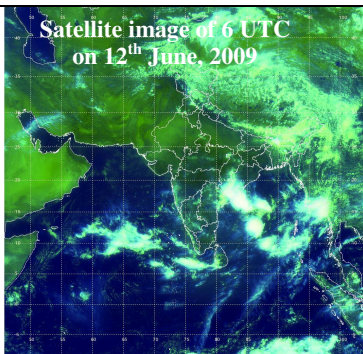


# National Agromet Advisory Bulletin

Thursday, 11<sup>th</sup> June, 2009 (For the period 11<sup>th</sup> to 15<sup>th</sup> June, 2009)



Chief Synoptic Feature (Based on 1430 hours IST observations of 11<sup>th</sup> June 2009)

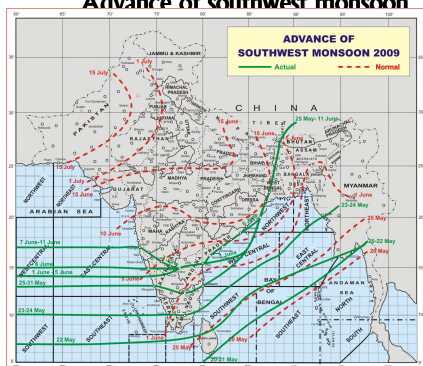
Under the influence of a feeble off-shore trough extending from south Karnataka coast to Kerala coast scattered to fairly wide spread rainfall activity will occur over west coast of India during next 3-4 days.

Isolated thunderstorm activity is likely to continue over northwest and east India during next 2-3 days.

Yesterday the highest maximum temperature of 45.6 was recorded at Ganganagar (Rajasthan).

Convective clouds are seen over north Andaman Sea, east-central Bay of Bengal and parts of southeast Bay of Bengal. Low/medium clouds are seen over parts of southeast Arabian Sea, Peninsular India and northeastern States.

Advance of southwest monsoon



Current meteorological analysis and numerical weather prediction models suggest subdued monsoon activity during next week.

The northern limit of monsoon passed through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0° E, Ratnagiri, Gadag, Anantapur, Ongole, Kalinga pattinam, Paradip, Bankura and Gangtok on 7th June, 2009.

## Salient Advisories

### Advisories for Late monsoon

- As per the meteorological conditions and the forecast of Numerical Weather Prediction Models, southwest monsoon activity is not likely to revive during next one week. Consequently, the advance of monsoon over east, north peninsular and adjoining central India will be delayed.
- Hence, farmers in Madhya Maharashtra, Marathwada, Vidarbha, Orissa, North Interior Karnataka, Telangana and North Coastal Andhra Pradesh are advised to undertake field preparation utilizing the pre-monsoon showers realized during previous weeks and undertake sowing of *kharif* crops as soon as monsoon arrives.

### Advisories for sowing

- In Karnataka, farmers in Shimoga district are advised to undertake sowing of groundnut, maize, cotton and red gram and sowing/planting of rice, sugarcane and pulses in Mysore, Mandya and Chamraj Nagar districts and dry sowing of rice in Uttar Kannada district as there was adequate rainfall during last week over the these districts.
- Farmers in West Bengal and Sikkim are advised to continue land preparation and sowing of rice in the nursery utilizing the monsoon showers and continue transplanting of the seedlings. Farmers in Assam are advised to continue sowing/transplanting of rice after current spells of rain.
- Farmers in Tamil Nadu are advised to continue land preparation and transplanting of kuruvai rice in the mian field in Cauvery deltaic areas by utilizing the monsoon showers at the earliest.
- Farmers in Kerala, Rayalaseema and South Coastal Andhra Pradesh, Ratnagiri and Sindudurg districts in Maharashtra are advised to undertake sowing of *kharif* crops by utilizing the monsoon showers.

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.org>) of the Division

### Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks

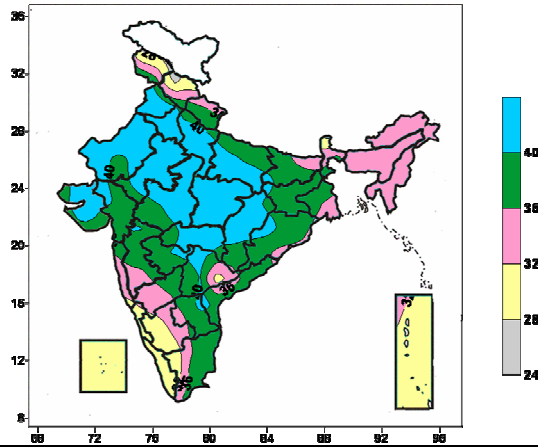
Sub-division	Cumulative Rainfall for the period									
	13 <sup>th</sup> May		20 <sup>th</sup> May		27 <sup>th</sup> May		3 <sup>rd</sup> June		10 <sup>th</sup> June	
	Normal (mm)	% Dep.	Normal (mm)	% Dep.	Normal (mm)	% Dep.	Normal (mm)	% Dep.	Normal (mm)	% Dep.
A & N Islands	57	-84	90	-47	117.7	14	121.1	-3	136.6	-11
Arunachal Pradesh	52	-41	70	-59	61.2	-16	87.2	-50	98.6	-38
Assam and Meghalaya	84	-43	89	-83	88.6	-31	101.5	-63	128.3	-62
NMMT	50	-75	47	18	49.2	59	66.2	-36	85.6	-9
SH West Bengal & Sikkim	50	-11	58	-69	67.2	158	76.5	-46	88.3	-36
Gangetic West Bengal	23	62	18	137	21.0	507	30.6	8	46.6	-78
Orissa	14	-54	14	-3	12.2	184	20.0	-11	31.0	2
Jharkhand	12	-5	9	-1	9.8	91	14.9	9	29.1	-81
Bihar	13	48	11	-49	12.5	54	17.5	120	27.3	-55
East Uttar Pradesh	4	12	4	8	3.4	228	7.2	111	14.0	-67
West Uttar Pradesh	3	-74	3	-51	2.6	182	5.5	1	9.2	-68
Uttarakhand	16	-73	16	-91	11.8	-59	18.8	54	23.1	-67
Haryana, Chandigarh & Delhi	4	-97	3	-95	3.3	-31	3.3	116	6.8	-99
Punjab	5	-99	4	-88	3.2	-79	3.1	8	5.6	-92
Himachal Pradesh	18	-30	16	-76	12.6	-64	12.6	-29	13.7	-43
J & K	22	-52	16	-50	18.2	-51	11.7	-79	12.0	91
West Rajasthan	2	-100	22	-100	3.1	-93	3.8	18	3.1	-100
East Rajasthan	2	-83	22	-66	3.0	-90	5.1	-86	6.6	-100
West M. P.	1	-79	21	154	1.8	-60	5.9	-81	11.1	-99
East M. P.	1	-100	12	-11	1.7	-70	6.4	-55	14.9	-80
Gujarat region	1	-100	1	-100	2.0	-100	5.6	-100	14.6	-100
Saurashtra & Kutch	1	-100	1	-100	0.5	-100	2.4	-100	7.7	-100
Konkan and Goa	1	-100	5	-99	14.0	-73	35.0	-95	88.7	-14
Madhya Maharashtra	3	-91	6	38	10.6	-72	11.3	-97	25.1	-38
Marathwada	2	-96	4	-4	8.0	-88	11.9	-84	25.1	-78
Vidarbha	2	-100	2	102	2.4	248	7.5	-68	17.7	-40
Chhattisgarh	5	-100	55	-46	3.5	-52	9.1	-37	22.0	-95
Coastal A. P.	17	-94	14	-68	15.4	-14	14.9	-5	17.6	-56
Telangana	6	-95	8	6	7.3	35	11.2	-10	20.6	-22
Rayalseema	7	-66	16	-23	16.7	100	15.5	55	15.4	-77
TamilNadu & Pondicherry	14	-41	20	15	14.0	-1	12.7	21	9.8	-19
Coastal Karnataka	11	-16	30	3	52.8	-13	78.7	-56	168.8	31
N. I. Karnataka	8	-88	14	81	18.0	11	17.1	-77	22.2	13
S. I. Karnataka	16	-74	27	87	26.0	-18	22.7	-7	25.9	-19
Kerala	36	-29	67	-40	78.7	23	102.0	-78	151.8	17
Lakshadweep	19	-61	36	65	61.1	28	79.3	-31	88.7	3

The subdivisions like Assam & Meghalaya, Himachal Pradesh, East Rajasthan, Gujarat, Saurashtra & Kutch and Chhattisgarh, received scanty / deficient rain in all the 5 weeks; Arunachal Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi, Punjab, Jammu & Kashmir, West Rajasthan, Madhya Pradesh, Konkan & Goa, Madhya Maharashtra and Marathwada received scanty / deficient rain in 4 out of last 5 weeks; SH West Bengal & Sikkim, West Uttar Pradesh, Vidarbha, Coastal Andhra Pradesh, Rayalaseema and Kerala received scanty / deficient rain in 3 out of last 5 weeks. Remaining States received normal / excess rain in 2 or more weeks during last 5 weeks.

(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

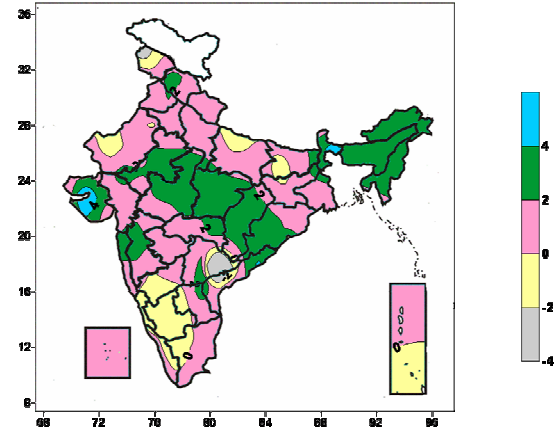
## Contour maps for the week ending 10.06.09

**Actual Mean Maximum Temperature (°C) in India for the week ending 10.06.09**



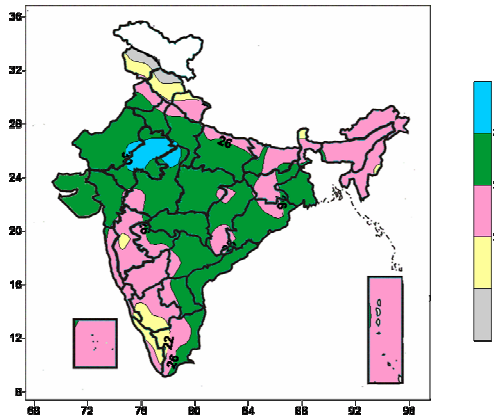
Actual Mean Maximum temperature ranged between 40<sup>0</sup>C and above over most parts of Punjab, Haryana, Delhi, Rajasthan, Madhya Pradesh, Uttar Pradesh, Vidarbha, North Chattisgarh, some parts of Bihar, Jharkhand, Madhya Maharashtra, Marathwada, Orissa, Andhra Pradesh, Gujarat, Saurashtra & Kutch, 32 to 36<sup>0</sup>C over most parts of North East India, South Konkan & Goa, Interior Karnataka, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Bihar, West Bengal, Orissa, Madhya Maharashtra, Andhra Pradesh, Tamil Nadu, Andaman Nicobar Islands, 28 to 32<sup>0</sup>C over most parts of Coastal Karnataka, Kerala, Andaman Nicobar Islands, Lakshdweep, some parts of Jammu & Kashmir, Himachal Pradesh, Sikkim, Telangana, South Interior Karnataka, Tamil Nadu, 24 to 28<sup>0</sup>C over some parts of Jammu & Kashmir, Himachal Pradesh, 36 to 40<sup>0</sup>C over remaining parts of the country.

**Maximum Temperature (°C) Anomaly in India for the week ending 10.06.09**



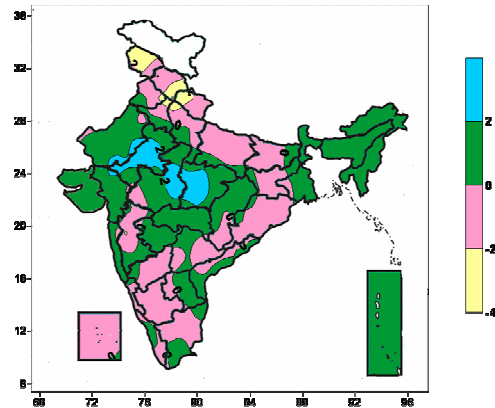
Actual Mean Maximum temperature anomaly ranged between 4<sup>0</sup>C and above over some parts of Sub Himalayan West Bengal, Saurashtra & Kutch, 2 to 4<sup>0</sup>C over most parts of East Rajasthan, Madhya Pradesh, Chhattisgarh, South Orissa, Sub Himalayan West Bengal, North East India, Saurashtra Kutch, some parts of Punjab, Himachal Pradesh, Gujarat, Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Maharashtra, Andhra Pradesh, -2 to 0<sup>0</sup>C over most parts of Karnataka, some parts of Jammu & Kashmir, West Rajasthan, East Uttar Pradesh, Bihar, Jharkhand, Andhra Pradesh, Kerala, Tamil Nadu, Andaman & Nicobar Islands, -4 to -2<sup>0</sup>C over some parts of Jammu & Kashmir, Coastal Andhra Pradesh, Telangana, 0 to 2<sup>0</sup>C over remaining parts of the country.

**Actual Mean Minimum Temperature (°C) in India for the week ending 10.06.09**



Actual Mean Minimum Temperature ranged between 30<sup>0</sup>C and above over some part of Rajasthan, West Madhya Pradesh, 22 to 26 <sup>0</sup>C over most parts of Uttarakhand, Sub Himalayan West Bengal, North East India, Konkan & Goa, Madhya Maharashtra, Karnataka, Andaman Nicobar Islands, Lakshdweep, some parts of Punjab, Haryana, Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Chhatisgarh, Orissa, Telangana, Rayalaseema, Tamil Nadu, Kerala, 18 to 22<sup>0</sup>C over some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Madhya Maharashtra, Coastal Karnataka, South Interior Karnataka, Kerala, Tamil

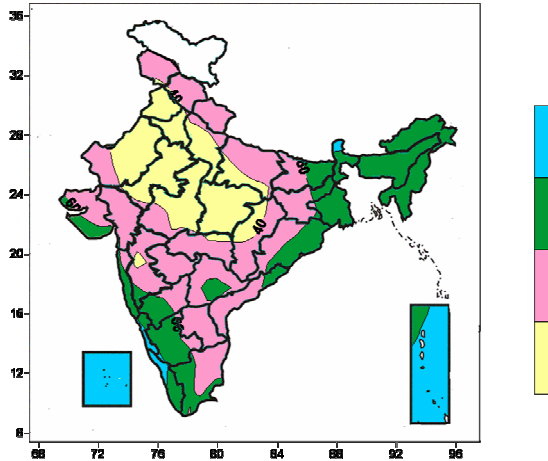
**Minimum Temperature (°C) Anomaly in India for the week ending 10.06.09**



Minimum Temperature anomaly ranged between 2<sup>0</sup>C and above over some parts of Rajasthan, Gujarat, Madhya Pradesh, -2 to 0<sup>0</sup>C over most parts of Uttar Pradesh, Bihar, Jharkhand, Orissa, Karnataka, Lakshdweep, some parts of Jammu & Kashmir, Punjab, Haryana, Himachal Pradesh, Uttarakhand, West Rajasthan, Konkan, Madhya Maharashtra, Marathwada, West Madhya Pradesh, Chhattisgarh, Andhra Pradesh, Tamil Nadu, Kerala, -4 to -2<sup>0</sup>C over some parts of Jammu & Kashmir, Himchal Pradesh, Uttarakhand, Punjab, Haryana, West Uttar Pradesh, 0 to 2<sup>0</sup>C over remaining parts of the Country.

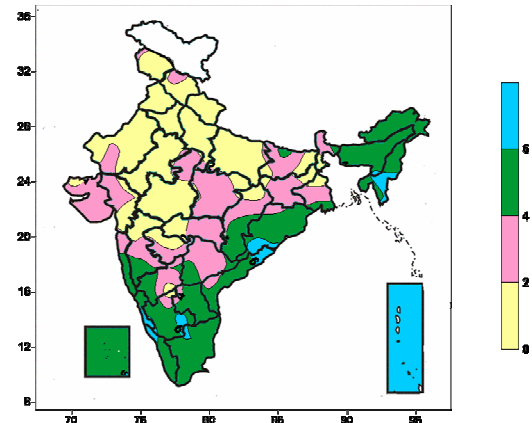
Nadu, 14 to 18°C over Jammu & Kashmir, Himachal Pradesh, 26 to 30 °C remaining parts of country.

Relative Humidity (%) over India for the week ending 10.06.09



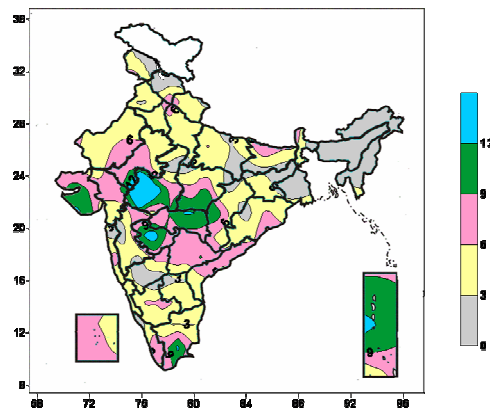
Relative humidity more than 80% over most parts of Sikkim, Lakshdweep, Andaman & Nicobar Islands, some parts of Coastal Karnataka, Kerala, 60 to 80% over most parts of West Bengal, Northeast India, Coastal Orissa, Konkan & Goa, Karnataka, South Kerala, some parts of Bihar, Jharkhand, Saurashtra & Kutch, Madhya Maharashtra, Coastal Andhra Pradesh, Telengana, Tamil Nadu, Andaman & Nicobar Islands, 20 to 40% over most parts of Punjab, Haryana, Delhi, West Uttar Pradesh, Rajasthan, Madhya Pradesh, some parts of Jammu & Kashmir, East Uttar Pradesh, Chhattisgarh, Vidarbha, Madhya Maharashtra, 40 to 60 % over remaining parts of the country.

Cloud amount (okta) over India for the week ending 10.06.09



Cloud amount ranged from 6 to 8 okta over most parts of Andaman & Nicobar Islands, some parts of Assam, Manipur, Mizoram, Orissa, Coastal Andhra Pradesh, Coastal Karnataka, South Interior Karnataka, Kerala, Tamil Nadu, 4 to 6 okta over most parts of Northeast India, Orissa, Konkan & Goa, South Chhattisgarh, Coastal Andhra Pradesh, Rayalaseema, Coastal Karnataka, South Interior Karnataka, Kerala, Tamil Nadu, Lakshdweep Islands, some parts of Bihar, West Bengal, Madhya Maharashtra, Telengana, North Interior Karnataka, 0 to 2 okta over most parts of Northwest India, West Madhya Pradesh, some parts of Bihar, Jharkhand, West Bengal, Gujarat, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Vidarbha, East Madhya Pradesh, Chhattisgarh, Interior Karnataka, 2 to 4 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 10.06.09



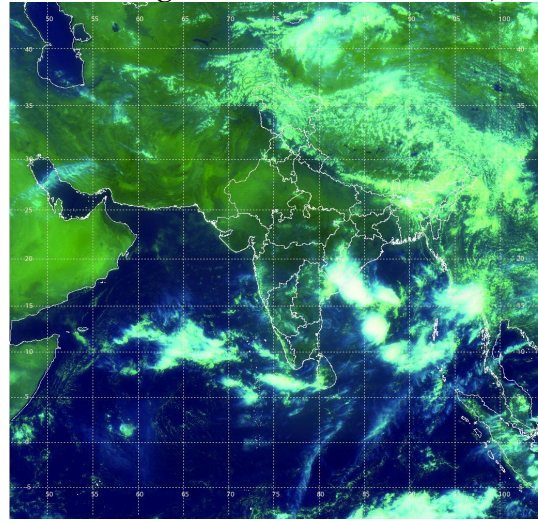
Wind speed ranged between 12 knots and above over some parts of West Madhya Pradesh, Marathwada, Vidarbha, Andaman & Nicobar Islands, 9 to 12 knots over most parts of Andaman & Nicobar Islands, some parts of East Rajasthan, Saurashtra & Kutch, Gujarat, Madhya Pradesh, Chhattisgarh, Marathwada, Vidarbha, Tamil Nadu, 6 to 9 knots over most parts of Gujarat, Coastal Andhra Pradesh, Telengana, Lakshdweep Islands, some parts of Himachal Pradesh, Uttarakhand, Haryana, West Uttar Pradesh, Rajasthan, Bihar, Sikkim, Orissa, Saurashtra & Kutch, Madhya Pradesh, Chhattisgarh, Maharashtra, South Interior Karnataka, Kerala, Tamil Nadu, Andaman & Nicobar Islands, 0 to 3 knots over most parts of Himachal Pradesh, Gangetic West Bengal, Northeast India, , some parts of Jammu & Kashmir, Uttarakhand, Punjab, Uttar Pradesh, Bihar Jharkhand, Sub-Himalayan West Bengal, Orissa, Konkan, Madhya Maharashtra, Madhya Pradesh, Chhattisgarh, Rayalaseema, Interior Karnataka, Kerala, 3 to 6 knots over remaining parts of the country.



**Chief Synoptic Feature (Based on 1430 hours IST observations of 11<sup>th</sup> June, 2009)**

- Under the influence of a feeble off-shore trough extending from south Karnataka coast to Kerala coast scattered to fairly wide spread rainfall activity will occur over west coast of India during next 3-4 days.
- Isolated thunderstorm activity is likely to continue over northwest and east India during next 2-3 days.
- Yesterday the highest maximum temperature of 45.6 was recorded at Ganganagar (Rajasthan).
- Convective clouds are seen over north Andaman Sea, eastcentral Bay of Bengal and parts of southeast Bay of Bengal. Low/medium clouds are seen over parts of southeast Arabian Sea, Peninsular India and northeastern States.

**Satellite image of 6 UTC on 12<sup>th</sup> June, 2009**



**Zone-wise Forecast (Forecast valid upto 1430 hours IST of 14<sup>th</sup> June, 2009)**

**NORTHWEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, EAST UP, WEST UP, RAJASTHAN]**

- Isolated rain/thundershowers over Jammu & Kashmir, Himachal Pradesh and Uttarakhand.
- Isolated duststorm/thunderstorm over Rajasthan, Punjab, Haryana, Delhi and Uttar Pradesh.

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

- Rain/thundershowers at a few places over Sub- Himalayan West Bengal & Sikkim.
- Isolated rain/thundershowers over Gengetic West Bengal, Orissa and Jharkhand & Bihar.

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

- Rain/thundershowers at many places over the region.

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

- Rain/thundershowers at many places over Andaman & Nicobar Islands.
- Rain/thundershowers at a few places over coastal Karnataka, Kerala and Lakshadweep during next 24 hours and increase thereafter.
- Isolated rain/thundershowers over the rest region.

**WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT REGION, SAURASHTRA & KUTCH]**

- Rain/thundershowers at a few places over Konkan & Goa and isolated over south Madhya Maharashtra.
- Mainly dry weather over the rest region.

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

- Isolated rain/thundershowers over the region.

**WARNING: (For next 48 hours)**

- Isolated heavy rainfall over northeastern states and Andaman & Nicobar Islands during next 48 hours.

**Weather Outlook from 1430 IST of 14<sup>th</sup> June, 2009 to 1430 IST of 16<sup>th</sup> June, 2009 (Based on numerical weather products):**

- Weak phase of monsoon is likely to continue.

## Zonewise Agromet Advisories

**NORTH WEST INDIA** [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP]

### Himachal Pradesh

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), potato (sprouting / early vegetative / vegetative), cabbage, cauliflower and broccoli (head formation), pea (pod formation / early maturity / maturity), leafy vegetables like lettuce, methi, palak, dhania etc. (vegetative), apricot, peach, pear and plum (fruit development).
- As there was no significant rain in most of the districts during last week over the State and no significant rain is likely to occur for next five days, apply irrigation to the standing crops. Apply mulch in the orchards for conservation of moisture.
- In areas of High Hill Temperate Dry Zone where snow has melted from the apple orchards, basin forming operation should be carried out and required fertilizers should be added in the basin.
- As the weather is opening up & snow is almost gone in Hill Temperate Dry Zone, the sowing season is about to commence. Therefore, plough the fields and leave them as such for control of soil borne pests by sun exposure. It will mitigate the losses by soil borne pests at later stages.
- Complete sowing / transplanting of french bean, tomato and capsicum and also sowing of ladies finger in sub-mountain low hills sub tropical zone.
- Provide mulch in the tree basins (apricot, peach, pear and plum) with straw or UV Sheet in sub-mountain low hills sub tropical zone to reduce evaporation and moisture conservation. Harvest the ripened fruits of early varieties of peach and apricot as there is forecast of high wind speed in the coming 5 days.
- As temperature increases, the marigold and carnation flowers are at first bud development stage (after 20-25 days of transplanting) in sub-mountain low hills sub tropical zone. Pinch the first bud from the top. Cut the liliu flower at the complete bud stage as temperature is sufficiently high to open the flower in 1-2 days. Complete transplanting of chrysanthemum in this week.
- Plucking of tea leaves may be continued at 7-8 days interval in Mid Hills Sub Humid zone.
- It is time for transplanting of summer vegetables like tomato, brinjal, capsicum and chillies in Mid Hills Sub Humid zone. It is time for sowing of bhindi and raddish in the field. It is time for direct sowing of Khira, bitter gourd, tori in fields. The nursery of cucurbits having 2-4 leaf stage can be successfully transplanted in fields. It is time for sowing of nursery in areas where summer vegetables like brinjal, shimla mirch, pepper and tomato are taken as rainfed crop during rainy season. The nursery is ready by June 15th and can be successfully transplanted during second fortnight of June before onset of monsoon. It is also time for sowing of ginger, *arbi*, amaranthus and turmeric. It is also optimum time for raising nursery of summer flowers viz. china aster, glardia, rudevekia, kochia, african marigaold, french marigold, partulaca, tithinia, torinia and cleome etc.
- It is optimum time for sowing of chari, bajra and maize in low hills of Mid Hills Sub Humid zone. Also sow maize for green cobs. Complete sowing of rice nursery. Treat seeds of rice with bavistin @ 2 g / kg of seeds to avoid fungal diseases.
- Details of crop varieties are mentioned in Annexure I.

### Plant protection

- Weather is favourable for attack of peach leaf curl disease in peach and pear fruit plants in Mid Hills Sub Humid zone where fruit bearing has started, spray Nuvan 1 ml + 3 g Blitox per litre of water.
- There is report of infestation of mealy bug in tea in Mid Hills Sub Humid zone and there is also chance of increase of infestation, for control spray Deltamethrin (Decis 2.8 EC) @ 1340 ml in 750 litres of water for one hectare.
- Fruit fly attack is reported in the cucurbits in Mid Hills Sub Humid zone and there is chance of increase in infestation, for control spray malathion @ 1ml / litre or carbaryl @ 2 g / litre of water.

### **Poultry**

- Replace the poultry houses with fresh litter to avoid wetting. Give clean water to birds. For precautionary measures spray formaline 40% @ one litre in 9 litres of water outside or surrounding the farm.
- Also do not allow human and birds from outside. This will help in protection from bird flu.

### **Animal husbandry**

- It is high time for vaccination of animals against FMD as animals are shifting from plain to higher reaches.
- Keep the animals under shed in sub-mountain low hills sub tropical zone as the day temperature can cause heat strokes. Provide adequate fresh and cold water baths.

### **Fishery**

- Temperature is good for breeding of the minor carp in Mid Hills Sub Humid zone. Monitor the physicochemical parameters and growth rate of cultivable fish in ponds. Supplement the feed @ 2% of the body weight stocked twice a day. The cloudy day or warmer part of day is to be avoided for stocking. Give feed 4% of their body weight up to 15 days and after that reduce to 3% of their body weight.

### **Uttarakhand**

- **Major Standing Crops:** Sugarcane ratoon (early vegetative), cabbage, garlic, tomato (vegetative), onion (maturity), summer sunflower(maturity/harvesting), moong, urd (pod formation/maturity), maize, french bean (early vegetative), rice(nursery seedling)
- Farmers are advised to prepare the field utilizing the realized rainfall during last week and arrange seeds and other inputs to undertake sowing of *kharif* crops as soon as monsoon arrives over the State.
- Farmers are advised to undertake sowing of rice, ragi and bhindi in Nainital district, maize in Uttam singh nagar district and sowing of rice in the nursery in Pauri district. Undertake transplanting of rice in irrigated areas of Nainital district, if the seedlings are ready.
- Farmers are advised to undertake harvesting of mature crops of summer sunflower, moong and urd as the weather is likely to be favourable for harvesting.
- As there was no significant rainfall during last week in most of the districts in the State and no significant rainfall is likely to occur for next five days, apply irrigation to the crops.
- Undertake weeding, intercultural operations and top dressing in ratoon sugarcane, early sown rice, maize, french bean and vegetable crops.
- Farmers are advised to feed the animals with balanced diet and give fresh water for drinking.

**Plant Protection:** Weather conditions are favourable for mild incidences of –

- fruit borer in tomato, shimla mirchi etc., spray Prophenophos 50 EC @ 1 ml per litre of water.
- armyworm in sugarcane, if the damage is more than 10%, farmers are advised to submerge the field with 4 inch water, if still insects are seen, then spray Endosulphan 36 EC @ 1 ml per litre of water in the evening after 4 pm for effective control.

### **Punjab**

- **Major Standing Crops:** Spring sugarcane (early vegetative/vegetative), vegetable crops like chilli, tomato, brinjal, bhindi and onion (vegetative/bulb formation), summer pulses (maturity/harvesting), sunflower (maturity/harvesting), *kharif* groundnut (seedling), cotton and berseem (early vegetative), *Kharif* rice(nursery seedling)
- As there was no significant rain during last few weeks and mainly dry weather is likely over the State during next five days, apply irrigation to the crops.
- Continue preparation of the land and nursery raising of rice including basmati varieties. For the nursery sown during middle of May, apply second dose of nitrogen to get the seedlings ready for transplanting. If seedlings in nursery show the yellowing of leaf tips, spray three times with 0.5-1 percent ferrous sulphate solution at weekly intervals. Start transplanting of rice seedlings after 15<sup>th</sup>

June on receipt of sufficient rainfall for transplanting. Irrigate the nursery bed at regular intervals. Details of crop varieties are mentioned in Annexure I.

- Undertake weeding, intercultural operations in sugarcane. Provide straw mulching in between the rows to conserve the soil moisture.
- Undertake sowing of *kharif* fodder at regular intervals for continuous supply of sufficient green fodder. For getting good growth of fodders, provide irrigation at regular interval.
- Continue sowing of bhindi and use resistant to yellow vein mosaic virus.
- Prepare land utilizing the rainfall received during previous weeks and undertake sowing of maize
- As rise in temperature is expected in coming days, young and tender plants of citrus, mango, litchi, papaya may be covered with huts and thatches of sarkanda or date leaves.
- To protect the fruit trees from scorching effect, lower portion of the exposed trunks should be white washed.
- Keep the animals in shade and bath the animals 1-2 times daily. Grazing of dairy animals may be allowed in the morning and evening hours. In case of high rise of temperature, get dairy animals blood tested for protozoan diseases from district laboratories.

**Plant Protection:** Weather conditions are favourable for mild incidences of –

- jassid incidence in cotton, spray 40 ml Confidor 200 SL or 20 g Pride 20 SP or 40 g Actara 25 WG in 100 litres of water per acre.

### Haryana

- **Major Standing Crops:** Spring sugarcane (early vegetative/vegetative), vegetable crops (vegetative), summer pulses, sunflower (maturity/harvesting), cotton(early vegetative) and berseem (vegetative), *Kharif* rice(nursery seedling)
- As there was no significant rain during last few weeks and mainly dry weather is likely over the State during next five days, apply irrigation to the crops.
- Continue preparation of the land and nursery raising of rice.
- Farmers are advised to prepare the land by utilizing the rainfall during previous weeks and arrange the certified seeds for sowing of guar and pearl millet.
- Undertake hoeing and weeding and conserve soil moisture by application of mulches in sugarcane. Apply the remaining dose of nitrogen fertilizer to the crop.
- Farmers are advised to undertake weeding and hoeing in cotton.
- Undertake intercultural operations in tomato, onion and chilli.
- As temperature is high, the farmers are advised to whitewash the trunks of fruit trees, provide shelter to young tree and give frequent irrigation to protect fruit trees. Protect the young fruit plants from heat stress by giving frequent irrigation.
- Farmers are advised to vaccinate animal for protection against foot and mouth, galgontu disease and rinderpest by nearest veterinary hospital at fortnightly interval so that this disease may not appear during rainy season.

### Delhi

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), pigeon pea, beans, maize, cluster bean, ladies finger (sowing) and rice (nursery sowing).
- Farmers are advised to start preparing nurseries for rice. For one hectare of crop field 800-1000 square metre nursery is sufficient.
- Present weather conditions are favourable for sowing of *kharif* maize. Farmers are advised to procure quality seeds and start sowing.
- Under present weather condition, farmers are advised for sowing of pigeon pea, fodder sorghum and bajra.
- Present weather conditions are highly conducive for seed bed and field preparation for early cauliflower.
- Details of crop varieties are mentioned in Annexure I.



- Solarization of fallow fields should be taken up to kill insect pests and destruction of weed seeds beneath the soil. Deep ploughing / discing in fallow lands is advised after harvesting of *rabi* crop.

#### **Plant protection**

- Present weather conditions are highly favourable for spread of viral disease through insects in vegetable crops. Farmers are advised to spray Rogor or Endosulfan solution @ 2 ml per litre of water.
- High humidity and low temperature are highly favourable for growth and development of insect pests and diseases in vegetable crops. Farmers are advised to spray Rogor or Endosulfan solution @ 2 ml per litre of water.
- Present weather conditions are highly favourable for incidence of soil borne disease in nurseries. Farmers are advised to make proper drainage and start drenching of nurseries.

#### **Uttar Pradesh**

- **Major Standing crops:** Summer sugarcane (vegetative) and vegetables (vegetative/fruited), mango (fruit setting), *zaid* maize (maturity), urd, moong (maturity).
- Undertake harvesting of matured crops like maize, urd, moong and vegetables as the weather is likely to be favourable for harvesting.
- As there was no significant rain during last few weeks and no significant rainfall is likely for the next five days, apply irrigation to the crops.
- Continue field preparation and sowing of nursery of early and medium varieties of rice with irrigation facilities.
- Undertake field preparation for sowing of maize and vegetables utilizing the realized rainfall during last week.
- Undertake weeding, intercultural operations and application of fertilizers in the standing crops like sugarcane, vegetables and mentha.
- Continue field preparation and planting of turmeric and ginger.
- Undertake digging of pits for plantation of new garden of fruit crops.
- To save the mango fruits from falling, spray the solution of Naphthalene acetic acid @15 ppm.

**Plant Protection:** Weather conditions are favourable for mild incidences of fruit borer in tomato and brinjal, spray the solution of Carbaryl @ 2 g / litre of water. Monitor the crops for the pests and undertake plant protection measures to control the pests.

#### **J & K**

- **Major Standing Crops:** This is proper time for sowing of rice in the nursery and maize and transplanting of solanaceous vegetable crops.
- As there was no significant rain during last week and no significant rainfall is expected during next five days over the State, apply irrigation to the crops.
- Undertake sowing of rice in the nursery and maize in the main field in Jammu, Kathua and Rajouri divisions.
- Details of varieties are given in Annexure I.
- Continue transplanting brinjal in the main field in Jammu and Kathua regions when the seedlings are ready.
- Undertake intercultural operations, irrigation, application of fertilizers and pesticides in vegetable crops like brinjal, tomato, chilli, capsicum, bhindi, beans, cucurbits and pumpkin in Doda, Udampur, Kathua and Rajouri divisions.

**Plant Protection:** Weather conditions are congenial for mild incidences of

- fruit borer in tomato, brinjal and bhindi crop in Jammu, Kathua and Kashmir, spray Endosulphan @ 0.07%, or carbaryl @0.1% or DD Chlorvos @0.03%.
- downy mildew in onion in Srinagar region, spray Metalaxyl @ 0.2% solution.
- Undertake plant protection measures.

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

### Bihar

- **Major Standing Crops:** Sugarcane (vegetative/grand growth), summer moong, urd (maturity/harvest), sunflower, summer maize, sesame, (maturity/harvesting), summer vegetables (vegetative/flowering), fodder maize, jowar, lobia and sudan grass (vegetative).
- As there was no significant rain during last few weeks in most of the districts and no significant rainfall is likely for next five days over the State, apply irrigation to the crops.
- Harvest the matured crops of maize, sesame urd and moong as dry weather is likely for the next five days.
- Undertake field preparation and sowing *kharif* rice in nursery and maize where the irrigation facilities are available. Details of crop varieties are mentioned in Annexure I.
- Farmers are advised to prepare the field utilizing the realized rainfall during previous weeks for sowing of *kharif* arhar, sorghum, til, groundnut and sunflower. Arrange seeds and other inputs to undertake sowing of *kharif* crops as soon as monsoon arrives over the State.
- Undertake intercultural operations, application of fertilizers and pesticides in summer vegetables, like tomato, brinjal, cauliflower, cabbage and sugarcane as dry weather is likely for the next five days.
- Farmers are advised to prepare the nursery for flower cultivation in *kharif* season.

### Jharkhand

- **Major Standing Crops:** Sugarcane (vegetative/grand growth), summer maize (maturity/harvesting), moong (maturity/harvesting), summer vegetables (vegetative/flowering).
- Farmers are advised to prepare the field utilizing the realized rainfall during previous weeks and arrange seeds and other inputs to undertake sowing of *kharif* crops as soon as monsoon arrives over the State.
- Harvest the matured crops of maize and moong as dry weather is likely for the next five days.
- As there was no significant rain during last few weeks and no significant rainfall is likely over the State for the next five days, apply irrigation to the crops.
- Farmers are advised to undertake sowing of flower crops.
- Farmers are advised to undertake weeding and intercultural operations in sugarcane and vegetables.
- Site selection of new orchard and digging of pit for mango, jackfruit, litchi, guava, papaya and banana may be undertaken.
- Undertake planting of turmeric and ginger.
- Rinderpest disease is common in goat during summer season. TPR vaccine @ 1 ml subcutaneous should be vaccinated except for those goats that are less than 3 months of age and are pregnant.

### Orissa

- **Major Standing crops:** Sugarcane (early vegetative), vegetables (fruiting / harvesting), onion (vegetative) and summer sunflower (maturity/harvesting), summer sesame (pod formation), pulses like cowpea (pod formation), summer green gram (maturity/harvesting), summer maize, summer groundnut (maturity/harvesting), jute (early vegetative).
- As no significant rainfall is likely for the next five days over the State, farmers are advised to apply irrigation to the crops. Postpone irrigation in Bhadrak, Kandhamal, Nawarangpur and Sonepur districts as these districts received sufficient rainfall during last week.
- Harvest the matured crops of summer groundnut and green gram as the weather is likely to be favourable for harvesting.
- Digging of pits may be done to undertake planting of fruit trees on receipt of rain.

- Farmers are advised to undertake field preparation and dry sowing of rainfed direct seeded rice in medium and medium - low lands as sufficient rainfall was received in the State in the preceding weeks.
- Undertake nursery preparation and sowing of rice in low lands in irrigated areas.
- Farmers are advised to undertake land preparation utilizing the rainfall received during last three weeks and undertake sowing of arhar, groundnut and cotton.
- Undertake land preparation and sowing of *kharif* crops utilizing the rainfall received during last week. Promising crops for rainfed uplands are maize, cowpea, arhar, blackgram, ragi, groundnut, sesame, rice bean, castor, pumpkin and sweet potato. Arrange good quality certified seeds. Details of crop varieties are mentioned in Annexure I.
- Farmers are advised to prepare field and undertake sowing of ginger, turmeric, colocasia and elephant foot yam and off season vegetables like cauliflower and tomato as sufficient rainfall was received in the State in the preceding weeks.
- Harvest all the cultured fish from the pond and drain out water from it for complete drying. In perennial ponds where water draining is impossible, apply Mahua oil cake 1 t/acre to kill all the predatory and weed fishes. Clear the aquatic weeds from the pond and strengthen the embankments.

### West Bengal

- **Major Standing Crops:** Sugarcane (vegetative), sesame (maturity / harvesting), green gram (maturity / harvesting), groundnut (maturity / harvesting), jute (seedling / early vegetative / vegetative) and *aus* rice (direct sowing / nursery sowing).
- Harvest already matured crops of sesame, groundnut and green gram on bright sunny days and undertake land preparation of the harvested lands for *kharif* crops.
- Due to the devastating cyclonic storm 'AILA', salinity of the soil has been raised highly in more than 90% of cultivated land due to inundation of sea-water in South 24-Parganas district. At first it is required to drain out the saline water and then reclamation of saline soil before *kharif* paddy cultivation. Sowing the dhaincha (*Sesbania* sp.) in the flood affected area, because green manures not only supplies organic matter and nitrogen, it also reduces the salinity of the soil. Select good salt tolerant local varieties like Dodhersar, Bhanskanta, Khayersal, Langalmota, nona Bokra, Marichsal etc. for cultivation in the flood affected areas.
- Undertake sowing of cowpea, leafy vegetables like *Amaranthus* and nursery sowing of cauliflower in Terai and Teesta Alluvial zone.
- Prepare land and undertake sowing of turmeric in Coastal Saline zone. Adopt spacing of 45-60 cm between the ridges and 15-25 cm between the plants. The seed rate (rhizome or finger) may vary from 250-350 kg per bigha. Also undertake sowing of ladies finger.
- Undertake nursery sowing of aman rice in Gangetic Alluvial zone, Vindhyan Alluvial zone and Undulating Red and Lateritic zone
- Complete intercultural operations followed by top dressing of fertilizer in jute in New Alluvial zone. For crops of three-week stage, apply 6 to 7 Kg Urea (per bigha) as first top dressing and for crops of six-week stage apply the same amount of fertilizer as second top-dressing.
- Complete the sowing operation of *aus* rice in New Alluvial zone as early as possible. Apply 25 Kg SSP and 6.5 Kg MOP per bigha before sowing. Sow 11 to 12 kg of seeds in rows at a distance of 8 inch apart. For transplanted *aus* rice, complete seed bed preparation as early as possible.

### Plant protection

- Recent storm and heavy rainfall along with high humidity may lead to fruit rot disease in pointed gourd and other cucurbitaceous crops to a great extent in New Alluvial zone. Remove infected leaves and fruits from the fields and apply blitox @ 4 g per litre of water. Attack of stem rot may also be increased. Apply bavistin or benlate (1 g per litre of water) to control the disease.

- Due to occasional shower and high humidity in Coastal Saline zone, the rotten areas developed on the leaf blade in betlevine may spread very rapidly covering major portion of the leaf within very short time. Spray metalaxyl 75 WP @ 1.5 g / litre of water or Bordeaux mixture (4:4:50) @ 0.5%.
- Undertake intercultural operation and application of fertilizer and plant protection measures.

### Sikkim

- **Major standing crops: (a) High hills: Off-Season Vegetable crops** Vegetative/Late Vegetative; **Seed Potatoes:** Vegetative/Tuberization; **(b) Medium hills: Orange:** Nursery/Transplanting of Seedlings/Flowering/Early Fruiting/Fruiting; **(c) Medium & Low Hills: Paddy:** Sowing/Transplanting; **Kharif Vegetables:** Vegetative/Late Vegetative; **Maize:** Late Vegetative; **Large Cardamom** Transplantation of Seedlings/ Secondary Flowering/Primary Capsule Formation.
- As there was significant rain during last week over the State, postpone irrigation to the crops.
- Farmers are advised to continue nursery sowing and land preparation for transplanting paddy. Nursery should be located at nearby field to avoid transportation and water should be easily available.
- 2nd round of weeding of maize crop in middle and low hills should be done on a non rainy day before initiation of cob. Earthing up should be done thereafter so that plants do not fall during strong wind. Top dressing with FYM/recommended compost may be continued.
- Earthing up and weeding may be continued on a non rainy day when the plants are 15-20 cm high. Second Earthing up should be done 15-20 days thereafter or depending upon the crop condition. FYM/recommended compost should be applied in appropriate doses after the weeding.
- Transplanting of orange seedling may be continued. Deshooting/debugging of newly planted to 1 – 4 years old trees upto a basal height of 40 – 50 cm should be done on monthly basis.
- Top dressing of ginger and mulching may be done on a non rainy day on monthly basis.
- Planting of suckers of large cardamom may be continued. Disease free high yielding grown up shoots with emerging buds may be planted at 45 cm apart in the trenches within June & July. Base may be filled with forest leaves. Bamboo/ wooden stakes may be provided for the suckers. Overhead pandals may be erected immediately after planting of suckers
- Chirke and Foorkey infected cardamom plants may be destroyed by uprooting and buried in the pits at regular intervals.
- Regular inspection may be carried out to observe caterpillar/shoot borer/shoot fly incidence, if any, and may be hand picked and destroyed mechanically.

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

#### Assam

- **Major Standing crops:** vegetables (vegetative / flowering / fruiting / harvesting), early *ahu* rice (tillering), direct seeded regular *ahu* rice (early vegetative / early tillering), transplanted regular *ahu* rice (transplanting), jute (early vegetative / vegetative), maize (early vegetative / vegetative) and sugarcane (vegetative), *sali* rice(nursery sowing)
- As rain/thundershowers at many places over the State with heavy rainfall at isolated places for the next 48 hrs., postpone transplanting of rice, irrigation, weeding and intercultural operations. Provide adequate drainage facilities to avoid waterlogging.
- Undertake top dressing in one month old crop of maize with urea @ 30 Kg per hectare and also in March planted ginger with urea @ 20 Kg per hectare after current spells of rain.
- Undertake earthing up in sugarcane after current spells of rain. Apply Urea and MOP in the field @ 26 kg per bigha and 7.5 kg per bigha after current spells of rain.
- Farmers are advised to collect the seeds of recommended varieties of *Sali* rice for better production. Prepare nursery beds of dimensions 10 m x 1.25 m x 0.10 m. Separation of two beds should be about 30 cm.
- Farmers are advised to undertake intercultural operation and top dressing of fertilizer in jute after current spells of rain.
- Maintain 3-5 cm stagnant water in early *ahu* rice and direct seeded regular *ahu* rice field.

- Undertake land preparation on a non rainy day and sowing of arhar after current spells of rain.
- This is proper time for planting of coconut in high land. 1 year old seedlings with 5-6 leaves should be used for planting. Time is also suitable for planting of banana, pineapple, papaya, arecanut etc.

**Plant protection:**

- There is chance of attack of fruit fly, red pumpkin beetle and epilechna beetle in summer gourds. Spray endosulphon or malathion 50 EC @ 1 ml per litre of water after current spells of rain.
- Attack of stem borers may be observed in sugarcane. Spray monocrotophos 40 EC @ 150-200 ml per 150 lit of water with hand sprayer in the field to control attacks.

**Animals**

- Pocket vaccination against brucellosis and anthrax in bovines may be carried out during the period.

**Fishery**

- Fish farmers can add spon and fries of different carps in their rearing tanks @ 350-500 per m<sup>2</sup> and 25-30 per m<sup>2</sup> of water surface.

**Arunachal Pradesh**

- **Major Standing crops:** Maize, millet (vegetative), ginger, summer vegetables (vegetative), *jhum* rice (vegetative/early tillering), WRC rice (early vegetative)
- As rain/thundershowers at many places over the State with heavy rainfall at isolated places for the next 48 hrs., postpone transplanting of rice, irrigation, weeding and intercultural operations. Provide adequate drainage facilities to avoid waterlogging.
- Prophylactic measure for protection of seed ginger rhizome from fungal disease may be taken. Water logging in the field must also be avoided.

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

**Andhra Pradesh**

- **Major Standing Crops:** sugarcane (cane development), vegetable crops (fruiting/harvesting) and chilli (fruit development/picking).
- Farmers in Rayalaseema and South Coastal Andhra Pradesh are advised to undertake sowing of *kharif* crops by utilizing the monsoon rains.
- Arrange seeds and other inputs to undertake sowing of *kharif* crops as soon as monsoon arrives over rest of the state.
- Undertake sowing of sunflower in Anantapur area by utilizing the monsoon rains.
- Undertake sowing of black gram and green gram in Guntur, Krishna, Prakasam and West Godhavari districts.
- Details of varieties are given in Annexure I.
- Foot and mouth disease in cattle, sheep pox in sheep and ranikhet disease in poultry may occur under prevailing weather. To prevent the diseases, vaccinate the animals and poultry.

**Plant Protection:** Weather conditions are favourable for mild incidences of –

- shoot and fruit borer in brinjal; undertake plant protection measures;
- thrips and mites in chilli in Guntur, Krishna, Prakasam and West Godhavari districts; spray Acephate @ 1.5 g per litre of water for thrips and Phosalone @ 2 ml per litre of water to control the pests.

**Karnataka**

- **Major Standing Crops:** Annual sugarcane (cane development/maturity), green gram, black gram and cowpea (pod maturity/harvesting), groundnut (pod development/ maturity).
- Undertake sowing of *kharif* crops like green gram, red gram, bajra, sesamum, groundnut and jowar in Bijapur, groundnut, maize, cotton and red gram in Shimoga as there was sufficient rainfall during last week over the state.



- Undertake sowing of rice in the nursery in Bidar. Farmers are advised to arrange for inputs and undertake sowing as soon as monsoon arrives over the region. Normal sowing dates of important kharif crops are as follows  
Ground nut, Niger, Sesamum and Blackgram - June end  
Greengram, Paddy - June to July first fortnight  
Jawar - June end  
Soybean - Upto first fortnight of July  
Maize - Upto July end  
Bajra and Pigeonpea - July end  
Horsegram - June to September
- Undertake sowing/planting of rice, sugarcane and pulses in Mysore, Mandya and Chamraj Nagar districts.
- Undertake planting of ginger and turmeric and dry sowing of rice in Uttar Kannada.
- Arrange seeds and other inputs to undertake sowing of *kharif* crops like green gram, red gram, bajra, cowpea, cotton, groundnut and jowar in Raichur and Gulbarga as soon as monsoon arrives over the region.
- Continue planting of seed-nuts for coconut and arecanut in nursery in Sirsi region
- Details of varieties are given in Annexure I.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
- bacterial blight in pomegranate and citrus canker in Bijapur and leaf spot in sapota in Dharwad; Undertake plant protection measures after spells of rain over Coastal and South Interior Karnataka and on a non rainy day in North Interior Karnataka

#### Kerala

- **Major Standing Crops:** vegetable (vegetative/flowering/fruitletting/harvesting) and plantation crops (coconut, arecanut, pepper and cashew). Summer crops (maturity/harvesting). This is proper time for sowing of rice and vegetable crops in the nursery.
- As there was significant rain during last week over the State, postpone irrigation to the crops.
- Complete nursery sowing of *virippu* rice. Continue transplanting when the seedlings are ready. Also plant tubers of Dioscoria, ginger, turmeric and tapioca in Thrissur, Ernakulam and Palakkad by utilizing the monsoon showers.
- Sowing/transplanting of rice and vegetables may be continued in Kannur, Kasargod, Malappuram and Kozhikode districts.
- Continue planting of coconut, arecanut, pepper and cardamom in Wayanad by utilizing the monsoon rains.
- Undertake wet sowing of rice in *kari* soils in Kottayam. Complete harvesting of first season rice and summer rice.
- Continue sowing of *virippu* rice in Kollam and Thiruvananthapuram districts; planting of coconut for seed nuts may also be continued with proper care to prevent the seed bed from soil erosion. Prevent banana from strong winds by providing mechanical support.
- Intercultural operations and mulching may be continued in plantation crops. Conserve moisture by preventing evaporation due to high temperature.
- Weather conditions are favourable for the attack of leaf rust in coffee in Wyanad and aphids in cowpea in Kottayam district. Undertake plant protection measures on a non rainy day.

#### Tamilnadu

- **Major Standing Crops:** Sugarcane (cane maturity) and cotton (picking stage). This is proper time for raising nursery for *kuruvi* rice and vegetable crops.
- As there was no significant rain during last week except in Coimbatore, Kanyakumari and Nilgiris districts and no significant rainfall is expected during next five days over the State, apply irrigation to the crops. Postpone irrigation in the above districts as there was excess rainfall during last week

- Start land preparation and transplanting of *kuruvai* rice in the man field in Cauvery deltaic areas.
  - Complete land preparation and transplanting of brinjal in the main field in Namakkal district at the earliest. Undertake intercultural operations in early transplanted crop to keep the field clean.
  - Complete land preparation and sowing of crops like cotton in Thirunelveli, Thooththukkudi and Virudhunagar districts.
  - Details of varieties are given in Annexure I.
  - Undertake earthing up operations in sugarcane in Thirunelveli district
  - Undertake transplanting of vegetable crops during monsoon in Kanyakumari district.
- Plant Protection:** Weather conditions are favourable for mild incidences of –
- leaf folder in rice in Erode and leaf spot in banana in Kanyakumari districts; undertake plant protection measures to control the pests.
  - boll worm, mealy bug and stem weevil in irrigated cotton, thrips in chilli and aphids in maize in Thirunelveli, Thooththukkudi and Virudhunagar districts; undertake plant protection measures to control the pests.

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

### Maharashtra

- **Major Standing Crops:** Summer rice (grain maturity/ harvesting in East Vidarbha), summer groundnut (harvesting), summer sunflower (harvesting) and summer bajra (harvesting in Pune, Nashik & Aurangabad divisions), *kharif* rice (drill sowing in Nashik, Kolhapur and Nagpur divisions and nursery sowing / germination in South Konkan & Kolhapur division), soyabean(sowing in Kolhapur division), cotton ( sowing in Nashik, Kolhapur, Nagpur divisions).
- As there was no significant rain in most of the districts (except Sindhudurga and Ratnagiri districts) during last week and no significant rainfall is likely to occur in most of the districts of the State during next five days, apply irrigation to the standing crops. Postpone irrigation in the above mentioned districts as these districts received sufficient rainfall during last week.
- Continue harvesting of already matured summer crops and complete the harvesting as early as possible as weather is likely to be favourable for harvesting.
- Land preparation may be carried out for new plantation of fruit crops like mango, cashew, coconut, areca nut, etc. in South Konkan. Dig the pit for plantation of mango at the spacing of 10 x 10 m or 5 x 5 m and for cashew at 7 x 7 m. Pit size should be 1 x 1 x 1 m for mango and 0.6 x 0.6 x 0.6 m for cashew.
- Undertake nursery sowing of onion, tomato, brinjal and chilli in the raised beds of suitable size. Sowing of improved varieties may be done with the help of pre-monsoon showers.
- Sowing of *kharif* (drill) rice may be carried out in Nashik, Kolhapur, Nagpur division. Before sowing treat rice seeds with 3% brine solution for 5 – 10 minutes and apply fungicide Thiram @ 3 – 5 g per kg of seeds. Also undertake sowing of *kharif* rice in nurseries for rice seedlings in Konkan & Kolhapur division. Start sowing of soybean in Kolhapur division utilizing the rainfall realized during last week.
- Complete preparatory tillage with the help of pre-monsoon showers. Selection of crops and varieties, arrangement of seeds and fertilizers may be done immediately in view of likely advance of monsoon. Details of crop varieties are mentioned in Annexure I.

### Fishery

- Feed management of brackish water shrimps may be followed. Water level in the pond may be maintained at 1.5 m.

### Plant protection

- There is chance of infestation of shoot borer in sugarcane. Spray Endosulfan 35 EC @ 15 ml in 10 liters of water.

## Gujarat

- Major Standing Crops: Sugarcane (vegetative), vegetables (vegetative / flowering / fruiting / harvesting), groundnut (seed maturity / harvesting), pearl millet (grain maturity / harvesting) and green gram, black gram, cow pea, cluster bean (pod maturity), *kharif* vegetables (sowing), *kharif* rice (nursery sowing).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail for next five days, apply irrigation to the standing crops.
- Undertake harvesting of matured crops of groundnut, pearl millet, green gram etc. as prevailing dry condition is favourable for harvesting.
- As there is no possibility of rain, undertake intercultural operation to keep the fields weed free.
- As dry condition is prevailing, farmers are advised to undertake intercultural operation and apply nitrogen fertilizer (87.5 kg nitrogen / ha) followed by earthing up in sugarcane. Provide straw mulching to conserve soil moisture.
- Harvest the matured fruits of vegetable crops in the morning hours.
- Prepare rice nursery with soil having irrigation facility and good fertility level. It is recommended to treat rice seeds with 3 g of saresan or agrosan or emesan fungicide per 1 kg rice seeds before sowing of nursery. Select the desired rice varieties from early maturing cultivars and late maturing cultivars. Adopt seed rate of 25 to 30 kg per hectare.
- Prepare land and undertake pre monsoon sowing of cotton with assured irrigation facilities.
- Undertake deep ploughing to prepare the land for *kharif* sowing. This will help for natural control of soil borne pathogens and pest. Details of crop varieties are mentioned in Annexure I.

### Plant protection:

- As there is chance of infestation of thrips in chilli in North Sourashtra region, to control thrips and associated leaf curling, spray trisophos @ 15 ml / 10 litres of water.
- As there is chance of infestation of fruit fly in mango. Undertake the following measures. Clean the mango orchard regularly, affected fruit are to be collected and destroyed and use methyl ugenol trap.

### Animal Husbandry

- Make arrangements for shade with proper ventilation to protect the animals from sunlight and temperature.

### Poultry

- Put curtains on west direction in poultry shed and spray water on them during noon hours to avoid heat stress.

## Rajasthan

- **Major Standing Crops:** vegetable crops (flowering / fruiting).Sowing of crops like groundnut and transplanting of chilli is in progress.
- As there was no significant rain during last few weeks and no significant rainfall is expected during next five days over the State, apply irrigation to the crops.
- Undertake intercultural operations to conserve moisture in bajra, jowar, sweet gourd, cucumber, pumpkin, bitter gourd, tinda, tomato and ladies finger in Pali, Barmer, Churu, Jalore and Jodhpur.
- Undertake field preparation for sowing of maize, groundnut and cucurbits in Bhiwara, Chittorgarh, Sirohi and Udaipur.
- Undertake sowing of groundnut in Bikaner and Jaisalmer, cotton in Sriganganagar and Hanumangarh and transplanting of chilli in Bhiwara, Chittorgarh, Sirohi and Udaipur.
- Undertake sowing of chili. Select Varieties are Pusa Jwala, N.P.46-A, Pant C-2, Pusa Sadabahar, G-3, G-5 and RCH-1. Varieties for Shimla Mirch are yellow wonder, California wonder, Bulnose and Arka Mohini.
- Details of varieties are given in Annexure I.

**Plant Protection:** Weather conditions are favourable for mild incidences of –

- powdery mildew in mango and vegetables in Banswara, spray Karathane @ 1 ml or Sulphur Fungicide @ 2.5 g / litre of water.
- termite in onion in Ajmer, Dausa, Jaipur and Tonk districts; spray Endosulfan 35 EC or Chlorpyrifos 25 EC @ 4 litre per hectare.
- fruit borer in tomato, brinjal and bhindi in Banswara, spray 2 ml Endosulphan per litre of water.

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

##### Madhya Pradesh

- **Major Standing Crops:** Sugarcane (cane development), cotton (boll development/maturity) and vegetable crops (vegetative).
- Arrange seeds and other inputs to undertake sowing of *kharif* crops like paddy, maize, jowar and soybean as soon as monsoon arrives over the state.
- As there was no significant rain during last few weeks and no significant rainfall is likely to occur in the next five days over the State, apply irrigation to the crops.
- Undertake planting of chilli in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh districts.
- Undertake planting of sugarcane in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- Undertake sowing of ginger in Jhabua and Dhar.
- Details of varieties are given in Annexure I.
- Undertake intercultural operations in early sown maize, sorghum, jowar, moong, urad, sunflower and vegetables like ladies finger, cow-pea, tomato, brinjal, chilli and cucurbitaceous crops in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts for raising summer season crops.

**Animal Husbandry:** To control ticks and mite in cattle, sheep and goat, apply butox / deltox @ 4 ml / litre of water on the body in Jhabua and Dhar districts.

**Plant Protection:** Weather conditions are favourable for-

- fruit fly in okra in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts, spray trizophos crops in open weather conditions @ 1.5 ml per liter.
- fruit fly in bhindi, tomato, beetle guard, cucurbit in Tikamgarh, Chattarpur and Datia, spray Malethyon 50 EC 1 ml or Trijophos 40 EC 1.5 ml per litre of water.

##### Chattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), vegetables (flowering / fruiting / harvesting), summer rice (harvesting), groundnut, sunflower and sesame (harvesting), and green gram (harvesting).
- As there was no significant rain during last few weeks over the State and no significant rain is likely to occur for next five days, farmers are advised to apply irrigation to the crops. Farmers, who have drip irrigation system, are also advised to regulate the discharge rate of the system for proper water management.
- Due to dry conditions, evaporation rate increases upto 11-13 mm/day. So farmers are advised to irrigate the fields to overcome stress conditions.
- Wherever irrigation facilities are available, farmers are advised to irrigate the fields so that the nursery sowing of rice can be done in June.
- As the *kharif* season is approaching, farmers are advised to ensure the arrangement of inputs like seed fertilizers etc., before the onset of monsoon. Farmers are also advised to use certified seeds of improved / high yielding varieties for sowing of *kharif* crops for higher production.
- After harvesting of rice, sunflower, groundnut etc., deep ploughing is advised wherever sufficient moisture is available in the fields. It will help in effective pest / weed management for the coming *kharif* crops due to soil solarisation.
- During June higher wind speed is normally expected due to monsoon activities, hence Sugarcane growers are advised to provide adequate support to standing sugarcane crop of 5-6 feet height by tying them together with the suitable tying material wherever possible.

## Annexure I Crop varieties

### Himachal Pradesh

- **Ageti bhindi:** P-8, Prabhini kranti, Arka anamika.
- **French bean:** Contender.
- **Brinjal:** Arka Nidhi, PPC.
- **Capicum:** California Wonder.
- **Peper:** Surjmukhi.
- **Ladies finger:** Harbhajan, Pusa Savani and P-8.
- **Raddish:** Pusa Chetakin, Early Minowwhite.

### Uttarakhand

- **Rice:** VL-Dhan -154, Vivek Dhan -62, Vivek Dhan-65, VL Dhan-81, Vivek Dhan-82 and VL-Dhan-85
- **Ragi:** VL- Mandua-124 and VL-149, VL- Mandua-204, Pant Mandua-3, PES-176, PES-110, VL-Mandua-146
- **Bhindi:** VL Bhindi-1
- **Maize:** Ganga-2, Gannga-5, Pusa Hybrid-1, Pusa Hybrid-2 and Composite varieties like Gaurav, Amar and Surya.

### Punjab

- **Rice:** PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115, Pb Mehak, Pb Basmati No 2, Pusa Basmati no 1, Pusa 1121, Sper Basmati
- To protect the Basmati rice (Pusa 1121)etc.
- **Bhindi :** Punjab-8 and Punjab-7

### Haryana

- **Cotton:** desi cotton varieties: HD 107, HD 123 and AAH 1, american cotton with varieties: HS6 & H1117.
- **Rice:** PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115 etc.

### Delhi

- **Cauliflower:** Pusa Megha and Pusa Kranti Sankar.
- **Beans:** Pusa Beans -3.
- **Cluster bean:** Pusa Sadabahar and Pusa Navbahar.
- **Pigeon pea:** Pusa 2001, Pusa 991 and Pusa 992, Paras manak, UPAS 120.
- **Rice:** Pusa Basmati 1, Pusa Sugandh 2 & 3.

### Uttar Pradesh

- **Rice :** Aswani, Manhar, Saket-4, Govind, Narendra-118, Narendra-97

### J & K

**Maize:** GS-2, Vijay, Mansar, C-5 and C-8.

### Bihar

- **Rice:** Rajshree, Santosh, Kanak, Rajendra Mansuri, Kishori, Nata mansuri, BPT 5204, Satyam Pankas, Nata Mansuri and Swarna (MTU 7029)
- **Maize :** Suwan, Deoki, Shaktiman 3 and 4, Ganga Safad -2,Ganga-11.



## Jharkhand

- **Ginger:** Reo-de-genero, Nadia, China, Samastipur, Suprava, Suruchi
- **Turmeric:** Suravi, Rajendar, Roma

## Orissa

- **Jute:** JRC-212, JRC-321, JRC-9442, JRC-4444.KC-1, For up land: JRD-632, JRD-878, JRD-5204
- **Rice:** Early varieties: Parijat, Khandagiri, Vandana, Jogesh, Siddant, Medium varieties: MTU-1001, MTU1010, Pratikshya, Tapaswini, Konark, Surendra, Lalata, Kharavela, Naveen, Surendra, Late varieties: CR-1009, CR-1018, Ranidhan, Swarna, RGL-2837, Ketakijoha, Moti, Padmini, Kanchana, Mahanadi, Jagabandhu.
- **Arhar:** Early duration: Prabhat, Upas-120, ICPL-86012, Medium duration: Asha, Visakha, Late duration – D-11, Pusa-9, Bahar.
- **Cauliflower:** Himlata
- **Tomato:** BT-2, BT-10 etc
- **Ginger :** Suprava, Suravi, Suruchi
- **Turmeric:** Ranga, Rashmi, Rama, Surama
- **Colocasia:** Pallabi, Rashmi, Satamukhi and
- **Elephant foot yam :** Gajendra, M-15, Santaragachhi

## Assam

- **Transplanted *ahu* rice:** Lachit, Chilarai, Govind, IR-50, Rachi, Jaya etc.
- ***Sali* rice:** Mahsuri, Ranjit, Bahadur, Vasundhara, Kushal, Piyoli, Moniram, Rangali, Bhogali, Ketkijaha etc.
- **Arhar:** T-21.

## Andhra Pradesh

- **Greengram:** PDM 54, WGG 37, LGG 407, LGG 460, TM 96-2.
- **Greengram (upland):** ML 267, LGG 450, LGG 460, LGG 407, Pusa 105, PDM 54
- **Blackgram:** LBG 20, T 9, LBG 623, WBG 26.

## Karnataka:

- **Greengram:** Selection-4 (delayed/Non shattering), China Moong
- **Blackgram:** T-9, TAU-1
- **Tur:** Medium to Long Duration: PT-221, GS-1, ICP-8863 (Maruti), ICPL-87119 (Asha) WRP-1 & Short Duration: ICPL-87 (Pragati), Selection-31 (Zone 2 irrigated areas ) GCS-11-39 (Zone-2)
- **Cowpea:** C-152
- **Horsegram:** GPM-6 (accepted to release)
- **Groundnut:** R-2001-3, R-2001-2, R-8808, R-9251, S-206, TMV-2
- **Castor:** 48-1, GCH-4
- **Niger:** No-71 (High yielding), RCR-18
- **Sesame:** E-8, DS-1 (White )
- **Bajra:** ICTP-8203
- ***Kharif Sorghum* Hyb/ Ver:** CSH-14, CSH-5, CSH-16, CSH-18 and DSV-1, SSV-74
- **Fodder Bajra:** DFB-1, DRBSB-2 (Short duration around 50 days)
- **Coriander:** DWD-3
- **Mesta:** AS-73-CP-560, HS-2, HC-583, LGG 407, Pusa 105, PDM 54

## Tamilnadu

- **Cotton:** MCU 5, SVPR 2 and LRA 5166
- **Black gram:** Vamban-4, and Vamban-5

- **Green gram:** Co-7, Vamban-2
- **Bajra:** WCC 75, Co 7

#### Gujarat

- **Kharif rice:**
  - **Early maturing cultivars:** Sukhvel-20, GR-3, 4, 6, 7.
  - **Late maturing cultivars:** GR-101, 102, 103, 104, Narmada and Masuri.

#### Rajasthan

- **Groundnut:** TG-37 A, TBG-39, HNG-10, PG-1, GG-20 and Chandra.
- **Narma Cotton:** RS 2013, RS 810, RS 875 and MRT 9.
- **Chilli:** Pusa Jwala, N.P.46-A, PantC-2, Pusa Sadabahar, G-3, G-5 and RCH-1.
- **Shimla Mirch:** Yellow wonder, California wonder, Bulnose and Arka Mohini.

#### Maharashtra

- **Kharif rice:** Karjat 1, 2, 3, 184, Ratnagiri 3, 73, 711, Sahyadri, Bhogavati, Phule Radha, Phule Maval, Pusa in Konkan, Madhya Maharashtra and PKV- Khamanga, PKV-HMT, Sindewahi-1, 5, PKV-Ganesh, Sakoli-8 & Karjat -6 in east Vidarbha.
- **Kharif bajra:** Shraddha, Saboori, Shanti, ICTP-8203.
- **Kharif jowar:** C.S.H-14 to 18, C.S.H -23, S.S.V-84, Phule Amruta(RSSV).
- **Kharif groundnut:** SB-11, Phule Pragati, TMV-10, M-13, TAG-24, TG-26, Phule Vyas (JL-220).
- **Kharif tur:** I.C.P.L-87, A.K.T-8811, Vipula, B.S.M.R.-853, B.S.M.R-736.
- **Kharif maize:** Ganga-11, Deccan-105, Trisulata, Pro-311, Bio-9681, Samishra, Dhaval, African tall.
- **Kharif Soybean :** MACS-13, 58, 124, 450, JS-335, PK-1029 & Phule Kalyani for Madhya Maharashtra, PKV 1, TAMS 38 for Vidarbha, MACS 47, 61, 61-2 & Samruddhi for Marathwada.

#### Madhya Pradesh

- **Sugarcane:** Co Jawahar-86141, Co Jawahar-86572, Co Jawahar-86600, Co 86032.