



National Agromet Advisory Service Bulletin

Friday 26th May 2017

(For the period 26th to 30th May 2017)



Issued by

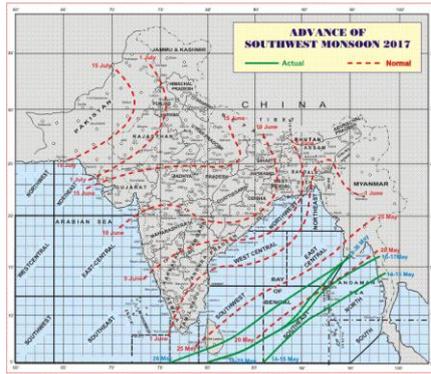
*National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.*

Weblink For

District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>

State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

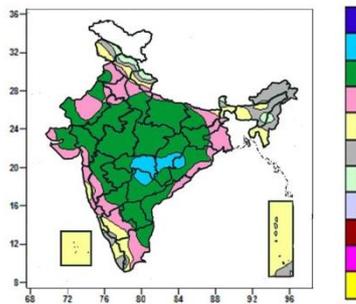
Monsoon watch



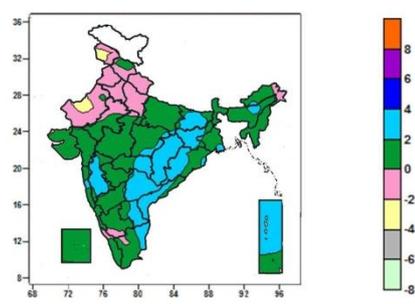
- Southwest monsoon has further advanced into some parts of Comorin area, some more parts of southwest & southeast Bay of Bengal. The northern limit of monsoon (NLM) passes through 5.0°N/ 76.0° E, 8.0°N/83.0°E, 10.0°N/ 86.0°E, 14.0°N/ 92.0°E and 16.0°N/ 95.0°E. Under the influence of the low pressure area over southeast Bay of Bengal & adjoining central Bay of Bengal, which is likely to become marked during next 2-3 days, conditions are becoming favourable for the further advance of southwest monsoon in some more parts of southwest & eastcentral Bay of Bengal, remaining parts of southeast Bay of Bengal in coming 4-5 days. Conditions are also favourable for the advance of southwest monsoon into northeast segment of India covering Nagaland, Manipur, Mizoram & Tripura during 30-31 May 2017. With the strengthening of westerlies and northward shift of shear zone, conditions are also becoming favourable for the advance of southwest monsoon into some parts of south Arabian sea, entire Maldives-Comorin area and south Kerala during 30-31 May 2017.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 24.05.2017

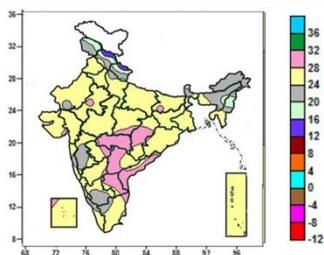
Actual Mean Maximum Temperature (°C) in India for the week ending 24.05.2017



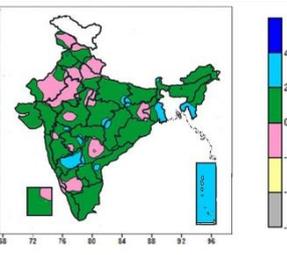
Mean Maximum Temperature (°C) Anomaly in India for the week ending 24.05.2017



Actual Mean Minimum Temperature (°C) in India for the week ending 24.05.2017

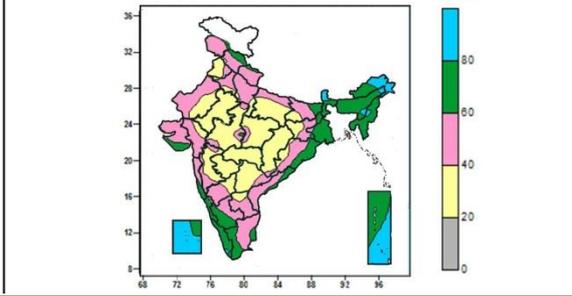


Mean Minimum Temperature (°C) Anomaly in India for the week ending 24.05.2017

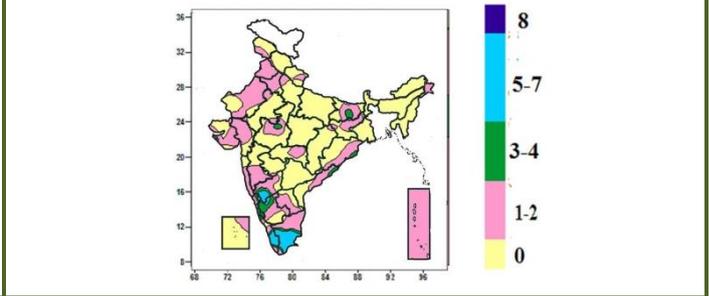


Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 24.05.2017

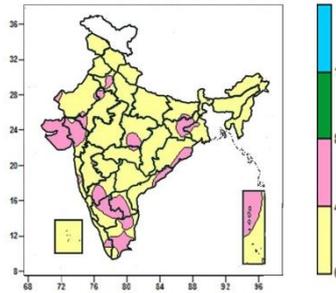
Relative Humidity (%) over India for the week ending 24.05.2017



Cloud amount (okta) over India for the week ending 24.05.2017

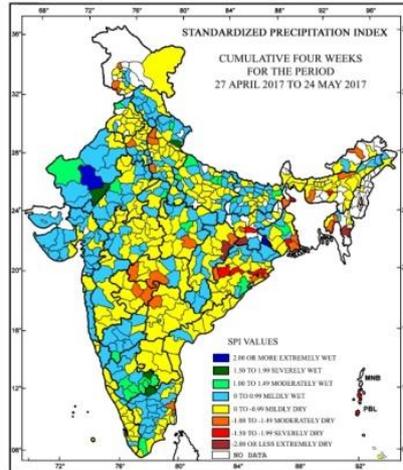


Wind speed (knots) over India for the week ending 24.05.2017



**Standardised Precipitation Index
Four Weekly for the period 27th April to 24th May 2017**

MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



Weather Forecast for next 5 days valid upto 0830 hours of 31st May 2017

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Maximum temperatures very likely to rise by 2-3°C over northwest and adjoining Central India during next 2 days.
- No significant change in maximum temperatures over rest parts of the country during next 2 days.

5 Day Rainfall Forecast (Mid day) 26th May 2017

Met Sub-divisions	26 May	27 May	28 May	29 May	30 May
1. Andaman & Nicobar Islands	WS	WS	WS	WS	WS
2. Arunachal Pradesh	WS	FWS	SCT	FWS	WS
3. Assam & Meghalaya	FWS	FWS	FWS	WS	WS
4. N.M.M. & T.	FWS	FWS	WS	WS	WS
5. S.H. West Bengal & Sikkim	WS	WS	FWS	FWS	FWS
6. Gangetic West Bengal	SCT	SCT	SCT	ISOL	ISOL
7. Odisha	ISOL	SCT	SCT	SCT	ISOL
8. Jharkhand	SCT	SCT	ISOL	ISOL	ISOL
9. Bihar	SCT	SCT	SCT	SCT	SCT
10. East Uttar Pradesh	ISOL	ISOL	FWS	SCT	SCT
11. West Uttar Pradesh	ISOL	ISOL	SCT	FWS	ISOL
12. Uttarakhand	SCT	FWS	WS	WS	FWS
13. Haryana, Chd & Delhi	DRY	ISOL	SCT	FWS	ISOL
14. Punjab	DRY	ISOL	ISOL	SCT	ISOL
15. Himachal Pradesh	ISOL	ISOL	SCT	SCT	SCT
16. Jammu & Kashmir	ISOL	ISOL	ISOL	ISOL	ISOL
17. West Rajasthan	DRY	DRY	DRY	ISOL	DRY
18. East Rajasthan	DRY	DRY	ISOL	SCT	ISOL
19. West Madhya Pradesh	ISOL	ISOL	ISOL	ISOL	SCT
20. East Madhya Pradesh	ISOL	ISOL	ISOL	SCT	SCT
21. Gujarat Region	DRY	DRY	DRY	DRY	ISOL
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	ISOL
23. Konkan & Goa	ISOL	ISOL	ISOL	ISOL	SCT
24. Madhya Maharashtra	ISOL	ISOL	ISOL	ISOL	ISOL
25. Marathwada	ISOL	ISOL	ISOL	ISOL	ISOL
26. Vidarbha	ISOL	ISOL	ISOL	ISOL	ISOL
27. Chhattisgarh	ISOL	ISOL	ISOL	SCT	SCT
28. Coastal Andhra Pradesh	ISOL	ISOL	ISOL	SCT	SCT
29. Telangana	ISOL	ISOL	ISOL	ISOL	ISOL
30. Rayalaseema	SCT	SCT	ISOL	SCT	SCT
31. Tamil Nadu & Puducherry	ISOL	ISOL	ISOL	SCT	SCT
32. Coastal Karnataka	SCT	SCT	FWS	FWS	FWS
33. North Interior Karnataka	ISOL	SCT	SCT	SCT	SCT
34. South Interior Karnataka	FWS	SCT	SCT	WS	FWS
35. Kerala	FWS	WS	WS	WS	WS
36. Lakshadweep	FWS	WS	WS	WS	WS

% Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

Weather Warning during next 5 days

- **26 May (Day 1):** Thunderstorm accompanied with squall very likely at isolated places over Uttarakhand, Bihar, Jharkhand, Sub-Himalayan West Bengal and Odisha. Thunderstorm accompanied with gusty winds very likely at isolated places over Gangetic West Bengal, Coastal Andhra Pradesh, Assam & Meghalaya and Telangana. Heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Andaman & Nicobar Islands. Heat wave conditions very likely at a few places over Vidarbha and at isolated places over Rajasthan and Telangana.
- **27 May (Day 2):** Thunderstorm accompanied with squall very likely at isolated places over Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, Bihar, Jharkhand and Odisha. Thunderstorm accompanied with gusty wind very likely at isolated places over Gangetic West Bengal. Heavy rain very likely at isolated places over Sub-Himalayan West Bengal, Arunachal Pradesh, Assam & Meghalaya, Kerala and Andaman & Nicobar

Islands. Heat wave conditions very likely at isolated places over Vidarbha and Telangana.

- **28 May (Day 3):** Thunderstorm accompanied with squall and hail very likely at isolated places over Uttarakhand, Haryana, Chandigarh & Delhi and Uttar Pradesh. Thunderstorm accompanied with squall very likely at isolated places over Himachal Pradesh, Punjab, East Rajasthan, Gangetic West Bengal. Heavy rain very likely at isolated places over Uttarakhand and Nagaland, Manipur, Mizoram & Tripura and Kerala.
- **29 May (Day 4):** Thunderstorm accompanied with squall very likely at a few places & hail at isolated places over Haryana, Chandigarh & Delhi. Thunderstorm accompanied with squall and hail very likely at isolated places over Himachal Pradesh, Uttarakhand, Punjab and West Uttar Pradesh. Thunderstorm accompanied with squall very likely at isolated places over East Uttar Pradesh and Rajasthan. Heavy rain very likely at isolated places over Uttarakhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Karnataka, South Interior Karnataka, Kerala. and Lakshadweep.
- **30 May (Day 5):** Thunderstorm accompanied with squall very likely at Uttarakhand. Thunderstorm accompanied with gusty winds very likely at isolated places over East Rajasthan. Heavy to very heavy rain very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and heavy over Arunachal Pradesh, Coastal Karnataka, north Interior Karnataka, Kerala. and Lakshadweep.

Weather Outlook for subsequent 2 days from 31st May to 2nd June 2017

- Rain/thundershower very likely at most places over Andaman & Nicobar Islands and Lakshadweep area; at many places over northeast states & south peninsular India: at a few places over Gangetic plains and at isolated places over rest east India.

Salient Advisories

- As rain/thundershowers likely at most places over **Andaman & Nicobar Islands**, at most/many places over **Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim** and **Kerala** during the period, over **Arunachal Pradesh** on 26th, 27th, 29th and 30th, over **South Interior Karnataka** on 26th, 29th and 30th at many places over **Coastal Karnataka** from 28th to 29th, over **East Uttar Pradesh** on 28th May, **West Uttar Pradesh** and **Haryana, Chandigarh & Delhi** on 29th and rain/snow likely at most/many places over **Uttarakhand** 27th to 30th May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- As heavy to very heavy/heavy rain at isolated places over **Assam & Meghalaya** on 26th, 27th, 29th and 30th, over **Nagaland, Manipur, Mizoram & Tripura** from 28th to 30th, heavy rain very likely at isolated places over **South Interior Karnataka** on 29th, over **Coastal Karnataka** and **North Interior Karnataka** on 29th and 30th, over **Kerala** from 27th to 30th, over **Arunachal Pradesh** on 27th and 30th, over **Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim** on 26th and 27th, over **Uttarakhand** on 28th May, provide adequate drainage in standing crops and vegetables to avoid water stagnation.
- As thunderstorm accompanied with squall and hail very likely at isolated places over **Uttarakhand** on 28th and 29th and over **Himachal Pradesh** on 29th, over **Haryana, Chandigarh & Delhi** on 28th and 29th, over **Punjab** and **West Uttar Pradesh** on 29th, over **Uttar Pradesh** on 28th May, use hail net or hail cap for orchard crops and fruit vegetables to protect from mechanical damage, provide support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places.
- As thunderstorm accompanied with squall very likely at a few/isolated over **Haryana, Chandigarh & Delhi** on 27th and 29th, at isolated places over **Bihar, Jharkhand** and **Odisha** on 26th and 27th, over **Gangetic West Bengal** on 28th, over **Sub-Himalayan West Bengal & Sikkim** on 26th, over **Uttarakhand** on 26th, 27th and 30th, over **Uttar Pradesh** on 27th, over **Himachal Pradesh, Punjab, East Rajasthan** on 28th, over **East Uttar Pradesh** and **Rajasthan** on 29th May, thunderstorm accompanied with gusty winds very likely at isolated places over **Coastal Andhra Pradesh, Telangana, Assam & Meghalaya** on 26th, over **Gangetic West Bengal** on 26th and 27th, over **East Rajasthan** on 30th May, provide support to banana, young fruit plants and staking in vegetables to prevent

the crops from lodging due to strong winds. Undertake propping in sugarcane and keep harvested produce at safer places.

- As heat wave conditions very likely at a few places over **Vidarbha** on 26th and at isolated places on 27th, at isolated places over **Telangana** on 26th and 27th May, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave conditions, undertake mulching with straw/polythene to conserve soil moisture. In Telangana, cover banana bunch with porous gunny bags/ banana leaves and protect newly planted banana by covering mulch/providing shade.
- Utilising realised and expected rainfall, continue nursery sowing of *kharif* rice in **Kerala**. In **South Interior Karnataka**, continue sowing of pulses like cowpea, green gram, black gram, horse gram and field bean and nursery sowing of chilli after current spells of heavy rain. In **North Interior Karnataka**, continue sowing of sesame, black gram, green gram, cowpea and field bean wherever sufficient rainfall is received. In Assam, continue sowing of mesta and jute and nursery sowing of *Sali* rice after current spells of heavy rain. In Manipur and Mizoram, continue nursery raising for main *kharif* rice. In Arunachal Pradesh, continue planting of ginger/turmeric, finger millet, sowing of soybean and nursery sowing of jhum rice.
- In view of heat wave conditions very likely at isolated places over **Telangana** and **Vidarbha**, keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Grazing/feeding of cattle/goats may be done during morning/evening hours. Apply 4-6 inch thick hay thatch as a roofing material. Water can be used for spraying the floor and roof of shelter periodically during peak hot hours. In poultry, arrange sprinklers and feed poultry birds with wet mash to increase the feed intake. Proper ventilation should be maintained for free circulation of air in the sheds. Hang curtains on north-west side of poultry house to reduce the effect of hot winds.

Detailed Zonewise Agromet Advisories

SOUTH INDIA [TAMIL NADU, TELANGANA, ANDHRA PRADESH, KARNATAKA, KERALA]

- **Realised Rainfall:** Rainfall occurred in Coimbatore, Dharmapuri, Dindigul, Erode, Kanyakumari, Karur, Krishnagiri, Madurai, Namakkal, Nilgiris, Salem, Thiruppur, Trichy, Vellore and Virudhunagar districts of Tamil Nadu, all districts of Kerala except Malappuram, in Dakshin Karnataka and Udipi districts of Coastal Karnataka, all districts of South Interior Karnataka except Ballari, Chitradurga and Davangere, in Chittoor district of Rayalaseema during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Kerala during the period, over South Interior Karnataka from 26th, 29th and 30th, at many places over Coastal Karnataka from 28th to 30th May, along with heavy rain at isolated places over South Interior Karnataka on 29th, over Coastal Karnataka and North Interior Karnataka on 29th and 30th, over Kerala from 27th to 30th May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crops and vegetables to avoid water stagnation.
 - As thunderstorm accompanied with gusty winds very likely at isolated places over Coastal Andhra Pradesh and Telangana on 26th May, provide support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane and keep harvested produce at safer places.
 - **Andhra Pradesh:**
 - In the North Coastal Zone, undertake summer ploughing and land preparation for pre *kharif* crops viz., sesamum, bajra, mesta, rainfed sugarcane etc. and green manure crops. Continue deep summer ploughings and collect good quality seed materials from reputed firms in the Krishna Godavari Zone.
 - In the Scarce Rainfall Zone and High Altitude Tribal Zone, continue summer ploughings in areas which have received sufficient rainfall and cover banana bunches/peduncle with flag leaf to avoid the direct incidence of the sunrays/ to avoid the scorching effect.
 - In Krishna Godavari, in view of the prevailing high temperature conditions, apply light irrigation to the sugarcane crop. Place/spread the harvested leaves and trash of cane on the ground to avoid soil moisture loss.

- In Nellore district of the Southern Zone, undertake nursery preparation of rice after proper seed treatment with Carbendizum @ 3g/kg of seed.
- In Scarce Rainfall Zone, dry root rot incidence was noticed in sweet oranges. To control, undertake soil drenching with Ridomil-MZ @ 3g/litre of water on a non rainy day.
- **Telangana:**
 - As heat wave conditions very likely at isolated places over Telangana on 26th and 27th May, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave conditions, undertake mulching with straw/polythene to conserve soil moisture.
 - In North and South Telangana Zone, continue summer ploughing. Prevailing high temperatures may cause damage to the newly planted banana. Protect by covering mulch/ providing shade.
 - In South Telangana Zone, prevailing weather conditions are congenial for incidence of fruit fly in mango. To trap the flies in the container, hang the plastic containers with mixture of Methyl Eugenol @ 2 ml + Carbofuran 3G @ 3g per litre of water in the orchard.
- **Tamil Nadu:**
 - In Cauvery Delta Zone, continue summer ploughing by utilizing the realized/ expected rainfall to control weeds and insects larva in the soil and it will improve the rainwater infiltration also. Raising of green manure crops like *daincha*, sunnhemp and *kolunji* can be done to utilize the summer rainfall.
 - In the Western Zone, continue planting of turmeric utilizing the realized and anticipated rainfall with adequate drainage.
 - In the Southern Zone, undertake sowing of bhendi (Parbhani Kranti, Arka Abhay, Arka Anamika, and Varsha Uphar varieties) and summer ploughing in both rainfed as well as irrigated land.
 - In the High Rainfall Zone, give staking to banana trees as squally winds and heavy rain are expected during next 2 days.
 - In North Western Zone, to control early shoot borer incidence in sugarcane, mix Carbofuran granules 4 kg/acre with 4 kg of sand and apply in sugarcane fields on a non rainy day.
 - In the South Zone, red spider mite is noticed in cotton. To control, spray Dicofol 18.5% SC @ 2700- 4050 ml/ha on a non rainy day.
- **Kerala:**
 - In the Southern Zone, undertake planting of new suckers of robusta, palayankodan, njalipoovan bananas in Pathanamthitta district and continue preparation of nursery for *Viruppu* rice.
 - In the Problem Area Zone, continue planting of new coconut seedlings with moderate soil wetness and planting of perennial intercrops like cocoa and nutmeg.
 - In the Northern Zone, undertake land preparation for sowing of first rice crop and planting of vegetables. Remove the mulches at the onset of monsoon and spread lime in black pepper, coconut and arecanut basins to protect them from fungal diseases.
 - In the Northern Zone, prepare DDVP @ 2ml/litre of water and fill in the holes and adopt field sanitation in coconut fields to control incidence of red palm weevil after current spells of rain.
 - In the Central Zone, undertake prophylactic spraying of 1% Bordeaux mixture against fungal disease in nutmeg and pepper. There is a chance of quick wilt disease due to high relative humidity, apply Trichoderma or Pseudomonas culture in soil or spray 1% Bordeaux mixture on the leaves and small branches after current spells of rain.
 - In the Problem Area Zone, spray Oberon @ 0.8 ml/ litre of water to control mite infestation and drench the leaf axils and bore holes on pseudo stem with Chlorpyrifos 2 ml/litre of water to control pseudostem weevil in bananas after current spells of rain.
 - In the Southern Zone, make arrangements for rain guarding in tapping rubber plantation. Subsequent tappings can be done only after drying of latex. In order to control fungal diseases in young budded plants, spray Copper Oxy Chloride 4g/litre of water after current spells of rain.
- **Karnataka:**
 - In Southern Dry Zone, undertake harvesting of matured rhizomes of ginger and turmeric. Undertake land preparation for sowing of ginger/turmeric. Continue sowing of pulses like cowpea, green gram, black gram, horse gram, field bean and green manure crops after current spells of heavy rain.
 - In Southern Transition Zone, continue land preparation for sowing of *kharif* crops utilising the realised rainfall.
 - In the Eastern Dry Zone, under double cropping, continue sowing of sesame, black gram, green gram, cowpea and field bean after current spells of heavy rain. Strengthen the bund with fodder grass, which will facilitate conservation of rainwater due to pre-monsoon showers. Continue ploughing across the slope, which will make insitu soil moisture conservation. Agro forestry on the bund involving *Melia Dubia* (Hebbevu), Silver oak and *Causurina* is recommended for sustainable income under abnormal extreme rainfall events.
 - In North East Dry Zone, continue deep ploughing of land across the slope and land preparation for *kharif* sowing.
 - In North Transition Zone, continue land preparation for sowing of *kharif* crops. In mango, to control fruit drop, spray NAA (Naphthalene Acetic Acid) 20 ppm twice at an interval of 15 days.

- In North East Transition Zone, continue summer deep ploughing. Procure seeds and other inputs required for *kharif* sowing. Take up the repair of bunds and check dam so as to reduce the runoff and to check the soil erosion.
- **Animal Husbandry**
- In Telangana in view of heat wave conditions, keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Grazing/feeding of cattle/goats may be done during morning/evening hours.
- In the Cauvery Delta Zone of Tamil Nadu, increase the quantum of amino acids, vitamins and mineral content of cattle feed so as to compensate the less quantity of feed consumed by cattle in summer season.
- In the Western Zone of Tamil Nadu, rainfall with lightning and thunderstorm, is expected during the period. Hence do not allow cattle & goats to graze from afternoon hours up to 6 pm and disconnect the power connection to cattle & poultry sheds to avoid fire incidence. Further feed materials may be protected from rainfall to avoid fungal infection.
- In Karnataka, vaccinate the animals (cow, buffalo, and bullock) against foot and mouth disease (FMD vaccination), BC vaccination against Black Quarter and also vaccinate cow, buffalo and bullock against Haemorrhagic Septicaemia. Vaccinate (ET vaccine) sheep and goats against Enterotoxemia before onset of monsoon.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Arunachal Pradesh except Tawang, all districts of Assam & Meghalaya except west Khasi Hills, in Kohima, Wokha districts of Nagaland, Imphal East, Imphal West, Thaubal districts of Manipur, Aizwal, Serchip districts of Mizoram, in Dhalai, North Tripura and West Tripura districts of Tripura during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during the period, over Arunachal Pradesh on 26th, 27th, 29th and 30th May, along with heavy to very heavy/heavy rain at isolated places over Assam & Meghalaya on 26th, 27th, 29th and 30th, over Nagaland, Manipur, Mizoram & Tripura from 28th to 30th, heavy rain at isolated places over Arunachal Pradesh on 27th and 30th May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crops and vegetables to avoid water stagnation.
 - **Assam, Meghalaya & Arunachal Pradesh:**
 - As thunderstorm accompanied with gusty winds very likely at isolated places over Assam & Meghalaya on 26th May, provide support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane and keep harvested produce at safer places.
 - In Lower Bramhaputra Valley Zone of Assam, continue sowing of mesta and jute and nursery sowing of *Sali* rice after current spells of heavy rain.
 - In Upper Bramhaputra Valley Zone, Hill Zone and Barak Valley Zone of Assam, continue nursery sowing of *Sali* rice after current spells of heavy rain.
 - In North Bank Plain Zone of Assam, continue sowing of maize after current spells of heavy rain.
 - In Meghalaya, complete raising of brinjal and transplanting of tomato and continue planting of ginger/turmeric and sowing of maize in high and mid altitudes and undertake nursery sowing and land preparation for transplanting of *Sali* rice/*kharif* rice after current spells of heavy rain.
 - In Arunachal Pradesh, continue planting of ginger/turmeric, finger millet and nursery sowing of *jhum* rice. Adopt sowing of leguminous crops like cowpea, French bean, soybean etc. at 2-3 rows across the slope of *jhum* field at desirable intervals or ratios with rice to prevent soil erosion and conserve moisture and fertility. Continue nursery raising for cole crops in higher altitudes/cold areas. Prepare half-moon terraces in fruit crops (orange/banana/apple/peach) grown in steep slopes to prevent nutrient loss during heavy downpour and follow proper drainage and earthing up practices in low land/plain areas to avoid water stagnation in fruit orchards. Undertake sowing of soybean after current spells of heavy rain.
 - In Arunachal Pradesh, to control bark eating caterpillar in citrus plants at flowering and fruiting stage, remove wooden frass and inject Dichlorovos (0.1%) @ 5ml with disposable syringe after current spells of rain.
 - In Hill Zone of Assam, spray Phosphamidon @400-500ml/ha in 800 litre of water against stem borer infestation in sugarcane. Also spray Malathion 50 EC @ 1-1.5 litre/ ha in 500-700 litre of water against aphids, jassids and flea beetle in summer green gram and black gram and spray Carbofuran 3G@ 30 kg/ha or Phorate 10G @ 10kg/ha to control stem borer in transplanted normal *ahu* rice after current spells of rain.
 - In Central Bramhaputra Valley Zone of Assam, due to cloudy weather and rise in humidity, there are chances of occurrence of blast disease in *ahu* rice. Spray Bavistin @ 1 gm per litre of water. Also in summer black gram and green gram crops at seedling to flowering stage there is chance of pod borer and pod bug infestation. Spray Quinalphos @ 2.5 ml/litre for pod borer and Quinalphos followed by Dimethoate 2ml/litre of water in 5 days interval for pod bug to reduce the pest. Undertake plant protection methods after current spells of rain.

▪ **Nagaland, Manipur, Mizoram and Tripura:**

- In Nagaland, continue planting of ginger, turmeric and large cardamom after current spells of heavy rain.
- In Manipur, continue nursery raising for main *kharif* rice. Raise community nursery in upland area/terrace so that it may be least affected with the heavy rains. Undertake main land preparation for transplanting of rice. Continue sowing of *kharif* maize, soybean, groundnut and blackgram and planting of ginger/turmeric after current spells of heavy rain.
- In Mizoram, continue planting of ginger and turmeric and transplanting of pre-*kharif* rice. Continue harvesting of *rabi* maize after current spells of heavy rain.
- In Tripura, continue harvesting of urd/green gram after current spells of heavy rain
- In Manipur, spray Rogor @ 15ml/15 litre water against leaf folder in pre-*kharif* rice after current spells of rain.
- In Tripura, in the present weather condition, there is chance of attack of gandhi bug in *boro* rice at flowering stage. To manage the attacks apply Imidacloprid 2 ml per litre of water after current spells of rain.

• **Animal Husbandry**

- In Assam & Meghalaya, farmers are advised to keep cattle in sheds during heavy rainfall period. Do not allow the cattle for grazing during the rainy period. In Upper Brahmaputra Valley Zone of Assam, undertake immunizations against FMD, HS and BQ in cattle & buffaloes and pigs during this time.
- In Tripura, piglets are susceptible for swine fever due to change in weather and feed. The disease may be managed by Furazolidone, streptomycin etc. Taking advice of veterinary practitioner before providing of medicine is compulsory for confirmation and dosages.

• **Fishery**

- In Barak Valley Zone of Assam, due to rainfall, the pond are filled up with the rain water so there may be chances of bacterial disease to the fishes. Apply lime @ 6 kg per bigha of land to control the diseases.
- In Central Brahmaputra Valley Zone of Assam, prepare the fingerling rearing tanks and nurseries by cleaning them and applying agricultural lime for raising fingerlings. Apply cowdung at the rate of 500 gm per sq m. at least 15 days ahead of releasing fingerlings into the tanks. Farmers may release fish prawn in their ponds during this period.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Weather remained mainly dry/dry over the region during the week.

• **Advisories:**

▪ **Maharashtra:**

- As heat wave conditions very likely at a few/isolated places over Vidarbha on 26th and 27th May, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave conditions, undertake mulching with straw/polythene to conserve soil moisture.
- In Konkan, start dry sowing of paddy, nagli and vari seeds in prepared nursery beds. Before sowing apply 1 kg urea and 3 kg of single super phosphate with sufficient quantity of FYM per 1 Are area. Also seed treatment to paddy seed may be done with Emisan or Thiram @ 2 gm per kg. Sow the seed on raised beds @ 50 kg per ha for bold varieties, 40 kg per ha for fine varieties and 20 kg per ha for hybrid varieties. Sowing of *kharif* vegetables like okra, cucumber, bitter gourd, snake gourd, ridge gourd may be started. Use high yielding varieties for sowing recommended by the University. Okra should be planted on ridges and furrows and sowing of gourd vegetables may be done on soil mounts.
- In Madhya Maharashtra, preparatory tillage operations such as ploughing, harrowing, land leveling and bunding may be done as early as possible. Deep ploughing should be done to make soil porous so that the roots of the plants develop fully. Complete final earthing up in suru sugarcane and apply fourth dose of fertilizers and irrigate the crop. If there is shortage of irrigation then irrigate the alternate furrow. Harvest the matured summer groundnut crop during morning hours and keep at safer places. Continue planting of ginger and turmeric with irrigation facility.
- In Marathwada, as there is forecast of rain, keep all harvested summer crops at safer place. Continue planting of ginger and turmeric with irrigation facility. Land preparation may be done for sowing of *Kharif* crops and vegetables.
- In Vidarbha, harvest matured summer rice crop. Groundnut crop is at maturity stage, harvest the crop when leaves turn yellow and start shedding. Land preparation may be done for sowing of *Kharif* crops. Provide clean and hygienic drinking water and nutritious fodder and concentrates to farm animal.
- In Konkan region due to cloudy weather and light rain in last week there may be incidence of fruit fly in the mango orchards. For its control install rakshak fruit fly traps @ 4 traps per ha to control mango fruit fly.

▪ **Gujarat:**

- In North Gujarat Zone and Bhal and Coastal Zone, continue land preparation for sowing of irrigated hybrid cotton and B.T. cotton. Continue harvesting of matured green gram crop. Carry out levelling of plots to increase soil moisture holding capacity. In North Gujarat Zone, apply irrigation in mango, citrus orchards and floriculture crops.
- In North Saurashtra Zone of Gujarat, undertake pre-sowing of groundnut with irrigation. Procure good quality seeds for sowing of *kharif* cotton and undertake pre sowing of cotton to prevent pink ball worm infestation. In view of

prevailing high temperature, apply irrigation in summer vegetable, lemon orchards and fodder crops during evening hours.

- In South Saurashtra Zone, continue harvesting of matured green gram, black gram, groundnut and sesame.
- In South Gujarat Zone, apply irrigation to vegetable crops and fruit crops. Undertake mulching in fruit crops for conservation of available soil moisture. Protect banana bunch with plastic sheet.
- In Middle Gujarat Zone, complete harvesting/threshing of early varieties of summer rice. Continue sowing of pigeon pea (green pod type). Carry out deep ploughing in harvested field for destruction soil pest and fungal spores.
- In Middle Gujarat Zone and Bhal and Coastal Zone, construct the bunds in advance to reduce soil erosion in field and plan for khet Talavadi (Farm ponds) to collect runoff water.
- In South Gujarat Heavy Rainfall Zone, continue land preparation for *kharif* rice and prepare nursery beds. Continue planting of disease and pest free grafts for new plantation of sapota and provide staking of wooden sticks.
- **Animal Husbandry**
 - In Vidarbha, protect the Livestock & poultry birds from heat wave. In Marathwada, keep animal under shade/shed during noon hours and provide plenty of clean water for drinking.
 - In Gujarat, cross breed cattle should be bathed thrice a day; add 30-35 g mineral mixture in daily food; cover roof of animal shed with paddy straw; provide cool drinking water 4-5 times a day. Put curtains on south-west side of poultry house and sprinkle water on curtains during noon time. Also keep animals under shed.

EAST INDIA [JHARKHAND, BIHAR, ODISHA, WEST BENGAL & SIKKIM, ANDAMAN & NICOBAR ISLANDS]

- **Realised Rainfall:** Rainfall occurred in Nicobar district of Andmana & Nicobar Islands, Birbhum, East Midnapore, Purulia, South 24 Parganas and West Midnapore districts of Gangetic West Bengal, all districts of Sub-Himalayan West Bengal & Sikkim except Malda, North Dinajpur and South Dinajpur, in Bhagalpur, Jamui, Kishanganj, Sheikhpura districts of Bihar, Deoghar, East Singhbhum, Jamtara, Pakur, Sahibganj, Seraikela-Kharsawan, West Singhbhum districts of Jharkhand, Balasore, Dhenkanal, Jajpur, Jharsuguda, Mayurbhanj, Sambalpur, Sundargarh districts of Odisha during the week and weather remained mainly over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Andaman & Nicobar Islands during the period, at most/many places over Sub-Himalayan West Bengal & Sikkim during the period, along with heavy rain at isolated places over Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar Islands on 26th and 27th May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of crops and keep harvested produce at safer places. Provide adequate drainage in standing crops and vegetables to avoid water stagnation.
 - As thunderstorm accompanied with squall very likely at isolated places over Bihar, Jharkhand and Odisha on 26th and 27th, over Gangetic West Bengal on 28th and Sub-Himalayan West Bengal & Sikkim on 26th May, thunderstorm accompanied with gusty winds very likely at isolated places over Gangetic West Bengal on 26th and 27th May, provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping up in sugarcane.
 - **Odisha:**
 - In West Central Table Land Zone, maintain around 3-5 cm of water in paddy during panicle initiation stage. Continue sowing of okra.
 - In North Eastern Plateau Zone, continue deep summer ploughing and keep inputs ready for *kharif* paddy. Continue harvesting of *rabi* paddy and groundnut. Continue planting of ginger.
 - In North Eastern Coastal Plain Zone, continue deep summer ploughing utilising the pre-monsoon rain. Continue harvesting of summer rice.
 - In Eastern Ghat High Land Zone, continue harvesting of rice and sowing of vegetables.
 - In South Eastern Ghat Zone, those fields are at milking stage, there may be chances of infestation of gundhi bug and ear cutting caterpillar. If observe spray Ethofenoprox 10% EC @ 1 ml/litre of water for gundhi bug and Quinolphos 25% EC @ 2 ml/litre of water for ear cutting caterpillar on a non rainy day.
 - In North Eastern Ghat Zone, present weather may increase the caterpillar attack in groundnut, to control, spray Quinalphos 20% EC or Dichlorvos 76% EC @ 2 ml/litre of water. Alternaria leaf spot reported in the groundnut field, spray Mancozeb 75% WP @ 3 g/litre of water on a non rainy day.
 - In North Central Plateau Zone, due to wider gap between day and night temperature there is possibility of Aphid attack in mustard. Spray Thiomethoxam @ 1g/3 litre of water if the infestation crosses the ETL on a non rainy day.
 - **West Bengal:**
 - In the New Alluvial Zone, continue land preparation and sowing of jute. Apply irrigation in Boro rice as per requirement.
 - In Terai Zone, continue harvesting of matured pod of legume vegetables after current spells of heavy rain.

- In the Old Alluvial Zone, undertake harvesting of rice after current spells of heavy rain.
- In Laterite and Red Soil Zone, complete harvesting of matured pods of sesame crop at the earliest.
- In the Hill Zone, continue planting of ginger and turmeric and pit preparation for planting of Mandarin orange.
- In the New Alluvial Zone in prevailing weather conditions there is chance of attack of stem borer in *boro* rice. Apply Cartap 4 G @ 25 Kilogram per hectare or Phorate 10 G @ 10 Kilogram per ha on a non rainy day.
- In Laterite and Red Soil Zone, spray Carbendazim @ 1 gram per litre of water at clear weather conditions to prevent fruit rot in chilli crop. Also spray Neem Seed Kernel Extract solution @ 5ml/10 litre of water against shoot and fruit borer in brinjal on a non rainy day.
- In Old Alluvial Zone, to control the Chili Anthracnose or chili fruit rot in chillies, spray Carbendazim @ 1gm/litre of water on morning or evening hour at 10-15 days interval after current spells of rain.
- In Terai Zone, in case of brown colour spots in leaves in paddy crop, apply Tricyclozole @ 0.75 gram per litre of water or Hexaconazole @ 1 ml per litre of water. If crop is in milking stage, protect it from Gundi bug by spraying Fipronil 5 SC @ 1 ml per litre of water. In case of seedling black or brown spot on leaves in Jute crop, apply (Carbendazim + Mencozeb) @ 2 g per litre of water after current spells of rain.
- **Andaman and Nicobar Islands:**
- In Andaman and Nicobar Islands, prepare the upland area for transplanting brinjal seedlings by giving 4-5 ploughing manually and apply organic manure before final preparation after current spells of heavy rain.
- **Bihar:**
- In North East Alluvial Zone, undertake nursery sowing of long duration paddy.
- In North East Alluvial Zone, start sowing of Turmeric as sole crop and also intercrop with mango, litchi, banana and guava orchard.
- In North West Alluvial Plain Zone of Bihar, continue planting of turmeric and ginger. Continue land preparation for sowing of *kharif* maize and continue seed bed preparation for rice nursery.
- In South Bihar Alluvial Zone of Bihar, continue deep ploughing of fields utilising the realised rainfall and send soil sample for testing.
- In North East Alluvial Zone of Bihar, to control brinjal fruit & shoot borer or tomato fruit borer, apply Indoxacarb 15.8 EC @ 1ml/litre of water on a non rainy day.
- In North East Alluvial Zone, as weather is congenial for outbreak of tomato leaf curl, so remove virus infected plants if observed and spray Imidacloprid @ 0.5ml/litre of water to check secondary spread of disease on a non rainy day.
- **Jharkhand:**
- In Central and North Eastern Plateau Zone, summer rice crop is at flowering to milking stage at this stage water should be maintained in the field. continue planting of turmeric, ginger and yam.
- In Western Plateau Zone, prepare the field and continue sowing of ginger and turmeric with improved variety.
- In South Eastern Plateau Zone, there are chances of Gundhi Bug infestation at panicle emergence stage in rice and more likely to be prone at milking stage, apply Quinalphos 1.5 per cent dust @ 10 kg per acre during evening time. High difference in day and night temperature favours Blast disease occurrence hence, spray Tricyclazole @ 0.6 g per liter of water on a non rainy day.
- In South Eastern Plateau Zone, if cloudy weather appears, spray Sulfex WP @ 3 g per liter of water to check the occurrence of disease in mango. New shoots have emerged in mango trees and leaf galls are more prone to attack on the newly emerged leaves hence, spray Metasistox 1 ml or Imidacloprid 0.5 ml should be done. Spray Malathion 50 percent @ 2 ml along with half gram Carbendazim per litre of water to control the insects attack and anthracnose disease on a non rainy day.
- **Animal Husbandary**
- In the Terai Zone of West Bengal, undertake routine vaccination of cattle, buffalo and goat for Foot and Mouth disease (FMD).
- In Andaman and Nicobar Islands, provide the day old chicks with RD vaccine as eye drops and 10-days old chicks with IBD vaccine as nasal/eye drops. To cure anaemia in piglets, provide ferrous sulphate @ 0.5 kg dissolved in 10 litre of hot water.
- **Fishery**
- In Coastal Saline Zone in West Bengal, increase water level in fish ponds and supply less feed to prevent low oxygen. Dip fishes in solution of 30-40 gram salt @ 20 litres of water to prevent wounds at tail.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Weather remained mainly dry/dry over the region during the week.
- **Advisories:**
 - **Madhya Pradesh:**
 - In Satpura Plateau Zone, apply irrigation in maize and undertake intercultural operations in vegetables and

- sugarcane. Continue nursery preparation for tomato, chilli, brinjal and early cauliflower.
- In Nimar Valley Zone, continue deep summer ploughing and keep seeds ready for sowing of Bt. Cotton and soybean.
 - In Malwa Plateau Zone, apply irrigation moong and urad at flowering/pod development stage. Continue picking up of matured okra and cucurbits. Continue deep ploughing of the field and keep inputs ready for sowing of *kharif* crops. Continue nursery preparation for rainy season vegetables.
 - In Jhabua Hill Zone, apply irrigation in cucurbits, green gram and groundnut. Continue cultivation of ginger and turmeric. Keep inputs ready for sowing of *kharif* crops. Undertake harvesting of matured vegetables.
 - In Central Narmada Valley Zone, apply irrigation in vegetables and moong. Apply irrigation in sugarcane and continue earthing up. Continue nursery preparation for tomato, chilli, brinjal and early cauliflower.
 - In Kymore Plateau and Satpura Hill Zone, continue deep summer ploughing. Apply irrigation in moong, urad and vegetables.
 - In Bundelkhand Zone, apply irrigation in vegetables and continue deep summer ploughing. Continue seed bed preparation for sowing of *kharif* onion. Keep inputs ready for sowing of *kharif* rice.
 - In Vindhya Plateau Zone, undertake harvesting of matured moong and urad. Undertake deep summer ploughing.
 - In Grid Zone, there are chances of fruit borer in brinjal and okra, spray Dimethoate @ 750 ml/500 litre of water on a non rainy day and repeat at an interval of 10 days.
 - In Bundelkhand Zone, there is possibility of leaf curl disease in tomato and chilly crops, if found, spray Dimethoate 30 E.C @ 2.0 ml per litre of water on a non rainy day.
 - **Chhattisgarh:**
 - In North Hill Zone, continue harvesting of matured rice and groundnut. Apply irrigation in vegetables, summer maize and sugarcane. Undertake nursery preparation for long duration varieties of rice. Treat seed with Carbendazim (2 gm/kg of seed) fungicide before sowing in nursery.
 - In Chhattisgarh Plain Zone, apply irrigation in summer rice, groundnut and sunflower as per requirement. Keep inputs ready for sowing of *kharif* crops. Continue harvesting of matured moong. Undertake field preparation for sowing of tuber crops like ginger, turmeric and yam make arrangement of seeds for nursery sowing of vegetables.
 - In Bastar Plateau Zone, for the control of powdery mildew disease in cucurbits, apply Kerathan @ 1 gm powder dissolved in one litre of water on a non rainy day.
 - **Horticulture**
 - Undertake digging of pits of appropriate size and distance for planting of new orchards in Madhya Pradesh.
 - In Chhattisgarh Plain Zone, cover the fruits of papaya and banana by using leaves or Jute bags to protect the fruits from sun scorching.
 - **Animal Husbandry**
 - In Madhya Pradesh, keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking.

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

- **Realised Rainfall:** Rainfall occurred in Kullu, Mandi, Shimla, Sirmaur, Solan districts of Himachal Pradesh, in all districts of Uttarakhand except Champawat, Garhwal Pauri, Hardwar, Udhamasinghnagar, in Basti, Deoria, Kannauj, Sant Kabir Nagar districts of East Uttar Pradesh, in Ajmer district of East Rajasthan during the week and weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As thunderstorm accompanied with squall and hail very likely at isolated places over Uttarakhand on 28th and 29th and over Himachal Pradesh on 29th, over Haryana, Chandigarh & Delhi on 28th and 29th, over Punjab and West Uttar Pradesh on 29th, over Uttar Pradesh on 28th May, use hail net or hail cap for orchard crops and fruit vegetables to protect from mechanical damage, provide support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places.
 - As thunderstorm accompanied with squall very likely at isolated places over Uttarakhand on 26th, 27th and 30th, at a few/isolated over Haryana, Chandigarh & Delhi on 27th and 29th, over Uttar Pradesh on 27th, over Himachal Pradesh, Punjab, East Rajasthan on 28th, over East Uttar Pradesh and Rajasthan on 29th May, thunderstorm accompanied with gusty winds very likely at isolated places over East Rajasthan on 30th May, provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Undertake propping up in sugarcane.
 - As rain/snow likely at many places over Uttarakhand from 27th to 30th, rain/thundershowers at many places over East Uttar Pradesh on 28th, over West Uttar Pradesh, Haryana, Chandigarh & Delhi on 29th May, along heavy rain at isolated places over Uttarakhand on 28th May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crops and

vegetables to avoid water stagnation in Uttarakhand.

▪ **Jammu & Kashmir:**

- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue land preparation and nursery raising of early transplanted rice (var. IET-1410, K-39, Ratna, PC-19, Jaya).
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, optimum time for sowing of paddy nursery in the fields under subtropical and intermediate areas of the district. Complete harvesting of wheat, mustard, gram and pea.
- In Valley Temperate Zone of Jammu and Kashmir, continue sowing of maize. Continue planting of cucurbits, cole and solanaceous crops. Undertake transplanting of nursery of summer rice. Open drainage channels to avoid water stagnation in saffron field.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, weather is congenial for the attack of early blight in tomato. If observed, apply foliar spray of Mancozeb @ 2 gm/litre of water.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, to control high infestation of fruit and shoot borer on brinjal, clip off shoots/fruits infected with borer and bury them inside the soil. Spray mixture of profenfos + cypermethrin (4:40) @ 1ml/lit of water during clear weather at 10 days interval after harvesting of fruits.

▪ **Uttarakhand:**

- In Sub Humid and Sub Tropic Zone of Uttarakhand, undertake nursery sowing of early rice after current spells of heavy rain.
- In Nainital district of Bhabar and Tarai Zone, in mid and high hilly regions, if seedlings of tomato, brinjal and capsicum are transplanted one month prior then top dressing of Urea should be done after current spells of heavy rain.
- In Hill Zone, continue nursery sowing of rice and transplanting of tomato, brinjal, capsicum cucurbits in poly houses after current spells of heavy rain.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, apply light irrigation in vegetable crops as per requirement. Undertake nursery sowing of paddy, treat the seed before nursery sowing with Bavistin @ 2.5 gm per kg of seed. In lower regions, continue sowing of cucurbits crops, early okra, spinach, coriander, fenugreek, radish, turnip. Continue nursery sowing of tomato, brinjal, chillies and capsicum crops in poly house. In High hills regions continue sowing of peas, French bean, Opla, palak, radish, turnip and carrot in addition to transplanting of cabbage, cauliflower, brocoli and exotic vegetables. Continue sowing of fodder maize alongwith cowpea and soybean in irrigated areas.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, continue planting of potato.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmour districts, undertake grafting in Apple and stone fruits and chip grafting in Walnut. Undertake hoeing and weeding operation in tomato, capsicum, brinjal vegetables at vegetative growth stage on a non rainy day.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmour districts, present weather is conducive for attack of leaf spot disease in strawberry crop for control spray Hexaconazole @ 100 ml or Carbendazim @ 100 gm in 200 litres of water on a non rainy day.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmour districts, present weather is conducive for attack of Scab, Powdery Mildew in Apple, for control spray Hexaconazole @ 100 ml. or Flucilazole @ 50 ml or Carbendazim @ 100 gm in 200 litres of water at flower dropping to pea size fruit development stage on a non rainy day.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmour districts, present weather is conducive for attack of White Fly & Mite in vegetables, for control, use yellow sticky trap for White fly and spray with Fenzaqueen (Majester 30ml per 15 litres of water) on a non rainy day.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, in polyhouse there may be attack of damping – off disease in nursery beds of vegetables in polyhouse, for control spray Mancozeb or Indofil M-45 @ 25 g per 10 liters of water and Carbendazim or Bavistin @ 5 g per 10 litres of water on a non rainy day.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of downy mildew in cruciferous vegetables, for control spray Redomil M-Z @ 25 g per litres of water at 15 days interval on a non rainy day.

▪ **Punjab, Haryana and Delhi:**

- In Punjab, continue sowing of rice nursery with recommended varieties i.e. PR 126, PR 124, PR 123, PR 122, PR 121, PR 116, PR 114, PR 115, PR 113.
- In Western Plain Zone of Punjab, continue land preparation and complete sowing of cotton.
- In Western Plain Zone of Punjab, complete sowing of summer moong and summer mash.
- In Undulating Plain Zone of Punjab, continue harvesting of matured wheat crop and complete harvesting of lentil and gram crop.

- Complete sowing of summer moong and cotton including Bt cotton or Desi cotton with recommended varieties/hybrids (RCH 650 BG II, NCS 855 BG III, Ankur 3028 BG II, MRC 7017 BG II, MRC 7031 BG II) in Western Zone of Punjab. Continue transplanting of Chilli in Central and Western Zone of Punjab and irrigate the crop. In Western Zone of Punjab, prepare the field for sowing of okra.
- In Central Plain Zone of Punjab, continue planting of sugarcane with recommended varieties.
- In Western Zone of Haryana, continue harvesting of matured mustard and wheat crop and apply the irrigation in late sown wheat crop. Complete sowing of ladyfinger, bottle gourd, cucumber, ridge gourd and summer radish and apply irrigation to planted vegetable crops.
- In Eastern Zone of Haryana, continue planting of spring season sugarcane.
- In New Delhi, continue sowing of okra. Seed rates should be 10-15 kilogram per acre. Continue sowing of French bean, cluster bean, summer radish as present temperature is suitable for germination of seeds. Continue transplanting of young seedlings of brinjal and chilli. Complete sowing of green gram and black gram. Continue harvesting of matured mustard and wheat. Continue direct sowing of amaranthus, bhindi, bottle gourd, hybrid cluster bean and summer radish. Undertake field preparation for sowing of pigeonpea with varieties- Pusa 2001, Pusa 991, Pusa 992, Parasmanak, UPAS 120 and sowing of cotton with recommended varieties: -H-777, H-974, H-1098.
- In Undulating Plain Zone of Punjab fruit borer in tomato may be noticed due to favourable weather conditions, spray Indoxcarb 14.5 SC @ 200 ml/acre. Due to congenial weather powdery mildew may appear in mango, spray Karathane @ 500 ml in 500 litre of water on a non rainy day.
- **Uttar Pradesh:**
- In Central Plain Zone of Uttar Pradesh, undertake nursery sowing of paddy, before sowing paddy in nursery, soak paddy seed for 24 hrs and then remove it from water and keep it in shades for 36-48 hrs so that germination can take place. Continue sowing of multi harvesting fodder crop like maize, lobia, dhaincha. Undertake light and frequent irrigation as per requirement to bitter guard, radish, water melon. Apply irrigation to summer sown urd, mung, lobia crop at the interval of 12-15 days. Undertake hoeing operation in sunflower crop, earthing up should be done at the height of 15-20 cm. Undertake planting of turmeric and ginger.
- In Eastern plain Zone of Uttar Pradesh, continue nursery sowing of rice. Continue direct sowing of rice in irrigated areas. Undertake nursery sowing of *kharif* onion. Continue sowing of dhaincha for green manure, for sowing use 50 kg seeds per hectare. Apply light irrigation to summer fodder crop maize, lobia, M P Chari as per requirement.
- In Bundelkhand Zone of Uttar Pradesh, continue land preparation for sowing of *kharif* maize, jowar, groundnut, arahar, urad, mung, linseed, and fodder crops. apply light irrigation in summer sown urad, moong as per requirement. Apply irrigation to spinach, fenugreek, radish, carrot and cabbage, cauliflower, tomato, chilli, brinjal crop as per requirement.
- In Western Plain Zone of Uttar Pradesh, in view of increasing temperature, apply light irrigation in all vegetable and standing crops. Irrigation should be done in the morning hours or evening hours. Continue field preparation for sowing of cotton and pigeonpea. Before sowing pigeon pea seeds should be treated with crop specific Rhizobium culture and Phosphate solubilizing Bacteria. Apply light irrigation in the mature onion and garlic crops one week before digging.
- In Central Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of stem borer in maize crop, for control spray Methyle-O-Dimeton 25 EC @ 1 litre or Quinalphos 25 EC @ 2 litres in 500 to 600 litres of water per hectare on a non rainy day.
- **Rajasthan:**
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, continue harvesting of *rabi* onion. Continue land preparation for sowing of irrigated groundnut. Prepare field by one ploughing by soil inverting plough & 2-3 harrowing. Incorporate 250 kg gypsum/ha in last ploughing at time of sowing. Time for the sowing of irrigated cotton in this zone is from 10 May to 31 May.
- In Jaisalmer and Bikaner districts of Arid Western Plain Zone, It is right time for sowing of American cotton, use 16 kg seed with 65-70 cm row to row and 20-25 cm plant to plant spacing. Apply 50 kg nitrogen and 40 kg phosphorus per ha as basal application at the time of sowing.
- For green fodder production grow Jawar/Bajra mixed with guar. In Barmer, Churu, Jalore, Jodhpur, Pali districts of Arid Western Plain Zone, undertake land preparation for sowing of groundnut.
- In Southeastern Humid Plain Zone, in Jhalawar, Kota, Bundi, Baran districts, apply light irrigation to standing summer crops.
- In Barmer, Churu, Jalore, Jodhpur, Pali districts of Arid Western Plain Zone, prevailing dry weather condition is congenial for attack of sap sucking pest in chilli crop, for control spray Malathion 50 EC @ 1 ml per litre of water.
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, continue sowing of BT cotton and American cotton. Undertake late sowing of American cotton (End of May) with seed rate of 16 kg/hectare. Apply Nitrogen, Phosphorus and Potash @ 80 kg, 40 kg and 20 kg per hectare respectively in American cotton. Apply 50 % N (88 kg urea), 250 kg SSP and 32 kg MOP as basal dose at the time of sowing. Apply irrigation in sugarcane

crop at 15 days of intervals as per requirement. Continue nursery sowing of rice. Apply second irrigation in summer moong crop.

- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, undertake deep ploughing in hot summer to destroy soil borne pests. Do not burn mustard or other crop residues. Incorporate it in field during ploughing to improve soil health.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, prevailing dry weather condition is congenial for attack of thrips, jassids and white fly in zaid moong, for control spray Dimethoate 30 EC @ 800 ml in 800 litre of water per hectare.
- In Irrigated North Western Plain Zone, in Hanumangarh and Sriganganagar districts, prevailing weather condition is congenial for attack of termite in sugarcane crop, for control Imidachloprid 17.8 SL @ 125 ml or Chlorpyrifos 20 EC @ 1.25 litres along with irrigation per bhiga.
- In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, prevailing weather condition is congenial for attack of stem and fruit borer in okra for control spray Malathion @ 2 ml or Thioron @ 1 ml in one litre of water.

• **Horticulture**

- In Central Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of leaf spot or leaf rot in banana trees, for control spray Bavistine or Carbendazim @ 1 gm per litre of water after current spells of rain.
- In Central Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of premature fruit drop in mango, for control spray Naphthalene acetic acid @ 15 PPM or spray Plenofix @ 4 ml per 9 litres of water after current spells of rain.
- In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, undertake nursery preparation of papaya.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing dry weather condition is congenial for fruit drop in citrus plants, for control spray Planofixharmone @ 1.0 ml per 5 litres of water.
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing dry weather condition is congenial for attack of fruit sucking pest in kinnow orchard, for control spray Methyl Dimeton @ 2.5 ml or Acitamiprid (20 SP) @ 0.4 ml or Thiochlorpride (240 SC) @ 1 ml per liter of water.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, spray imidacloprid @ 0.3ml/ltr water during clear weather to control leaf hopper & mealy bug and Dimethoate @ 1ml/ltr to control mango hopper.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, protect fruit plants from termite attack. If observed treat the affected area with Chlorpyrifos @ 2 ml/ liter of water or Imidacloprid @ 7 – 8 ml/15 liters of water on clear sunny day.

• **Floriculture**

- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts of Himachal Pradesh, undertake earthing up operation in gladiolus and disbudding in carnation. Transplant the bulbs of gladiolus and rajnigandha. It is optimum time for raising nursery of summer annuals like gladiolus, portulaca, gomphrina and china aster etc . Complete pinching and staking in carnation.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue planting of tuberose bulbs. Due to increase in temperature, farmers are advised to cover stock of Chrysanthemum with shade net.
- In Valley Temperate Zone of Jammu and Kashmir, this is the ideal time for planting bare -rooted rose plants. Start preparation of land for sowing seeds of herbaceous perennials.

• **Apiculture**

- In Himachal Pradesh, insert the brood chamber without frame for ensuring aeration. Dust sulphur on sealed brood in the colony and not on larvae to control mites attack on honeybees. Also insert empty frame /combs for egg laying to the queen as the population starts builds up.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, keep colonies in shade or cover with wet gunny bags. Provide adequate space to the colonies for brood rearing and storage of nectar. To control mite, dust sulphur on top bars @ 1g/frame /oxalic acid treatment @ 3.5% / litre water.

• **Animal Husbandry**

- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, treat animals with Albendazole @ 20-25 ml for adults and 10-15 ml for small and young animals to control internal parasites and worms. Do not administer this medicine to pregnant animals.
- In Rajasthan, vaccinate livestock against HS (Hemorrhagic Septicemia) and arrange to prevent from mastitis and mites, worms etc.
- In Himachal Pradesh, monitor the animals for FMD and advised Vaccination. Ecto-parasite attack is expected in this weather, for control, sparyButox @ 2ml per litre in cow shed and give mixture of hay & green fodder.

• **Fishery**

- In Himachal Pradesh, maintain water level to five feet. Add supplementary feed (rice/wheat bran & mustard oil cake

and rice/wheat bran) @ 2-3% of total fish biomass on daily basis.

- **Poultry**

- In Himachal Pradesh, as temperature is rising, so ensure proper ventilation in poultry houses. Replace the poultry houses with fresh litter and keep the houses clean and ensure drinking water to the birds. Normal feeding schedule should be continued. For precautionary measures spray Formaline 40% @ 1litre in 9 litres of water in outside or surrounding of farm. Increase protein by 2% in poultry diet.

Detailed NAAS Bulletin is available in www.imdagrimet.gov.in