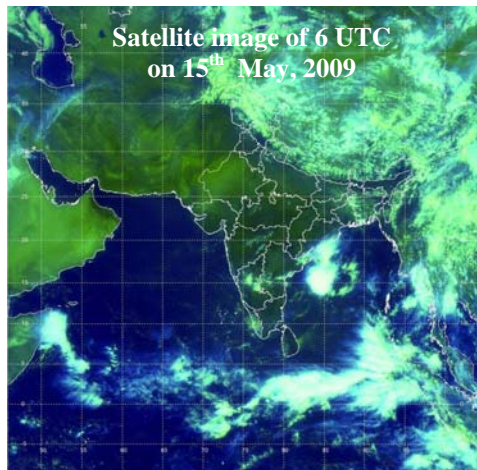




National Agromet Advisory Bulletin

Thursday, 14th May, 2009

(For the period 14th to 18th May, 2009)



Chief Synoptic Feature (Based on 1430 hours IST observations of 14th May 2009)

- The prevailing heat wave conditions over some parts of west Rajasthan and isolated pockets of Vidarbha, Telengana, Marathwada, Madhya Maharashtra and coastal Tamil Nadu will continue and also extend into more parts of Rajasthan and some parts of west Madhya Pradesh.
- The analysis and numerical weather prediction models suggest that rain/thundershowers activity at a few places over West Bengal & Sikkim and at many places over northeastern states during next 2-3 days.

Forecast for the 2009 Monsoon Onset over Kerala

The onset forecast model suggests that the monsoon onset over Kerala in 2009 is likely to be on **26th May** with a model error of ± 4 days.

Salient Advisories

Advisories for Severe heat wave/heat wave

- Heat wave conditions prevailed over some parts of west Rajasthan and isolated pockets of Vidarbha, Telangana, Marathwada, Madhya Maharashtra and coastal Tamil Nadu during last week. The same will continue and also extend into more parts of Rajasthan and some parts of west Madhya Pradesh. As there is no possibility of significant rain over these areas, apply light and frequent irrigation to the crops to avoid the adverse effects of high temperature.

Advisories for squall/hail

- Protect the standing crops and fruits by providing mechanical support/hail net as thundersquall with hail is likely over some parts of West Bengal, Sikkim, North Eastern States and coastal Orissa during next 48 hours.
- Lady's finger and cucurbit crops have been damaged due to hail during last week in Delhi. Farmers are advised to apply urea to rejuvenate the growth.

Advisories for sowing

- Continue land preparation and sowing of rice in the nursery in Kashmir, West Bengal and Kerala and transplanting of *kharif* vegetable crops in Sikkim utilising pre-monsoon showers.
- Continue land preparation for sowing of *kharif* cotton in Madhya Pradesh.
- Undertake land preparation for sowing of *kharif* crops in Orissa utilising pre-monsoon showers.

Advisories for irrigation

- As rain is likely to occur at many places over the North Eastern States, West Bengal and Sikkim in the coming days, farmers are advised to postpone irrigation and agricultural operations like fertilizer and pesticides application.
- As there was no significant rain in most of the remaining States of the country during last week and no significant rain is likely to occur for the next five days, farmers are advised to apply irrigation to the crops as and when required.

Advisories for pest and disease

- Weather conditions are favourable for the incidence of pests and diseases in the following States:
 - Fruit borer in tomato and brinjal in Uttar Pradesh.
 - Brown plant hopper and white backed plant hopper in late transplanted summer rice in Orissa.
 - Fruit fly in vegetables in Jammu division.
- Monitor the crops for the pest and disease incidences and undertake plant protection measures, if required.

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

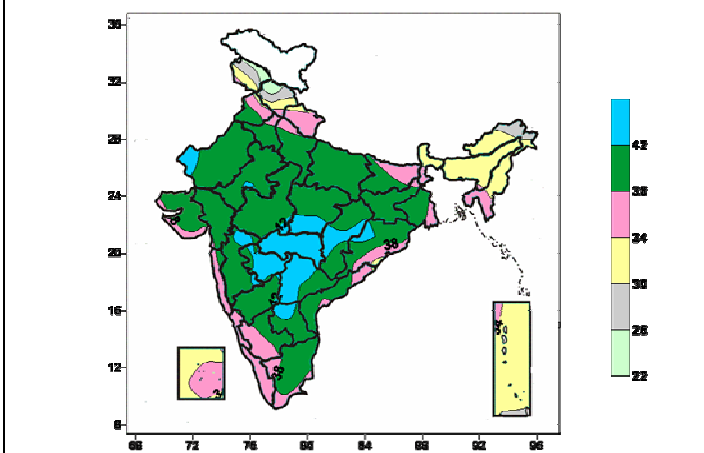
Sub-division	Cumulative Rainfall for the period									
	15 th April		22 nd April		29 th April		6 th May		13 th May	
	Normal (mm)	% Dep.	Normal (mm)	% Dep.	Normal (mm)	% Dep.	Normal (mm)	% Dep.	Normal (mm)	% Dep.
A & N Islands	11	756	16	93	27	-86	56	-45	57	-84
Arunachal Pradesh	53	-84	62	-21	67	-77	61	-61	52	-41
Assam and Meghalaya	47	-82	51	31	55	-65	86	-9	84	-43
NMMT	33	-88	40	44	41	-92	53	-27	50	-75
SH West Bengal & Sikkim	21	-42	32	112	33	-90	53	-19	50	-11
Gangetic West Bengal	7	-96	15	-99	15	-97	18	-28	23	62
Orissa	7	-87	11	-90	10	-97	11	-53	14	-54
Jharkhand	4	-84	6	-100	6	-100	8	-14	12	-5
Bihar	3	-82	7	-84	7	-100	10	-51	13	48
East Uttar Pradesh	1	-23	2	-100	1	-100	3	48	4	12
West Uttar Pradesh	1	662	1	-100	1	-100	2	-89	3	-74
Uttarakhand	9	68	9	-100	8	-100	10	-18	16	-73
Haryana, Chandigarh & Delhi	2	467	2	-89	1	-100	2	-8	4	-97
Punjab	3	206	3	-92	2	-100	2	-14	5	-99
Himachal Pradesh	16	-7	15	-5	13	-98	14	75	18	-30
J & K	21	48	25	-54	23	-98	17	61	22	-52
West Rajasthan	1	-99	1	-97	1	-100	1	-65	2	-100
East Rajasthan	1	-97	1	-100	1	-100	1	-96	2	-83
West M. P.	1	-76	1	-100	**	-100	1	179	1	-79
East M. P.	1	46	2	-100	1	-100	1	-99	1	-100
Gujarat region	**	-100	1	-100	**	-100	**	-100	1	-100
Saurashtra & Kutch	**	-100	1	-100	**	-100	**	-100	1	-100
Konkan and Goa	1	-100	2	-100	1	-100	3	-100	1	-100
Madhya Maharashtra	2	-99	2	-100	3	-100	5	-100	3	-91
Marathwada	2	-96	2	-100	1	-100	2	-100	2	-96
Vidarbha	2	26	2	-100	1	-100	2	-100	2	-100
Chhattisgarh	3	-61	5	-100	3	-100	5	-84	5	-100
Coastal A. P.	4	-69	8	-91	6	-75	8	120	17	-94
Telangana	4	-76	5	-71	4	-31	4	-16	6	-95
Rayalseema	3	-100	5	-67	5	-68	7	-50	7	-66
TamilNadu & Pondicherry	10	119	10	-16	11	-67	12	-49	14	-41
Coastal Karnataka	5	18	6	-93	10	-21	17	-77	11	-16
N. I. Karnataka	5	-78	5	-60	9	-67	9	-74	8	-88
S. I. Karnataka	9	-81	10	2	15	-40	19	-46	16	-74
Kerala	31	-15	28	-50	34	-59	39	-51	36	-29
Lakshadweep	12	23	10	-100	11	-81	18	-78	19	-61

The subdivisions like Arunachal Pradesh, Orissa, Rajasthan, Gujarat, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra, Marathwada, Chhattisgarh, Rayalaseema, North Interior Karnataka received scanty / deficient rain in all the 5 weeks; Nagaland-Manipur-Mizoram-Tripura, Bihar, West Uttar Pradesh, Madhya Pradesh, Vidarbha, Coastal Andhra Pradesh, Telangana, South Interior Karnataka, Kerala and Lakshadweep Islands received scanty / deficient rain in 4 out of last 5 weeks; Andaman & Nicobar Islands, Assam & Meghalaya, Gangetic West Bengal, Jharkhand, East Uttar Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi, Punjab, Jammu & Kashmir, Tamil Nadu & Pondicherry and Coastal Karnataka, 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

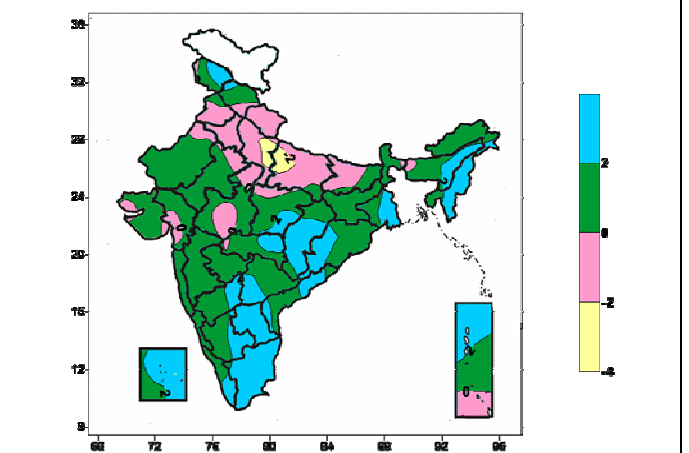
Contour maps for the week ending 13.05.09

Actual Mean Maximum Temperature (°C) in India for the week ending 13.05.09



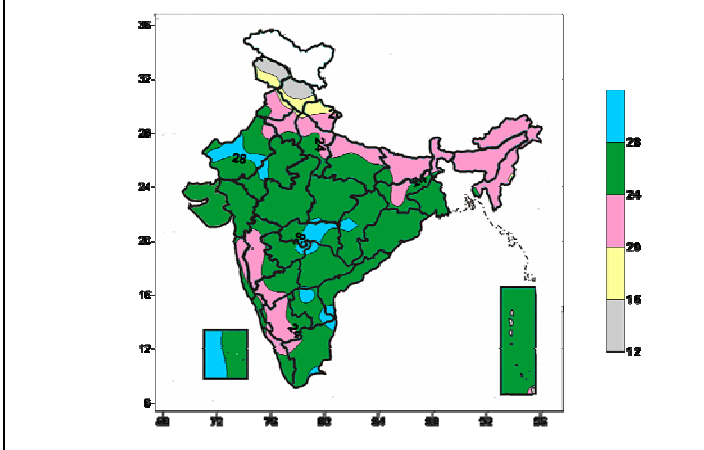
Actual Mean Maximum temperature ranged between 42°C and above over most parts of Marathwada, Vidarbha, Telangana, some parts of Rajasthan, Orissa, Madhya Maharashtra, Madhya Pradesh, Chhattisgarh, Rayalaseema, 34 to 38°C over most parts of Uttarakhand, Mizoram, Tripura, Konkan & Goa, Coastal Karnataka, Kerala, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, West Uttar Pradesh, Bihar, Jharkhand, West Bengal, Assam, Orissa, Saurashtra & Kutch, Coastal Andhra Pradesh, South Interior Karnataka, Tamil Nadu, Lakshdweep, Andaman & Nicobar Islands, 30 to 34°C over most parts of Sikkim, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Orissa, Lakshdweep Islands, 26 to 30°C over some parts of Jammu & Kashmir, Himachal Pradesh, Arunachal Pradesh, 22 to 26°C over some parts of Jammu & Kashmir, Himachal Pradesh, 38 to 42°C over remaining parts of the Country.

Maximum Temperature (°C) Anomaly in India for the week ending 13.05.09



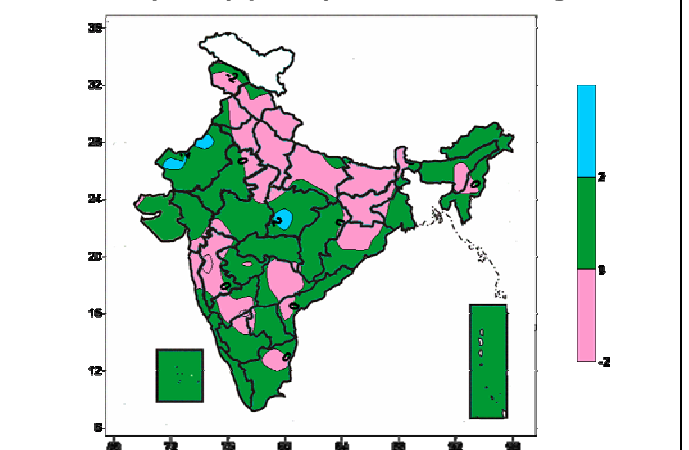
Actual Mean Maximum temperature anomaly ranged between 2 to 4°C over most parts of Nagaland, Manipur, Mizoram, Chhattisgarh, Rayalaseema, Tamil Nadu, Lakshdweep Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Assam & Meghalaya, Gangetic West Bengal, Orissa, Vidarbha, East Madhya Pradesh, Coastal Andhra Pradesh, Telangana, Interior Karnataka, Kerala, Andaman & Nicobar Islands -2 to 0°C over most parts of Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, some parts of Jammu & Kashmir, Himachal Pradesh, Rajasthan, Sub-Himalayan West Bengal, Assam, Gujarat, Saurashtra & Kutch, Madhya Pradesh, Vidarbha, Andaman & Nicobar Islands, -4 to -2°C over some parts of Uttar Pradesh, 0 to 2°C over remaining parts of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 13.05.09



Actual Mean Minimum Temperature ranged between 28 to 32°C over some parts Rajasthan, Marathwada, Vidarbha, East Madhya Pradesh, Chhattisgarh, Andhra Pradesh, Tamil Nadu, Lakshdweep Islands, 20 to 24 °C most parts of Punjab, Haryana, Uttarakhand, Bihar, Sub-Himalayan West Bengal, Sikkim, Northeast India, Konkan, Madhya Maharashtra, South Interior Karnataka, some parts of West Rajasthan, Uttar Pradesh,

Minimum Temperature (°C) Anomaly in India for the week ending 13.05.09

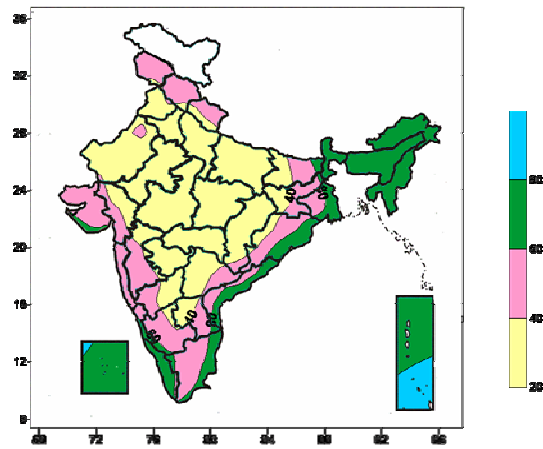


Minimum Temperature anomaly ranged between 2 to 4°C over some parts of West Rajasthan, East Madhya Pradesh, -2 to 0°C over most parts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar Jharkhand, Sikkim, Konkan, Madhya Maharashtra, Telangana, North Interior Karnataka, some parts of Jammu & Kashmir, East Rajasthan, West Bengal, Assam, Manipur, Orissa, Gujarat, Saurashtra & Kutch, Madhya

Jharkhand, North Interior Karnataka, Coastal Karnataka, Tamil Nadu, Kerala, 16 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, West Uttar Pradesh, 12 to 16°C over some parts of Jammu & Kashmir, Himachal Pradesh, 24 to 28°C over remaining parts of country.

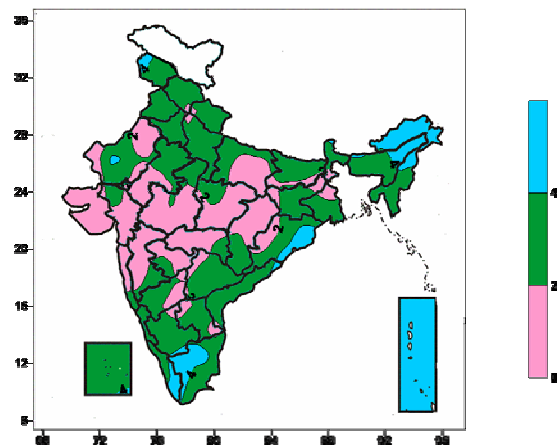
Pradesh, Chhattisgarh, Marathwada, Vidarbha, Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, Tamil Nadu, 0 to 2°C over remaining parts of the Country.

Relative Humidity (%) over India for the week ending 13.06.09



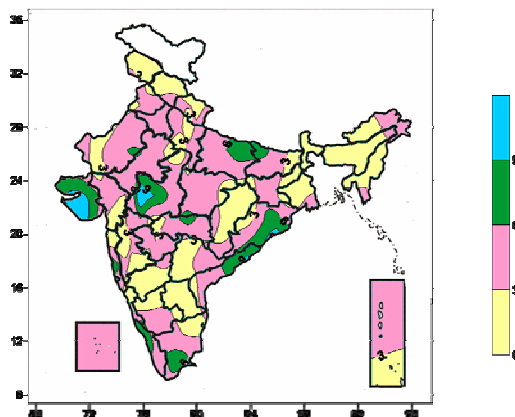
Relative humidity more than 80% over some parts of Lakshdweep, Andaman & Nicobar Islands, 60 to 80% over most parts of Sub-Himalayan West Bengal, Sikkim, Northeast India, Coastal Orissa, Coastal Andhra Pradesh, Coastal Tamil Nadu, Kerala, Coastal Karnataka, Lakshdweep, Andaman & Nicobar Islands, some parts of Bihar, Jharkhand, Gangetic West Bengal, Saurashtra & Kutch, South Interior Karnataka, 40 to 60% over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Central Orissa, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra, South Interior Karnataka, Rayalaseema, Tamil Nadu, some parts of West Rajasthan, Bihar Jharkhand, Gangetic West Bengal, Gujarat, Chhattisgaarh, Coastal Karnataka, North Interior Karnataka, Coastal Andhra Pradesh, Telangana, 20 to 40 % over remaining parts of the country.

Cloud amount (okta) over India for the week ending 13.06.09



Cloud amount ranged from 4 to 6 okta over most parts of Arunachal Pradesh, Nagaland, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, West Rajasthan, Sikkim, Assam & Meghalaya, Orissa, Coastal Andhra Pradesh, South Interior Karnataka, Kerala, Tamil Nadu, 2 to 4 okta over most parts of Northwest India, Bihar, Jharkhand, West Bengal, Sikkim, Assam, Manipur, Mizoram, Tripura, Central Orissa, Andhra Pradesh, Karnataka, Coastal Tamil Nadu, North Kerala, Lakshdweep Islands, some parts of Gujarat, Maharashtra, Central India, 0 to 2 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 13.06.09

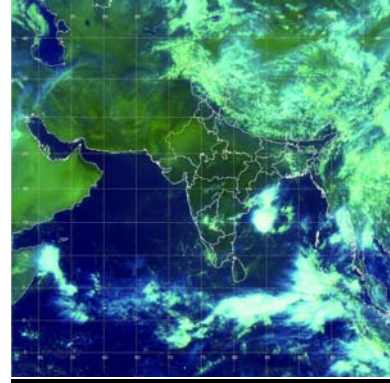


Wind speed ranged between 9 to 12 knots over some parts of Orissa, Saurashtra & Kutch, West Madhya Pradesh, Coastal Andhra Pradesh, 6 to 9 knots over most parts of Saurashtra & Kutch, Coastal Orissa, some parts of West Rajasthan, East Uttar Pradesh, Bihar, Konkan, Vidarbha, Madhya Pradesh, Coastal Andhra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

Chief Synoptic Feature (Based on 1430 hours IST observations of 14th May, 2009)

- The prevailing heat wave conditions over some parts of west Rajasthan and isolated pockets of Vidarbha, Telengana, Marathwada, Madhya Maharashtra and coastal Tamil Nadu will continue and also extend into more parts of Rajasthan and some parts of west Madhya Pradesh.
- The analysis and numerical weather prediction models suggest that rain/thundershowers activity at a few places over West Bengal & Sikkim and at many places over northeastern states during next 2-3 days.

Satellite image of 6 UTC on 15th May, 2009



Zone-wise Forecast (Forecast valid upto 1430 hours IST of 17th May, 2009)

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

- Isolated Rain/thundershowers over Uttarakhand and east Uttar Pradesh.
- Isolated duststorm/thunderstorm over Haryana, Delhi, Punjab and Rajasthan during next 48 hours and mainly dry weather thereafter.
- Mainly dry weather over the rest region.

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

- Rain/thundershowers at a few places over West Bengal & Sikkim during next 24 hours and at many places thereafter.
- Isolated rain/thundershowers over the rest region.

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 a few places over Andaman & Nicobar Islands, during next 48 hours and increase thereafter.
- Isolated Rain/thundershower over Kerala, Lakshadweep and Coastal Andhra Pradesh,
- Isolated Rain/thundershower over Karnataka after 24 hours.
- Mainly dry weather over the rest region.

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

- Isolated Rain/thundershower over Madhya Maharashtra, Marathwada and Konkan & Goa from 16th May onwards.
- Mainly dry weather over the region.

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

- Isolated Rain/thundershower over the rest region.

WARNING: (For next 48 hours)

- Thunder squall accompanied with hail over some parts of West Bengal, Sikkim and northeastern states and coastal Orissa during next 48 hours.

Weather Outlook from 1430 IST of 17th May, 2009 to 1430 IST of 19th May, 2009 (Based on numerical weather products):

- Rain/thundershowers activity at many places over West Bengal & Sikkim and northeastern states.
- Rain/thundershowers activity at a few places over west peninsular India.

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 (planting / vegetative / tuber formation), cabbage, cauliflower and broccoli (head formation), pea (pod formation / early maturity), leafy vegetables like lettuce, methi, palak, dhanian etc. (vegetative).
- As there was no significant rain in most of the districts during last week over the State and mainly dry weather 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.
- Plucking of tea leaves may be continued at 7-8 days interval.
- Complete transplanting of french bean, cucumber, bitter melon in sub-mountain low hills sub tropical zone. Prepare the nurseries for sowing of cabbage, cauliflower, broccoli, lettuce and other varieties.
- Provide mulch in the tree basins with straw or UV Sheet to reduce evaporation and moisture conservation.
- Harvest the ripened or half ripened strawberry fruits and store them at 15-20^o C as high temperature may hamper the fruit quality and juice contents.
- Harvest the matured crops of potato as weather is favourable for harvesting.
- Transplanting of tomato and capsicum may be undertaken.
- To have green fodder in summer, it is optimum time for sowing of chari, bajra and maize in low hills. For seed crop of berseem and oat one cut can be taken.
- It is advised for nursery sowing of khirki, summer squash, bitter melon, tori, tomato, chilli, capsicum, brinjal and pepper in poly houses.
- Undertake sowing of flower crops like china aster, gladiolus, rudbeckia, kochia, african marigold, french marigold, portulaca, tithonia, torinia and cleome etc.
- This is the right time good time for growing white button mushroom in the closed room. Maintain room temperature 18-22^oC and relative humidity around 85% for successful cultivation. It is also time for taking dingri mushroom in closed room. For harvesting a good crop fill the 4 kg bag with compost and mix the spawn in it.
- It is time for sowing of bhindi and french bean in the field. 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 where fruit bearing has started, spray Nuvan 1 ml + 3 g Blitox per 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.

Uttarakhand

- **Major Standing Crops:** Sugarcane ratoon (early vegetative), cabbage, onion, garlic, tomato (vegetative) and summer sunflower, moong, urd (vegetative).
- 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.
- Farmers are advised to go for deep ploughing of their fields for increasing its soil physical condition, controlling insects, pests, diseases.

- Spray fresh and cold water on the trees of litchi, in order to increase fruit setting.
- Farmers are advised to continue sowing of chiatee dhan in nursery with improved varieties under rainfed conditions at 1500 m height. Details of varieties are given in Annexure I.
- Undertake weeding, intercultural operations and top dressing in earlier sown chaiti dhan and vegetable crops.
- Farmers are also advised to continue sowing of bhindi.
- Protect the animals from heat stroke by providing adequate shading and water.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
- fruit borer in tomato, Shimla mirchi etc. Farmers are advised to 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 p.m for effective control.

Punjab

- **Major Standing Crops:** Horticultural crops (vegetative), spring sugarcane (early vegetative/vegetative), pea and vegetable crops like chilli, tomato, brinjal, bhindi and onion (early vegetative), summer pulses, sunflower (vegetative/flowering)
- As there was no significant rain during last few weeks and no significant rainfall is likely to occur over the State, apply irrigation to the crops.
- Farmers are advised to store the harvested wheat by soaking the wheat seed in clean water for 4 hours and dry it and store it for seed at a specific moisture level in dry or insect free bins.
- Start preparation of the land for nursery raising of rice during this week. Soak the seeds in 10 litres of water containing 5 g Emisan and 1g Streptocycline for 8 to 10 hours before sowing.
- Undertake weeding, intercultural operations in sugarcane. Irrigate the sugarcane crop if required as dry weather is expected in the coming days. Provide straw mulching in between the rows to conserve the soil moisture. Farmers are also advised to spray the crop with 1 % Ferrous sulphate (1 kg ferrous sulphate in 100 litres of water) at weekly interval to control iron deficiency, and repeat the spraying 2-3 times depending upon the deficiency sprays are required.
- After the harvest of wheat crop, groundnut may be sown, after applying rauni irrigation. Treat the seed before sowing with 12.5 ml Chlorpyriphos per kg of kernels.
- Undertake sowing of fodder crops in mixture i.e. maize + cowpeas. For getting good growth of fodders, provide irrigation at regular interval.
- Farmers are advised to undertake sowing of radish. Details of crop varieties are mentioned in Annexure I.
- As dry weather is expected in coming days, irrigate the fruit plants at regular intervals. Avoid planting of deciduous fruit plants since temperature has increased and also irrigate newly planted orchards at 3-4 days interval.
- To protect the fruit trees from scorching sun, lower portion of the exposed trunks should be white washed with a thick lime solution (lime slaked 25 kg, copper sulphate 500 g, gum 500 g and water 100 litres) during these days.
- Make arrangements to protect the animals and poultry birds from summer stress. The sheds should be properly ventilated and comfort. Vaccinate the animals against FMD. The fodder crops may be sown to avoid scarcity of fodder in coming months.

Haryana

- **Major Standing Crops:** Spring sugarcane (early vegetative/vegetative), vegetable crops (early vegetative), summer pulses, sunflower (vegetative/flowering).
- Continue threshing of wheat as weather is favourable.
- As there was no significant rain during last few weeks and no significant rainfall is likely to occur over the State, apply irrigation to the crops.
- Start preparation of the land for nursery raising of rice during this week.

- Apply 45 kg urea or 80 kg CAN/acre to sugarcane. In ratoon crop, apply 65 kg urea/acre. Undertake hoeing and weeding and conserve soil moisture by application of mulches. Irrigate the crop at 10-15 days interval for getting better growth of the crop.
- Complete sowing of berseem, summer fodder, also undertake sowing of bajra, lobia, sudan and napier grass for fodder.
- Farmers are advised to prepare the field for cotton sowing and continue the sowing of *desi* cotton and american cotton. If farmers are interested to sow BT Cotton, use BT varieties approved by Haryana Government.
- Farmers are advised to prepare the field and continue sowing of cucurbits.
- Undertake intercultural operations in tomato, onion and chilli.
- As temperature is rising rapidly and humidity is getting low, the farmers are advised to whitewash the trunks of fruit trees, provide shelter to young tree and give frequent irrigation to protect fruit trees.
- Farmers are advised to feed the animals with 50 to 100 grams good quality mineral mixture. Vaccinate against sheep pox as per veterinarian advice.

Delhi

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), wheat (end harvesting), green gram (vegetative).
- As isolated dust storm/thunderstorm over next 48 hours and dry weather thereafter is likely to prevail, farmers are advised to apply light and frequent irrigation to *lobia*, green gram and the vegetables like bhindi, brinjal, chilli etc.
- Ladies finger and cucurbit crops have been damaged due to hail during last week. Farmers are advised to apply urea to rejuvenate the growth.
- Undertake sowing of red gram.
- Undertake sowing of onion in the nursery and arrange for transplanting during kharif season.
- As conducive weather is likely to prevail for next five days, farmers are advised to complete harvesting of already matured crops of wheat. Harvesting should be done very early in the morning as moisture present at that moment helps to prevent shattering of grains.
- Early threshing after harvest of the crops is advised. Grains and seeds are to be dried to their recommended moisture content.
- Farmers are advised to start harvesting of cucurbits, which turns yellowish and apply light irrigation at weekly interval.
- Due to receipt of rain during last week, undertake intercultural operations in cotton.
- Farmers are advised to harvest the matured crop of onion as weather is conducive
- Present weather conditions are highly conducive for incidence of white fly and fruit fly in cucurbitaceous crop exceptionally in watermelon and muskmelon crops. Spray Sevin @ 2g/ litre to control the pests.

Uttar Pradesh

- **Major Standing crops:** Summer sugarcane and vegetables (early vegetative), mango (fruit setting), *zaid* maize (vegetative/flowering), urd, moong(vegetative/flowering).
- Undertake harvesting of matured crops like garlic, pea, sugarcane and rai.
- 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.
- Undertake weeding, intercultural operations, application of fertilizers and pesticides in the standing crops like *zaid* maize, pulses, sugarcane, fodder, garlic, brinjal, tomato and chilli.
- Prepare the field for undertaking sowing of turmeric and ginger.
- Top dressing of remaining dose of nitrogen 40-50 kg/hectare may be done in mentha crop and first cutting of crop may be done for extracting oil.
- Undertake sowing of dhaincha as green manure crop.

- 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 planting of orchard tree saplings in Jammu and Rajouri and sowing of rice in the nursery and maize and transplanting of solanaceous vegetable crops.
- As there was no significant rain during last week and dry weather is likely to prevail over the state for the next five days, apply irrigation to the crops.
- Undertake sowing of rice in the nursery and maize in the main field in Jammu, Kathua, Kashmir, Rajouri, Udampur, Kathua and Doda divisions.
- Undertake sowing of brinjal in the nursery in Jammu and Kathua regions
- 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 fly in vegetables in Jammu division. Undertake plant protection measures.

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

Bihar

- **Major Standing Crops:** Sugarcane (vegetative), *boro* rice (grain formation), summer moong, urd, sunflower, sesame (seed formation), summer maize(cob formation), summer vegetables (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. Postpone irrigation in East Champaran district as there was sufficient rainfall in the district during last week.
- Avoid moisture stress in summer vegetables by maintaining adequate soil moisture as moisture stress at this stage affects the yield.
- Undertake intercultural operations, application of fertilizers and pesticides in summer vegetables, like tomato, brinjal, cauliflower and cabbage.
- Farmers are advised to complete sowing of fodder maize, jowar, lobia and sudan grass.
- Undertake deep summer ploughing in fallow land for moisture conservation to suppress weeds, insects population.
- Maintain 5 – 7 cm standing water in *boro* rice field.
- **Plant Protection:** Weather conditions are favourable for mild incidence of
- powdery mildew in the mango orchards. Spray wettable sulphur (0.2 %) to control the disease.

Jharkhand

- **Major Standing Crops:** Sugarcane (vegetative), summer maize (cob formation), moong (pod formation), summer vegetables (early vegetative/vegetative) and rice (grain formation).
- 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 like rose, ixora, gulfrena, balsam, amaranthus, cosmos, torenia and zenea and bulbous flower plants like achemenus, glory lily, ukeres, jacobian lily, japhranthus lily and terin lily etc. Spread 3 inches layer of well rotten farm yard manure or plant waste materials in furrows to conserve soil moisture.
- Undertake sowing of dhaincha as green manure crop.
- Farmers are advised to undertake weeding, intercultural operations in sugarcane and vegetables as weather conditions are favourable for undertaking these operations.

- Maintain continuous standing water of 5 – 7 cm depth in summer rice field.
- Site selection of new orchard and digging of pit for mango (1x1x1m), jackfruit (90 x 90cm), litchi (75 x 75 cm), guava (75 x75cm), papaya and banana (60x 60x60cm.) may be undertaken.
- Continue planting of *colacasia* as the weather is favourable and it is the right time for the cultivation of *colocasea* crop on upland.
- This is the right time of sowing dhaincha green manure crop. Prepare land by mixing 250 kg/ha of rock phosphate. Use 100-125 kg of dhaincha seed.
- 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 rice (grain formation/maturity), summer sunflower (flowering), summer sesame (flowering / pod formation), pulses like cowpea (flowering), summer green gram (flowering), summer maize (vegetative / tasseling / silking) and summer groundnut (pegging / pod formation).
- 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 in Interior Orissa. Sprinkler irrigation should be provided to the orchard crops and vegetables.
- Protect the fruits and trees through hail nets in coastal Orissa, as thunder squall accompanied with hail is likely over some parts of coastal Orissa during next 48 hours.
- Digging of pits may be done before onset of monsoon to undertake planting of fruit trees on receipt of rain.
- This is the optimum time for sowing of green manuring crops like sesbania and sunhemp in the areas receiving convectional rain in the state.
- Farmers are advised to go for summer ploughing in places received soaking rainfall to reduce weed infestation, to destroy eggs and larvae of hibernated soil insects and to increase soil profile recharge.
- Undertake land preparation for sowing of *kharif* crops utilizing the rainfall received during last week.
- As weather conditions are favourable for jute sowing, undertake sowing in Anandpur subdivision. Details of crop varieties are mentioned in Annexure I.
- Maintain 3 – 5 cm standing water in the summer rice field. Drainout the water 7 days before harvesting of the crop.
- As the temperature is rising day by day, cows and buffaloes should be kept in cattle shed during day time and provide them sufficient water to drink.
- **Plant Protection:** Weather conditions are favourable for mild incidence of –
- BPH and WBPH in late transplanted rice. Immediately dry the field and spray Monocrotophos or Phasalone or Fipronil @ 400 ml/acre in 200 litres of water. Attention should be given on spraying at the basal portion of the plant. A mixture of Acephate and Buprofezin can also be sprayed.

West Bengal

- **Major Standing Crops:** Sugarcane (planting / vegetative), *boro* rice (grain maturity), sesame (flowering / pod formation / maturity), green gram (flowering), groundnut (pegging / pod formation) and jute (seedling).
- As rain is likely to occur at many places in the coming days, farmers are advised to postpone irrigation to the standing crops.
- Harvest the matured crops of early sown *boro* rice in Gangetic Alluvial zone, Vindhyan Alluvial zone and Coastal Saline zone.

- Farmers are advised to undertake intercultural operation after current spells of rain to keep the fields weed free.
- Keep 5 to 7 cm standing water in late sown *boro* rice field.
- Continue sowing of rice in the nursery for *kharif* rice and planting of ginger and turmeric in the main field in Vindhyan Alluvial zone. Harvest matured crops of black gram and green gram.
- Undertake planting of elephant foot yam in Coastal Saline zone.
- Continue thinning operation and maintain proper plant population in early sown crops of jute. Apply first top dressing of fertilizer (Urea) @ 7.5 kg/bigha.
- Under prevailing weather condition undertake land preparation and planting of sugarcane setts.
- Due to continuous dry weather there is a chance of fruit drop in brinjal and mango. Spray water to the fruits along with Planofix @ 0.25 ml per litre of water. To reduce attack of fruit fly and hopper apply Monocrotophos or Fosalone @ 1.5 ml per litre of water.
- Flower sticks of early planted gladiolus crop in Hill zone should be harvested leaving 4 leaves for development of corm and cormels (planting materials). After harvesting the crop is to be sprayed with Bavistin @ 1 g/lit of water.
- At present attack of jute semilooper, bihar hairy caterpillar and stem weevil is becoming severe in jute. To control, apply Diclorovos @ 3 ml per 4 litres of water or Endosulphan @ 2 ml per litre of water.
- Weather is favourable for the attack of anthracnose disease in betelvine. Spray the vine with bordeaux mixture @ 0.5% or with any copper oxychloride preparation 0.3-0.4% at 7 days intervals.

Sikkim

- **Major standing crops: (a) High hills: Off season Vegetable crops** Transplantation/Vegetation; **(b) Medium hills: Orange: Flowering;** **(c) Medium & Low Hills: Kharif Vegetables:** Transplantation; **Maize:** Vegetative; **Large Cardamom** Early/Secondary Flowering;
- As rain/thundershowers is likely to occur at a few/many places for the next five days over the State, postpone irrigation to the crops.
- Protect the crops from squall and hail by providing mechanical support/hail net.
- Start nursery sowing and preparation of land for paddy during second week of May in mid hills after spells of rain.
- Start planting of orange sapling in May. 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 with organic manures and mulching to be done after spells of rain. Proper drainage to be maintained and weeding to be done after spells of rain.
- The loose soil of *kharif* vegetable seedlings transplanted in mid upper terraces should be tightly packed and enough shade be provided during bright sunshine. Climbing plants in lower terrace must be given proper supporting structure. Weeding and topdressing with FYM/Compost should be done after spells of rain and on monthly basis.
- All the disease/pest infected suckers in the nursery; and all the aged/diseased/unproductive plants in the field of large cardamom crop may be removed/uprooted and destroyed (for replantation/gap filling operations).
- Trenches of width 30 cm and depth 45 cm with convenient length may be opened with 30 cm interspacing. Trenches to be filled by mixture of FYM and soil. Disease free high yielding grown up large cardamom shoots with emerging buds may be planted at 45 cm apart in the trenches within May/June. Base may be mulched with forest leaves. Bamboo/wooden support stakes may be provided for suckers. Overhead pandals may be erected immediately after planting of suckers
- Application of 1% Bordeaux mixture after spells of rain to the cardamom will help to control the fungal diseases. Chirke and Foorkey infected cardamom plants may be destroyed by uprooting and buried in the pits at regular intervals.

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

Assam

- **Major Standing crops:** vegetables (vegetative / flowering / fruiting / harvesting), *boro* rice (grain maturity), early *ahu* rice (tillering), regular *ahu* rice (direct sowing / transplanting) and *Bao* (Deep water rice) rice (sowing), jute and maize (sowing / germination / early vegetative), summer vegetables (sowing / vegetative / flowering / fruiting), sugarcane, turmeric and ginger (planting).
- As rain is likely to occur at many places in the coming days over the State, farmers are advised to postpone irrigation, intercultural operations and harvesting of matured crops.
- Protect the fruits and young trees through hail nets, as thunder squall accompanied with hail is likely over some parts of the State during next 48 hours.
- Undertake land preparation and sowing of jute and maize
- Maintain 3-5 cm stagnant water in *boro* rice and early *ahu* rice field.
- Sowing of direct seeded regular *ahu* rice and also nursery sowing for transplanted regular *ahu* rice may be continued during these days.
- Prepare land and complete planting of 3 – 4 budded sugarcane setts.
- Undertake planting of turmeric and ginger.
- This is the optimum time for sowing high yielding varieties of bhindi. For one bigha of land 2-3.5 kg of seed is required and seed should be sown at a spacing of 45 X 30 cm. Details of crop varieties are mentioned in Annexure I.
- The soil-moisture and temperature regimes have become congenial for planting banana, pineapple and coconut suckers / seedlings. Apply first dose of fertilizer to the existing coconut plants.
- Weather conditions are suitable for the attack of blast disease in *ahu* rice. Spray Bavistin @ 1 gm per litre of water when the weather is dry.
- As there is chance of attack of blast disease in early *ahu* rice, as soon as one or two leaves affected by blast are seen, spray Hinosan 50 EC @ 1ml /litre of water or Blitox 4gm/litre of water. Spraying should be continued at the interval of 15 days till the disease is controlled.

Animals

- Immunizations of animals against Foot and Mouth disease in cattle & buffaloes and swine-fever in pigs may be carried out during pre-monsoon season.

Fishery

- Prepare the fingerling rearing tanks and nurseries by cleaning them and applying agricultural lime @ 65-70 gm of basic per sq.m. for raising fingerlings. Apply cow dung @ 500 gm per sq m. at least 15 days ahead of releasing fingerlings into the tanks.

Arunachal Pradesh

- **Major Standing crops:** Maize, millet(early vegetative/vegetative), ginger, summer vegetables(early vegetative/vegetative), *jhum* rice, WRC rice(seedling/transplanting)
- As rain is likely to occur at many places in the coming days over the State, farmers are advised to postpone irrigation to the crops.
- Farmers are also advised to continue sowing of *jhum* rice, wet seeded rice and ginger.
- Continue transplanting of early sown transplanted rice.
- Undertake weeding, intercultural operations in early sown crops after current spells of rain.
- 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) and chilli (fruit development).

- Heat wave conditions prevail over isolated pockets of Telangana and south Coastal Andhra Pradesh; apply light and frequent irrigation to the crops to prevent from high temperature.
 - Due to the forecast of high wind speed over Anantapur area, provide staking to banana. Harvest immediately the matured fruits of tomato to prevent damage.
 - Undertake sowing of sunflower in Anantapur area on receipt of summer showers.
 - After the harvest of crops, undertake summer ploughing to conserve moisture in the field.
 - **Poultry:** To minimize the summer effect, the following management practices need to be adopted–
 - Arrange fans and foggers in sheds.
 - Cover the sheds with paddy straw and arrange sprinklers.
 - Feed poultry birds with wet mash to increase the feed intake.
 - Provide cool water for drinking
 - 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 –
- early shoot borer in sugarcane; Release parasitic complex *Trichogramma chelonis* @ 20,000 per acre at 30 days after transplantation, 4 times at 10 days interval.
 - yellow and red spider mites in sugarcane. To control, spray Wettable Sulphur @ 3 g per litre of water to cover the under surface of the leaves.

Karnataka

- **Major Standing Crops:** Annual sugarcane (cane development/maturity), green gram, black gram and cowpea (pod formation/development/maturity), groundnut (pod formation/development).
 - As there was no rainfall during last few weeks in the State and isolated rain/thundershowers over the state from 15th onwards, apply irrigation to the crops.
 - Before sowing of *kharif* crops, farmers are advised to undertake summer ploughing to conserve moisture and to control weeds and soil borne pathogens and also to absorb the moisture during light showers. Arrange inputs to undertake sowing of *kharif* crops as and when monsoon is arrived.
 - As temperature is rising, undertake intercultural operations and mulching with crop residues in summer crops to reduce the moisture loss (evaporation) from the soil.
 - Undertake dry sowing of rice in Dharwad.
 - Continue planting of seed-nuts for coconut and arecanut in nursery in Sirsi region.
 - Irrigation should be continued for arecanut (10 lts / day), coconut (50 lts / day) and black pepper (2 lts / day). Irrigation should be given through drip irrigation to save water and to reduce evaporation of water and also provide the mulch around the trees / plants.
 - The dropping of tender nuts and buds in arecanut is noticed. Spray Bordeaux mixture @ 1% or copper oxy chloride @ 2 gm/litre of water. Apply organic, bio fertilizer and NPK, calcium and boron based on soil test value basis.
- 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

Kerala

- **Major Standing Crops:** vegetable (vegetative / flowering / fruiting) 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 no significant rainfall in most of the districts except in Ernakulam, Idukki, Pathanamthitta and Wyanad during last week and no significant rainfall is likely to occur for the next five days, apply irrigation to the crops. Postpone irrigation in the above districts as there was excess rainfall during last week.

- Undertake nursery sowing of *virippu* rice and amaranthus, brinjal and chilli. Also plant tubers of Dioscoria, ginger, turmeric and tapioca in Thrissur.
- Sowing of rice in the nursery may be undertaken in Kannur, Kasargod, Malappuram and Kozhikode areas.
- Undertake sowing of vegetable crops in nursery for transplanting during monsoon.
- Undertake wet sowing of rice in *kari* soils in Kottayam.
- Intercultural operations and mulching may be continued in plantation crops. Conserve moisture by preventing evaporation due to high temperature.
- Provide mechanical support to banana to prevent from high winds in Thiruvananthapuram.
- Provide thatches to young plants of arecanut and coconut to protect from sun scorching.
- Harvesting and nursery propagation operations may be continued in cashew.

Plant Protection:

- Due to high temperature and high humidity, pest and disease incidences like stem bleeding in coconut, blast and sheath blight in rice, pollu beetle and thrips in pepper, Sigatoka leaf spot in banana and leaf rust in coffee may occur. Monitor the crops for the pests and diseases and undertake plant protection measures.
- Due to cloudy weather conditions in Kannur, Kasargod, Malappuram and Kozhikode, pests and disease incidences may occur. Monitor the crops for the pests and disease incidence and undertake plant protection measures.
- Weather conditions are favourable for mild incidences of *Epilachna* beetle in brinjal, aphids in cowpea and pseudostem weevil in banana in Kottayam. Undertake plant protection measures.

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 rainfall during last few weeks except in Dharmapuri and Theni districts, apply irrigation to the crops. Postpone irrigation in the above districts as there was excess rainfall during last week.
- Heat wave conditions prevail over isolated pockets of Coastal Tamil Nadu; apply light and frequent irrigation to the crops to prevent from high temperature.
- As light to moderate rainfall is likely to occur for the next five days in most of the districts, undertake intercultural operations and application of fertilizers and pesticides
- Complete nursery sowing of *kuruvai* rice in Cauvery deltaic areas at the earliest.
- Undertake land preparation for sowing of crops like cotton in Thirunelveli, Thooththukkudi and Virudhunagar districts.
- Details of varieties are given in Annexure I.
- Due to possibility of rainfall, undertake mulching of crops in Kanyakumari district. Undertake sowing of vegetable crops in nursery for transplanting during monsoon.
- **Poultry:** Heat stress in poultry. Foggers may be sprayed between 11 am to 3 pm frequently to prevent heat stress in poultry. Farmers are advised to monitor for Infectious Bronchitis (IB) and Ranikhet disease and in the case of lower values, administration of commercial vaccine is advised.

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

- damping off and white fly in chillies and green capsicum, spray Copper-oxy-chloride @ 2.5 g/liter of water for damping off and 2 ml of Methyl Demeton per litre of water for white fly.
- 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.
- dieback in clove orchards in Kanyakumari district; prune the affected branches to prevent further spread.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT, RAJASTHAN]

Maharashtra

- **Major Standing Crops:** Summer rice (grain maturity in Konkan, flowering/grain formation/maturity in East Vidarbha), summer groundnut (pod formation in Nagpur division and pod formation / pod maturity in other divisions), summer maize (cob initiation in Nashik division and cob initiation/ cob maturity in other divisions), summer sunflower (seed formation / seed maturity) and summer bajra (grain formation / grain maturity in Pune, Nashik & Aurangabad divisions).
- Heat wave conditions prevailed over isolated pockets of Madhya Maharashtra, Marathwada and Vidarbha and likely to continue in the coming days and no significant rainfall is expected, apply light and frequent irrigation to the crops. Maintain 4 – 5 cm standing water in summer rice field where the crops are at grain formation stage.
- As dry weather is prevailing, continue harvesting of already matured summer rice in Konkan. Harvesting of matured mango fruits may be done in Konkan.
- As weather condition is favorable, continue harvesting of already matured chilli, brinjal, okra, groundnut, cow pea in Konkan.
- As the rate of evaporation is increased and wind speed may increase in south konkan, apply irrigation to irrigated fruit crops at three to four days interval.
- Land preparation may be done for new plantation of fruit crops like mango, cashew, coconut, arecanut, etc. in south konkan. Dig the pit for plantation of mango at the spacing of 10 x 10 m or 5x5 m and for cashew at 7x7 m. Pit size should be 1x1x1 m for mango and 0.6x0.6x0.6 m for cashew.

Plant protection

- There is possibility of infestation of sucking pests in okra under the present weather in Western Maharashtra Plain Zone. Avoid attack of sucking pest by spraying Imidochlopid 4 ml or Dimethoate 4 gm or Dematon 10 ml/lit.of water.
- **Fishery**
- Feed management of brackish water shrimps may be followed. Water level in the pond may be maintained at 1.5 m as there is increase in temperature and the rate of evaporation.

Gujarat

- Major Standing Crops: Sugarcane (vegetative), vegetables (vegetative / flowering / fruiting / harvesting), groundnut (pegging / pod formation), summer rice (grain formation), pearl millet (grain formation) and green gram, black gram, cow pea, cluster bean (pod formation/maturity).
- 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. Also maintain 5 – 7 cm stagnant water in the rice field.
- 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.
- There is chance of infestation of thrips in summer groundnut due to favourable weather condition. Spray triasophos @ 15 ml / 10 litres of water to control thrips.
- Harvest the matured fruits of vegetable crops in the morning hours.
- Provide mulching with wheat or mustard straw around the mango tree to reduce evaporation and conserve soil moisture.
- Prevailing weather is congenial for infestation of leaf miner in lemon. Control the infestation of leaf minor on lemon plants by spraying of Dicofol @ 2.1 ml or Difenturon @ 1.0 ml per liter of water.
- Undertake deep ploughing to prepare the land for *kharif* sowing.

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).
- 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.
- Heat wave conditions prevail over some parts of west Rajasthan and likely to extend to some parts of the state; apply light and frequent irrigation to the crops to prevent from high temperature.
- Undertake intercultural operations in early sown bajra, jowar, sweet gourd, cucumber, pumpkin, bitter melon, tinda, tomato and ladies finger in Pali, Barmer, Churu, Jalore and Jodhpur.
- Undertake field preparation for sowing of cotton in Bhiwara, Chittorgarh, Sirohi and Udaipur.

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

- mango hopper in mango tree at flowering stage in Ajmer, Dausa, Jaipur and Tonk districts, spray Melathion 50 EC @ 1.0 ml or Endosulfan 35 EC @ 1.5 ml per litre water.
- powdery mildew in mango and vegetables in Banswara, spray Karathane @ 1 ml / lit or Sulphur Fungicide @ 2.5 g / lit.
- termite in onion in Ajmer, Dausa, Jaipur and Tonk districts; spray Endosulfan 35 EC or Chlorpyrifos 25 EC @ 4 litre per hectare.
- stem borer in okra in Udaipur, Bhilwara and Chittorgarh districts; spray Endosulfan 35 EC @ 1.5 ml / lit of water.
- mites in cucurbit, brinjal, tomato in Sikar, Fatehpur and Jhunjunu, spray formothyon 25 EC or Methyldematon 25 EC @ 1000 ml/ha or Dicopal 18.5 EC @ 1250 ml /ha.

CENTRAL INDIA [M.P., CHHATTISGARH]

Madhya Pradesh

- **Major Standing Crops:** Sugarcane (cane development), cotton (boll development) and vegetable crops (vegetative).
- As there was no significant rain during last few weeks and no significant rainfall is expected for next five days over the State, apply irrigation to the crops.
- Heat wave conditions are likely to prevail over some parts of west Madhya Pradesh; apply light and frequent irrigation to the crops to prevent from high temperature.
- Undertake planting of chilli in Indore, Mandasaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh districts.
- Undertake planting of sugarcane in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- Details of varieties are given in Annexure I.
- Undertake intercultural operations in early sown in 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:** Provide proper ventilation and clean water to cattle and arrange for vaccination to save them from infectious diseases in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- 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.

- foot and mouth disease in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts, use Potassium Permanganate @ 5ml per litre of water for infected animals.

Plant Protection: Weather conditions are favourable for-

- sucking pest in okra in Jhabua and Dhar; spray Mithyl Dimetron 25 EC @ 1 ml / litre of water.
- fruit borer in tomato and chilli in Chinndwara and Betul, spray Endosulphan 35 EC 2.5 ml per litre of water.
- mealy bug in mango in Khargone, Khandwa and Harda, spray 25 gm Esiphet and 30 ml Prophenophos.
- sucking pest on leaves of moong and Urad in Bhopal, Sagar, Damoh, Vidisha, Raisen, Sehore, spray Ethophenprox 10 EC in 1 Litre or Dimethoyte 30 EC 750 ml per hectre in 600 to 700 Litre of water
- caterpillar in pomegranate in Sehore, Bhopal, Sagar, Vidisha, Damoh, Raisen districts; spray Melathion 50 EC @ 1 ml / lit water;
- mealy bug in mango in Khargone district; spray 25 g Asiphate and 30 ml prophenos / litre of water.

Chhattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), vegetables (flowering / fruiting / harvesting), summer rice (grain formation/development), groundnut (pegging / pod formation), sunflower (seed formation), summer vegetables (flowering / fruiting) and sesame (vegetative / flowering / pod formation) and green gram (flowering / pod formation).
- There was no significant rain during last few weeks over the State and no significant rain is likely to occur for next five days. Heat wave conditions prevailed during last week over many parts of Chhattisgarh. This also increases the open pan evaporation rates and it is being recorded more than 12 mm / day. This has increased the water requirement of summer crops. Hence, farmers are advised to irrigate the crops frequently. Farmers, who have drip irrigation system, are also advised to regulate the discharge rate of the system for proper water management.
- Heat wave conditions may abate from the Chhattisgarh region during next 24 hours with expected decrease in maximum temperature.
- Undertake seed solarisation of wheat to protect the crop from loose smut disease. In the process of seed solarisation, seed are soaked in water for about 4 hours during early hours of the day and then dried during afternoon under bright sunshine.
- As dry weather is prevailing, it is advised to undertake intercultural operation, fertilizer application, earthing up followed by irrigation in sugarcane crop wherever the crop is at knee height stage.
- After harvesting of *rabi* crops deep ploughing is advised for soil solarisation, particularly in those fields where wilt, stem rot and nematode diseases are frequently observed.
- Presently the maximum temperature is around 44°C and due to hot and dry winds banana and papaya fruits are damaged because of sun scorching. Hence, the farmers are advised to cover the fruits by using leaves or jute bags to protect the fruits from sun scorching
- At present hot and dry winds are blowing predominately from the west direction. Hence, farmers are advised to provide wind breaks in poultry shed, livestock shed, banana and papaya fields in western direction.

Annexure I Crop varieties

Assam

- **Direct seeded *ahu* rice:** Luit, Kapili,disang, Pusa-2-21, Culture-1 etc.
- **Transplanted *ahu* rice:** Lachit, Chilarai, Govind, IR-50, Rachi, Jaya etc.
- **Jute:** JTC 212, JRC 312, UPC 94.
- **Ginger:** Nodia, Moran etc.
- **Deep water rice:** Maguri, Negheri, Kekua, Tarabao etc.
- **Bhindi:** Pusa Sawani, Arka Anamica, Parvani kranti, Panchasira etc.

West Bengal

- **Elephant foot yam:**Bidhan kusum & Cavur

Himachal Pradesh

- **Bhindi:** Prabhini Kranti, Arka anamika.
- **French bean:** Conender.
- **Brinjal:** Arka Nidhi, PPC.
- **Capicum:** California Wonder.
- **Peper:** Surjmukhi.

Madhya Pradesh:

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

Tamil Nadu:

- **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

Uttarakhand:

- **Chiatee Dhan:**VL-Dhan-206, Majdera-7 etc.
- **Bhindi:** VL Bhindi-1

Punjab:

- **Groundnut:** SG 99, M 522, SG 84
- **Radish:** Pusa chetki, Punjab Ageti

Haryana:

- **Cotton:** desi cotton varieties: HD 107, HD 123 and AAH 1, american cotton with varieties: HS6 & H1117.

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