowering / pod formation), *Capsularis / Olitorius* jute (sowing / seedling / vegetative), summer vegetables (vegetative / flowering / fruiting), cucurbits (vegetative / flowering/fruiting), ginger / turmeric (planting / vegetative), pumpkin (sowing) in Assam.
- *Jhum* and WRC rice (sowing / transplanting /vegetative), maize (cob formation / harvesting), black gram, green gram (sowing / vegetative), okra, cucurbitaceous vegetables (vegetative / flowering / fruiting), beans (vegetative / flowering / pod formation), soybean (sowing), sesame (vegetative) in Arunachal Pradesh.
- Pre-*kharif* rice (late transplanted) (tillering / panicle initiation), pre-*kharif* rice (panicle initiation / flowering), soybean, groundnut (sowing), *kharif* maize (sowing / early vegetative), cabbage, chilli (new) (transplanting / vegetative), okra, cow pea, French bean (flowering/ fruiting), ginger, turmeric (planting / vegetative), brinjal (sowing), cauliflower (nursery raising) in Manipur.
- *Sali* rice (nursery sowing), *ahu* rice (sowing/ transplanting), black gram, green gram (vegetative / branching), brinjal (fruiting / harvesting), soyabean (sowing / vegetative), maize (vegetative / tillering), tomato (vegetative/ flowering), potato (vegetative/tuberization), turmeric, ginger (vegetative/ tillering), jute (vegetative/ tillering) and vegetables like bottle gourd, ash gourd, cauliflower, cabbage etc. (flowering / fruiting) in Meghalaya.
- Rice (nursery preparation), groundnut, soyabean (sowing), *Khasi* mandarin (flowering / fruiting), banana (vegetative / fruiting / maturity / harvesting), *kharif* maize, French Bean, rice bean, moong (vegetative growth/ flowering), cucurbits (sowing/vegetative), *kharif* okra (harvesting), okra (vegetative) and ginger / turmeric (planting) in Mizoram.
- Rice (nursery sowing / germination/vegetative), ginger, turmeric (vegetative), rajma (vegetative / flowering) and banana (fruiting / harvesting) in Nagaland.
- *Aus* rice (tillering), upland *kharif* rice (tillering), *aman* rice (nursery preparation), *boro* rice (harvesting), sesame (vegetative / flowering), arhar (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 (harvesting), summer maize (grain formation / maturity), *kharif* rice (land preparation) 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 (early maturity / 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), 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/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), potato (sowing / germination), mirch, brinjal (nursery sowing/ transplanting), cucurbits viz. cucumber, summer squash, bitter gourd, bottle gourd (nursery sowing/transplanting), bushtype

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, 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), 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/ harvesting), mango (early varieties) (fruiting / maturity / harvesting), foxtail millet, okra, bottle gourd, bitter gourd, ginger, turmeric (maturity/harvesting), papaya (planting), urd and moong (pod formation), pearl millets (early vegetative/vegetative), onion, garlic (vegetative/ maturity /harvesting), brinjal, potato (maturity / harvesting), sunflower (germination), Chaitee dhan, maize, lobia, sunhemp, cowpea, jowar for green fodder (seedling / early vegetative), French bean, ginger, okra, maize (seedling), rice (nursery sowing/transplanting), finger millets (sowing), urd, moong, soyabean, rajma, arhar (land preparation) in Uttarakhand.
- Rice (land preparation / sowing), winter sugarcane (vegetative growth), sunflower, summer moong, urad (maturity), vegetables [tomato, brinjal, lady's finger, cucurbits like bottle gourd, bitter gourd, cucumber] (vegetative / flowering / fruiting), onion (vegetative growth / flowering / fruiting), 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) 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 (vegetative/flowering), tomato, cucurbits, sunflower (sowing), cotton (sowing), okra, chilli, brinjal (sowing / transplanting) in Punjab.
- Rice (land preparation / nursery sowing), Sugarcane (spring season) (early vegetative), barseem (vegetative / last cut), fodder ((maize + cowpeas) sowing / 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(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), *kharif* onion (nursery planting), *kharif* groundnut, rice (land preparation) in Rajasthan.

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

- Sugarcane (ratooning), paddy (nursery sowing), summer groundnut (harvesting), maize (harvesting), late planted paddy (harvesting), black gram / green gram (harvest), mango (flowering/fruiting), cotton (boll development/picking), vegetables (fruiting) and horticultural crops (fruiting) in Karnataka.
- Summer groundnut (vegetative), kharif paddy (nursery sowing), cotton (flowering), 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 (planting/vegetative), rubber (tapping), irrigated banana (harvesting/ planting), cardamom (nursery/planting), nutmeg (harvest), sugarcane (grand growth), vegetables (nursery/planting), vegetables (planting), *virippu* paddy (nursery sowing/land preparation), cashew, coconut (planting) in Kerala.
- Rice - Samba (harvest/ nursery sowing/ transplanting), Thaladi (harvest/ nursery sowing/ transplanting), paddy kuruvai (land preparation /nursery sowing), rice fallow black gram (maturity), sugarcane (formative growth stage), gingely (flowering), tomato (fruiting), summer irrigated cotton (flowering), pulses (flowering/harvest), cotton (vegetative/ flowering/ boll development), vegetables (pre-flowering/harvest), maize (harvesting), 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 (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, sorghum (harvesting), summer moong, urad, cowpea (pod formation / maturity), sugarcane (vegetative), vegetables (flowering / fruiting / harvesting), green gram (maturity / harvesting) in Gujarat.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Vegetables (fruiting), moong (pod formation), tomato, brinjal (vegetative / fruiting), 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), moong, urad and maize (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.

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.

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

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.

Fruit Crops:

Mango- Banganpalli, Totapuri, Subarnnarekha, Nilam, Langrah, Dasher, 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, Lakhyadeep, Java, Fiji

Pine apple- Que, Queen, Simachalan and Maricius,

Cashew nut- Vengrulla 1.4, BPP-4

Jackfruit- Kadua, Khajra and Singapor.

West Bengal

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

Aurum: BCC-17, BCC-33, BCC-02, BCC-01, BCC09 etc.

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.

Bihar

Kharif Rice: Rajshree, Rajendra Sweta, Rajendra Mansuri, Swarna, Satyam, Kishori

Kharif maize : Deoki ,Shaktiman 1, Shaktiman 2,Sunkar makka 3 and Ganga 11.

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

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): IET-1410,K-39, Ratna, PC-19, Jaya RR-8585,Basmati 370 and Ranbir Basmati
Hybrid: KRH-2, PHB-71

Punjab & Haryana

For Punjab : Paddy : PR 118, PR 116, PR 114, PR 113, PR 111, PR 115.

For 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

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

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, 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.

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 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, 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

AP

Rice

1. Early sowings (May last week to 20th June): Long duration varieties: Swarna, Samba Mashuri, Phalguna, Vajram, Orugallu (WGL47970), Pelala Vadlu (RDR 8702) and Chaitanya

2. Normal sowings (21st June to 10th July): Medium and short duration varieties: Jagtial samba (JGL 3844), Manair Sona (JGL 3828), Karimnagar Samba (JGL 3855), Jagtial Mashuri (JGL 11470), Polasa Prabha, Sugandha Samba (RNR 2465), Vijetha, Bhadrakali, Kavaya, Shiva, Keshava, Varsha, Indur Samba, MTU 1010, Jagtial Sannalu, Tellahamsa, Pothana, Erramallelu, Warangal Samba (WGL 14), Warangal Sannalu (WGL 32100), IR 64, Divya, Pelala vadlu

Pre-release cultures: JGL 11727 and JGL 11118

Kharif aged seedlings: Swarna, Warangal Sannalu (WGL 32100), Jagityal Samba (JGL 3844)

Saline soils: Vikas, Somasila, Deepti

3. Late sowings: Upto 30th July: Short duration varieties: Jagtial Sannalu, Jagtial Samba, MTU 1010, Tellahamsa, Pothana, Erramallelu, Keshava, Indur Samba, Surekha, Bhadrakali, Divya and Nellore Mashuri

4. For precarious sources: (Tank fed) : Erramallelu, Pothana, Varsha, Keshava, Varalu and Indur Samba

Rainfed areas: MTU 9993, Rudrama (RDR 7555), Varalu (WGL 14377)

5. Irrigated dry situation: Varalu, Cottondora Sannalu (MTU 1010)

6. Rainfed upland : Varalu, Rudrama and Metta Sannalu

7. BPH prone areas : Vijetha (MTU 1001), Cotton Dora Sannalu (MTU 1010), Deepthi

Gujarat:

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

Maharashtra:

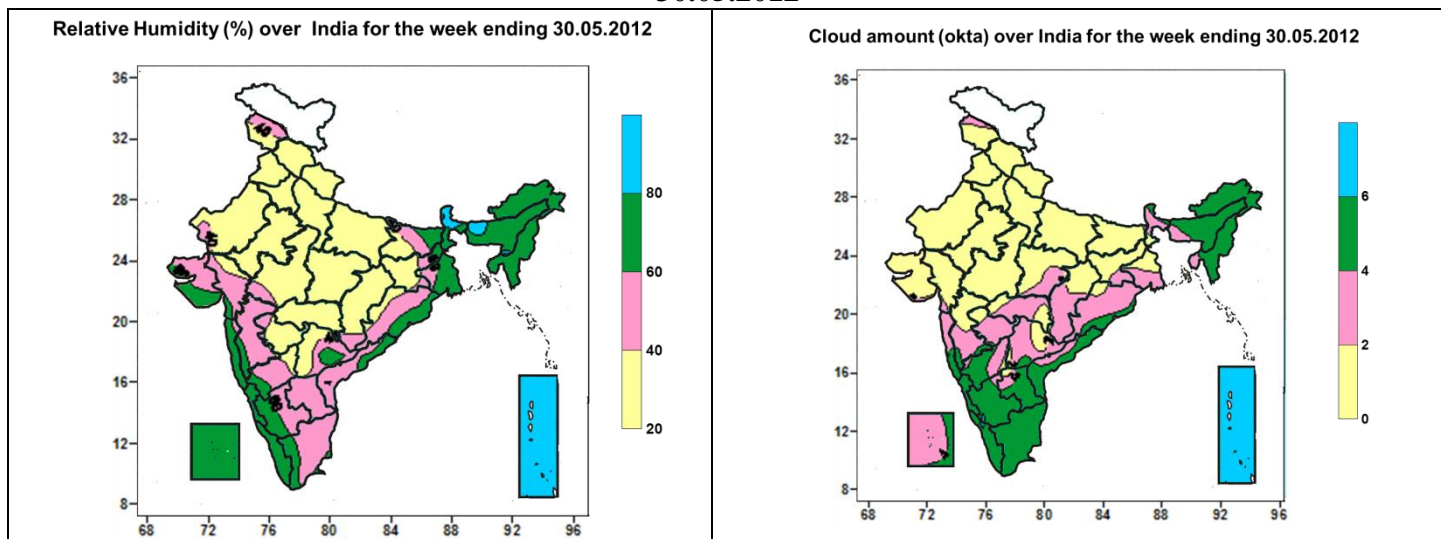
BT cotton: H-10, Phule 688, Phule 388 and LRA 5166

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).

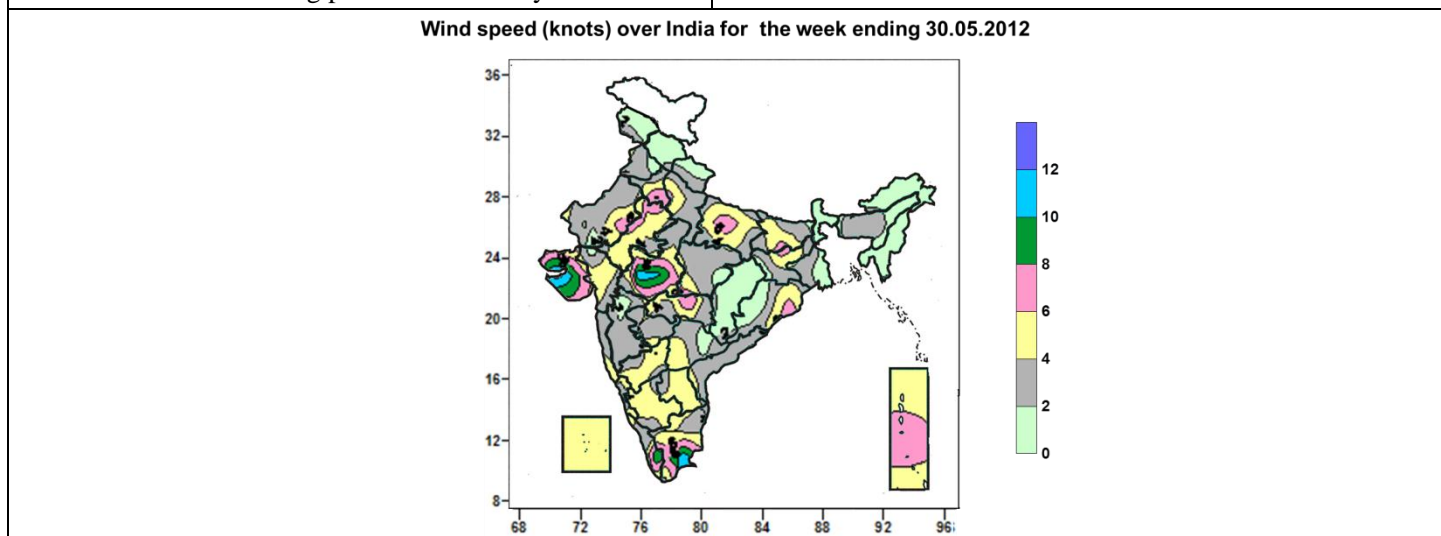
Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 30.05.2012



Relative humidity ranged between 80% and above over many parts of Andaman & Nicobar Islands, Sikkim, some parts of Sub-Himalayan West Bengal, Arunachal Pradesh, 60 to 80% over most parts of Northeast India, West Bengal, Konkan & Goa, Coastal Karnataka, Kerala, Lakshadweep, some parts of Coastal Orissa, North coastal Andhra Pradesh, Telangana, Saurashtra & Kutch, North & South Interior Karnataka, Tamil Nadu, Madhya Maharashtra and 20 to 60 % over remaining parts of the country.

Cloud amount 6 okta and above over many parts of Andaman & Nicobar Islands, 4 to 6 okta over most parts of Northeast India, Coastal Andhra Pradesh, Rayalaseema, Karnataka, Kerala, Tamil Nadu, Lakshadweep, some parts of Sikkim, Coastal Orissa, Telangana, Konkan & Goa, Madhya Maharashtra and 0 to 4 okta over remaining parts of the country.



Wind speed ranged between 8 to 12 knots and above over some parts of Saurashtra & Kutch, West Madhya Pradesh, Tamil Nadu, 6 to 8 knots over some parts of Haryana, Bihar, Uttar Pradesh, Bihar, Jharkhand, Orissa, Madhya Pradesh, Gujarat, Rajasthan, Saurashtra & Kutch, North Interior Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, below 6 knots over remaining parts of country.