



# *National Agromet Advisory Service Bulletin*



*Friday 28<sup>th</sup> April 2017*

*(For the period 28<sup>th</sup> April to 2<sup>nd</sup> May 2017)*



*Issued by*

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

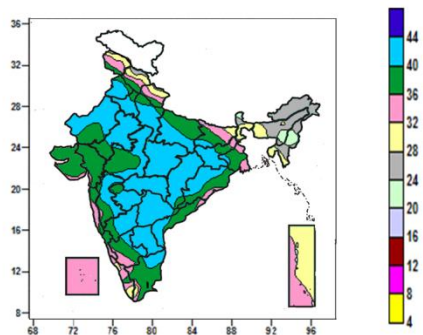
**Weblink For**

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

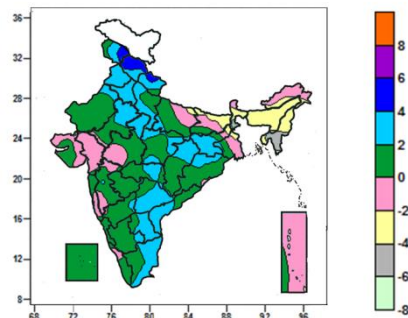
**State Composite AAS Bulletin:** <http://www.imdagrimet.gov.in/node/3544>

**Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 26.04.2017**

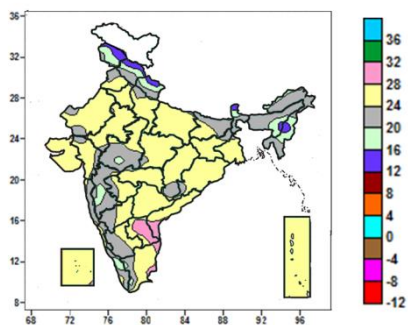
**Actual Mean Maximum Temperature (°C) in India for the week ending 26.04.2017**



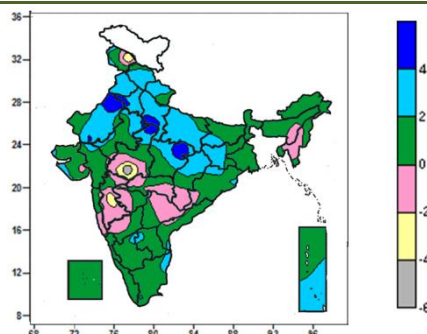
**Mean Maximum Temperature (°C) Anomaly in India for the week ending 26.04.2017**



**Actual Mean Minimum Temperature (°C) in India for the week ending 26.04.2017**

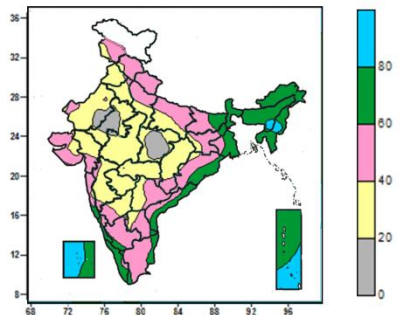


**Mean Minimum Temperature (°C) Anomaly in India for the week ending 26.04.2017**

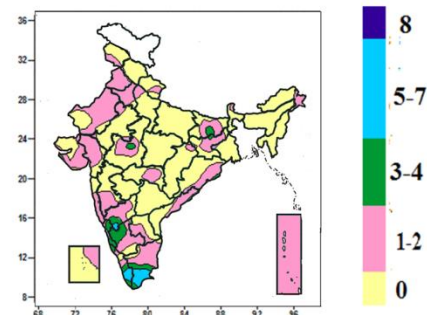


**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 26.04.2017**

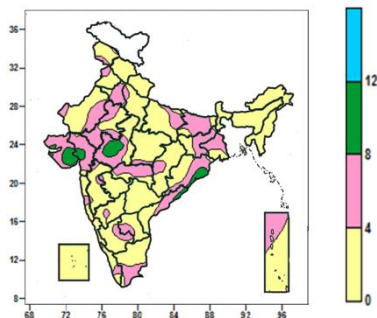
**Relative Humidity (%) over India for the week ending 26.04.2017**



**Cloud amount (okta) over India for the week ending 26.04.2017**

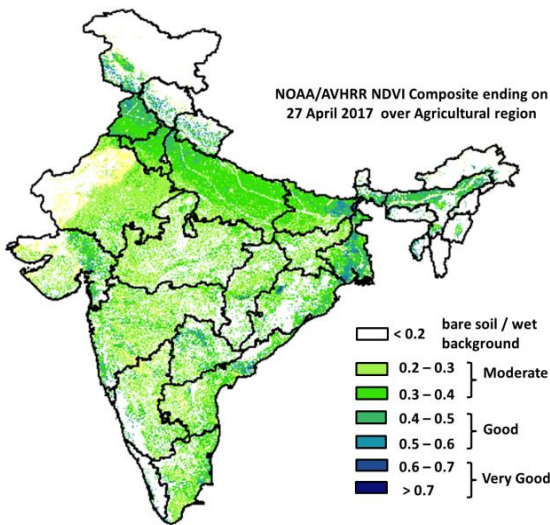


**Wind speed (knots) over India for the week ending 26.04.2017**

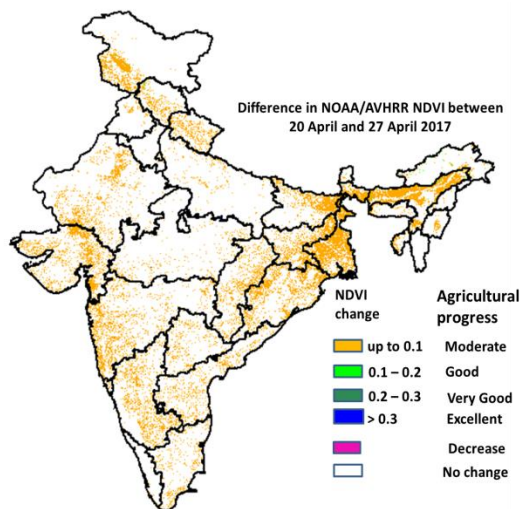




**NOAA/AVHRR NDVI composite ending on 27<sup>th</sup> April 2017 over Agricultural regions of India**

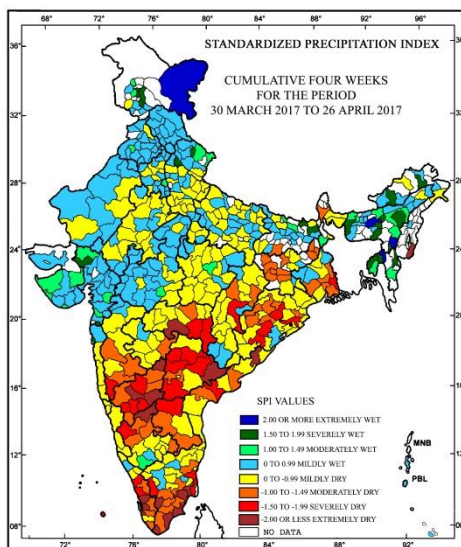


**Difference in NOAA/AVHRR NDVI between 20<sup>th</sup> and 27<sup>th</sup> April 2017**



**Standardised Precipitation Index  
Four Weekly for the period 30<sup>th</sup> March to 26<sup>th</sup> April 2017**

MINISTRY OF EARTH SCIENCES  
INDIA METEOROLOGICAL DEPARTMENT  
HYDROMET SECTION, PUNE



**Weather Forecast for next 5 days valid upto 0830 hours of 3<sup>rd</sup> May 2017**

- No significant change in maximum and minimum temperatures over the country during next 2 days.

**Weather Warning during next 5 days**

- **28 April (Day 1):** Thunderstorm accompanied with squall and hail very likely at isolated places over Assam & Meghalaya. Thunderstorm accompanied with squall very likely at isolated places over Nagaland, Manipur, Mizoram & Tripura. Thunderstorm accompanied with gusty winds very likely at isolated places over Uttarakhand, Haryana & Delhi, West Uttar Pradesh, northern parts of Rajasthan, Vidarbha, south Chhattisgarh, Gangetic West Bengal, Odisha, coastal Andhra Pradesh, Telangana, Rayalaseema, Interior Karnataka, Interior Tamilnadu & Puducherry and Kerala. Heat wave conditions at isolated places over interior Odisha. Heavy rain very likely at isolated places over Arunachal Pradesh and Assam & Meghalaya.
- **29 April (Day 2):** Thunderstorm accompanied with squall and hail very likely at isolated places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand. Thunderstorm accompanied with squall very likely at isolated places over Punjab, Haryana & Delhi, west Uttar Pradesh, northern parts of Rajasthan, Assam & Meghalaya and

Nagaland, Manipur, Mizoram & Tripura. Thunderstorm accompanied with gusty winds very likely at isolated places over coastal Andhra Pradesh, Telangana, Rayalaseema, Interior Karnataka, Interior Tamilnadu & Puducherry and Kerala. Heat wave conditions at isolated places over interior Odisha. Heavy rain very likely at isolated places over Assam & Meghalaya.

- **30 April (Day 3):** Thunderstorm accompanied with squall and hail very likely at isolated places over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Bihar and Sub-Himalayan West Bengal & Sikkim. Thunderstorm accompanied with squall very likely at isolated places over Punjab, Haryana & Delhi, Gangetic West Bengal, Odisha and West Uttar Pradesh. Heavy to very heavy rain very likely at isolated places over Assam & Meghalaya.
- **01 May (Day 4):** Thunderstorm accompanied with squall and hail very likely at isolated places over Bihar and Sub-Himalayan West Bengal & Sikkim. Thunderstorm accompanied with squall very likely at isolated places over Gangetic West Bengal and Odisha. Heavy rain very likely at isolated places over Arunachal Pradesh and Assam & Meghalaya.
- **02 May (Day 5):** Heavy rain very likely at isolated places over Arunachal Pradesh and Assam & Meghalaya.

### Weather Outlook for subsequent 2 days from 3<sup>rd</sup> to 5<sup>th</sup> May 2017

- Rain/thundershower very likely at many places over northeastern states and at isolated places over Western Himalayan region, East and south peninsular India.

### Meteorological sub-division wise detailed 5 day rainfall forecast (Mid day) 28<sup>th</sup> April 2017

Met Sub-divisions	28 Apr	29 Apr	30 Apr	01 May	02 May
1. Andaman & Nicobar Islands	ISOL	ISOL	DRY	DRY	DRY
2. Arunachal Pradesh	WS	FWS	FWS	WS	WS
3. Assam & Meghalaya	FWS	FWS	WS	WS	WS
4. N.M.M. & T.	SCT	SCT	FWS	FWS	FWS
5. S.H. West Bengal & Sikkim	SCT	SCT	FWS	FWS	FWS
6. Gangetic West Bengal	ISOL	ISOL	SCT	SCT	ISOL
7. Odisha	ISOL	ISOL	ISOL	ISOL	ISOL
8. Jharkhand	DRY	DRY	ISOL	ISOL	ISOL
9. Bihar	DRY	ISOL	ISOL	ISOL	DRY
10. East Uttar Pradesh	DRY	ISOL	ISOL	SCT	DRY
11. West Uttar Pradesh	ISOL	ISOL	SCT	ISOL	DRY
12. Uttarakhand	ISOL	SCT	FWS	ISOL	DRY
13. Haryana, Chd & Delhi	SCT	SCT	SCT	ISOL	DRY
14. Punjab	ISOL	SCT	SCT	ISOL	DRY
15. Himachal Pradesh	ISOL	SCT	FWS	ISOL	ISOL
16. Jammu & Kashmir	ISOL	FWS	SCT	ISOL	ISOL
17. West Rajasthan	ISOL	ISOL	ISOL	DRY	DRY
18. East Rajasthan	ISOL	ISOL	ISOL	DRY	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	DRY	DRY	ISOL	ISOL	ISOL
25. Marathwada	DRY	DRY	ISOL	ISOL	ISOL
26. Vidarbha	ISOL	DRY	DRY	ISOL	ISOL
27. Chhattisgarh	ISOL	DRY	DRY	ISOL	ISOL
28. Coastal Andhra Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
29. Telangana	ISOL	ISOL	ISOL	ISOL	ISOL
30. Rayalaseema	ISOL	SCT	SCT	ISOL	ISOL
31. Tamil Nadu & Puducherry	ISOL	ISOL	ISOL	ISOL	ISOL
32. Coastal Karnataka	ISOL	ISOL	ISOL	ISOL	ISOL
33. North Interior Karnataka	ISOL	ISOL	ISOL	ISOL	ISOL
34. South Interior Karnataka	SCT	SCT	SCT	ISOL	ISOL
35. Kerala	SCT	SCT	SCT	SCT	SCT
36. Lakshadweep	DRY	DRY	DRY	ISOL	ISOL

#### % 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		

## Salient Advisories

- As rain/thundershowers likely at most/many places over **Arunachal Pradesh** and **Assam & Meghalaya** during the period and over, **Nagaland, Manipur, Mizoram & Tripura** from 30<sup>th</sup> April to 2<sup>nd</sup> May, along with heavy to very heavy/heavy rain very likely at isolated places over Assam & Meghalaya during the period and heavy rain at isolated places very likely over Arunachal Pradesh on 28<sup>th</sup> April, 1<sup>st</sup> and 2<sup>nd</sup> May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Drain out excess water from standing crops and vegetables to avoid water stagnation. Postpone sowing of summer crops as well as transplanting of rice in **Assam & Meghalaya**.
- As rain/thundershowers likely at many places over **Sub-Himalayan West Bengal & Sikkim** on 30<sup>th</sup> April, 1<sup>st</sup> and 2<sup>nd</sup> May and rain/snow likely at many places over **Jammu & Kashmir** on 29<sup>th</sup>, over **Uttarakhand** and **Himachal Pradesh** on 30<sup>th</sup> April, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- As thunderstorm accompanied with gusty winds very likely at isolated places over **coastal Andhra Pradesh, Telangana, Rayalaseema, Interior Karnataka, Interior Tamilnadu & Puducherry** and **Kerala** on 28<sup>th</sup> and 29<sup>th</sup>, over **Uttarakhand, Haryana & Delhi, West Uttar Pradesh, northern parts of Rajasthan, Vidarbha, South Chhattisgarh, Gangetic West Bengal** and **Odisha** on 28<sup>th</sup> April, 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 in Karnataka, Tamil Nadu, Punjab, Haryana and Uttar Pradesh. Keep harvested produce at safer places.
- As thunderstorm accompanied with squall very likely at isolated places over **Assam & Meghalaya** on 29<sup>th</sup>, over **Nagaland, Manipur, Mizoram & Tripura** on 28<sup>th</sup> and 29<sup>th</sup>, over **Gangetic West Bengal** and **Odisha** on 30<sup>th</sup> April and 1<sup>st</sup> May, over **Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh** and northern parts of **Rajasthan** on 29<sup>th</sup> April, 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 and hail very likely at isolated places over **Jammu & Kashmir, Himachal Pradesh** and **Uttarakhand** on 29<sup>th</sup> and 30<sup>th</sup> April, over **Sub-Himalayan West Bengal & Sikkim** and **Bihar** on 30<sup>th</sup> April and 1<sup>st</sup> May, over **Assam & Meghalaya** on 28<sup>th</sup> April, 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 heat wave conditions very likely at isolated places over **interior Odisha** on 28<sup>th</sup> and 29<sup>th</sup> April, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave, undertake mulching with straw/polythene to conserve soil moisture.

### Advisory for livestock under heat wave/high Temperature condition

- In view of prevailing heat wave conditions in **interior Odisha**, keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed & adopt vaccination schedule. For protection of poultry birds from heat, provide curtains from outside the poultry shed and sprinkle it with water. Apply layer of grass or gunny bags on the roof of poultry shed and sprinkle water on it. Provide fresh

and cool drinking water for the poultry birds and chicks. Make arrangement of curtains and proper ventilation in poultry house.

### Detailed Zonewise Agromet Advisories

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

- **Realised Rainfall:** Rainfall occurred in Dharmapuri, Dindigul, Erode, Krishnagiri, Nilgiris, Perambalur and Tiruppur districts of Tamil Nadu, Mysuru district of South Interior Karnataka and Cannur, Idukki and Kozhikode districts of Kerala during the week and weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - As thunderstorm accompanied with gusty winds very likely at isolated places over coastal Andhra Pradesh, Telangana, Rayalaseema, Interior Karnataka, Interior Tamilnadu & Puducherry and Kerala on 28<sup>th</sup> and 29<sup>th</sup> April, 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.
  - **Andhra Pradesh:**
    - In Nellore district of the Southern Zone, continue sowing of early *kharif* rice nurseries with proper seed treatment before sowing.
    - In Krishna Godavari Zone, due to prevailing weather conditions (hot and dry weather), provide irrigation to black gram and green gram at pod filling stage and in jowar at grainfilling stage.
    - In the North Coastal Zone, provide irrigations at frequent intervals to sugarcane crop.
    - In the Scarce Rainfall Zone, spray Calcium Carbonate on mangoes and oranges @ 10-15 g/litre of water to avoid the sun scorching and direct radiation effect on the fruits. Provide light irrigation through drip irrigation or check basin method to fruits and vegetables, undertake mulching and spray Potassium Nitrate @ 10g/litre of water in the morning hours.
    - In the North Coastal Zone, prevailing weather conditions are congenial for incidence of shoot and fruit borer in brinjal. To control, release *Trichogramma chilonis* @ one card/ac once a week.
    - In the Scarce Rainfall Zone, dry root rot incidence was noticed in oranges. To control, undertake soil drenching with Ridomil MZ @ 3g/litre of water.
    - In the Krishna Godavari Zone, present weather may enhance incidence of powdery mildew in black and green gram. If intensity is more, spray Tridimorph @ 1 g/litre of water.
    - In the Southern Zone, prevailing dry weather condition is congenial for incidences of fruit and shoot borer in bhindi. To control, spray Spinosad @ 0.3ml/litre of water.
  - **Telangana:**
    - 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/litre of water in the orchard.
    - In North Telangana Zone, as dry weather would prevail, apply irrigation to all vegetables and mango through drip irrigation. Spray Dichlorvos @ 1 ml + Chlorpyrifos @ 2.5 ml/litre of water in the evening hours to control incidence of cut worm in rice.
  - **Tamil Nadu:**
    - In the Western Zone, utilizing the expected summer rainfall, undertake summer ploughing in dryland and irrigated fallow land. Squally wind with thunder rain may cause lodging in banana and sugarcane of above 5 months. Propping in sugarcane and stacking in banana crop is advised. By utilizing the summer rainfall, sowing of irrigated sorghum may be taken in the ploughed area.
    - In the Southern Zone, prevailing weather condition (hot and cloudy weather) is congenial for incidence of fruit fly in mango and dropping of fruits. To control, provide summer ploughing to expose the pupa and spray Dimethoate 30 EC @ 1 ml/litre of water.
    - In the High Rainfall Zone, propping should be done to avoid banana bunch damage due to heavy wind. Irrigation should be given to pineapple because of insufficient rainfall.
    - In the Western Zone, prevailing weather is congenial for mite attack in vegetables. Spray Dicofol @ 2.5 ml per liter of water.
    - In the High Altitude Hilly Zone, anthracnose disease is spreading in peas due to prevailing high humidity and high day time temperature conditions. To control, spray Carbendazim @ 2 g/litre of water.
    - In the Cauvery Delta Zone, in rice fallow cotton and irrigated blackgram, occurrence of aphid, thrips, mite, hoppers and white flies are being noticed due to the prevailing hot weather. To control this, spray Azadirachtin @ 0.03% @ 3 ml/litre of water along with sticking agent in the morning or evening using hand sprayer, If damage is more, spray Imidacloprid 200 SL @ 40ml/acre with 200 litres of water.



▪ **Kerala:**

- In the Problem Area Zone, continue planting of coconut seedlings, if proper irrigation available, land preparation for next rice crop, planting of pepper and rainfed banana. Protect the newly planted young pepper seedlings from direct sunlight by providing proper shades and properly mulch the intercropped tuber crops in coconut fields for moisture retention.
- In the Northern Zone, wilting of black pepper is noticed due to prevailing dry conditions. Protect the plants from direct sunlight by covering the basal portions of the pepper vines with dried banana leaves, plated coconut leaves etc. Give protective irrigations one in every two weeks.
- In Thiruvananthapuram district of the Southern Zone, undertake harvesting of rice, planting of bananas (poovan, njalippoovan, robusta, and palayankodan varieties) and apply additional dose of Urea and Potash in order to reduce stunted growth in bottle gourd and bitter gourd.
- In the Central Zone, due to the increase in maximum temperature, there is chance for spodoptra in banana. To control, destroy the affected leaves along with the spodoptra. For severe attack, spray Fame @ 2 ml/10 litres of water.
- In the Problem Area Zone, to control incidence of bacterial wilt in vegetables, grow resistant varieties and drench the basin with bleaching powder @ 10 g/litre of water.
- In the Northern Zone, prevailing dry humid climate is congenial for incidence of red palm weevil in coconut. To control, prepare 1% Carbaryl @ 20g/litre of water and fill in the holes and adopt field sanitation on a non rainy day.

▪ **Karnataka:**

- In North East Dry Zone, undertake mulching by dry leaves and grass in sugarcane to conserve soil moisture. Undertake hoeing in inter row spacing to create dust mulch to break soil capillaries for checking surface moisture loss.
- In North Transition Zone, avoid planting of sugarcane during the month of April - June. Complete harvesting of wheat.
- In Hill Zone, apply irrigation in arecanut, coconut and black pepper gardens either in furrows or by drip irrigation.
- In the Eastern Dry Zone, procure seeds for pre monsoon season sowing of cowpea, sesamum, black gram, green gram etc. Spraying of NAA (Naphthalene Acetic Acid) at 20 ppm twice at an interval of 15 days is advised to control mango fruit dropping. Undertake mulching with crop residues for soil moisture conservation in mango orchard.
- In Southern Dry Zone, continue land preparation for pre-monsoon crop sowing and procure good quality seeds; due to congenial moisture in the soil, it is advised to take up sowing of green manure crops and pulses like cowpea, green gram, black gram, horse gram, field bean etc.
- In North East Transition Zone, apply irrigation at 15 -20 days interval in mango. Take up summer deep ploughing. Provide irrigation to alternative rows or irrigate the sugarcane crop through drip irrigation.
- In North East Dry Zone, continue summer deep ploughing to expose the pupae and eggs of insect/pests and weed seeds.
- In Southern Transition Zone, maintain optimum water level in rice field.

• **Animal Husbandry**

- In the Scarce Rainfall Zone of Andhra Pradesh and Telangana, prevailing high temperatures may cause sunstroke in livestock. Provide green fodder to cattle, do not allow the animal to graze in hot periods and provide cool water to animals. In the North Coastal Zone, as high temperatures are prevailing, keep the animals in shade and keep water available to the animals.
- In the Cauvery Delta Zone of Tamil Nadu, poultry birds should be vaccinated against Ranikhet disease. Sprinkle water on mulching cows every two hours between 10 a.m. to 5 p.m. to sustain the milk production.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Arunachal Pradesh, all districts of Assam except Karbi Anglong, East Garo Hills, East Khasi Hills and West Garo Hills districts of Meghalaya, Aizwal, Lunglei, Saiha and Serchhip districts of Mizoram, Imphal East and Imphal West districts of Manipur, Dimapur and Wokha districts of Nagaland and all districts of Tripura during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
  - As thunderstorm accompanied with squall and hail very likely at isolated places over Assam & Meghalaya on 28<sup>th</sup> April and thunderstorm accompanied with squall very likely over Nagaland, Manipur, Mizoram & Tripura on 28<sup>th</sup> and 29<sup>th</sup> and over Assam & Meghalaya on 29<sup>th</sup> April, 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 rain/thundershowers likely at most/many places over Arunachal Pradesh and Assam & Meghalaya during the period and over Nagaland, Manipur, Mizoram & Tripura from 30<sup>th</sup> April to 2<sup>nd</sup> May, along with heavy to very

heavy/heavy rain very likely at isolated places over Assam & Meghalaya during the period and heavy rain at isolated places over Arunachal Pradesh on 28<sup>th</sup> April, 1<sup>st</sup> and 2<sup>nd</sup> May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Drain out excess water from standing crops and vegetables to avoid water stagnation. Postpone sowing of summer crops and transplanting of rice in Assam & Meghalaya.

▪ **Assam, Meghalaya & Arunachal Pradesh:**

- In Arunachal Pradesh, complete transplanting of pre summer vegetables and planting of ginger/turmeric. Continue sowing of maize, pea and nursery sowing/transplanting of *jhum* rice after current spells of rain. 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.
- In Hill Zone of Assam, postpone transplanting of normal *ahu* rice and sowing of summer vegetables, summer green gram and black gram. Continue land preparation for sowing of maize. Postpone harvesting of matured pod of mustard and planting of banana, papaya, tapioca, turmeric and colocasia.
- In North Bank Plain Zone of Assam, postpone sowing of *baor* rice in flood affected low lying area and planting of jute, ginger, turmeric, sugarcane, banana and sowing of maize.
- In Barpeta, Bongaigaon, Dhubri and Goalpara districts of Lower Brahmaputra Valley Zone of Assam, postpone transplanting of summer rice (early *ahu*) and harvesting of *rabi* maize and sowing of mesta and jute.
- In Upper Brahmaputra Valley Zone of Assam, postpone planting of banana, papaya and mango, sowing of *baor* rice. Undertake land preparation for *Sali* rice after current spells of rain.
- In Central Brahmaputra Valley Zone of Assam, postpone sowing of summer green gram and black gram, summer vegetables and Capsularis jute/Olitorius jute and planting of ginger and turmeric.
- In Meghalaya, postpone nursery raising of brinjal and transplanting of tomato, planting of ginger/turmeric and land preparation and sowing of maize in high and mid altitudes.
- In Arunachal Pradesh, for bark eating caterpillar attack in citrus, remove wooden frass and inject Dichlorvos (0.1%) @ 5ml with disposable syringe after current spells of rain.
- In Barak Valley Zone of Assam, there is chance of attack of rice bug in *boro* rice at milky stage. To control the pest apply 5% Malathion dust @ 20 kg per ha of land after current spells of rain.
- In North Bank Plain Zone of Assam, due to increase in temperature and relative humidity, the weather condition is favourable for the attack of blast disease in *ahu* rice. Spray Mencozeb (Dithene M-45) @ 2g/litre or Carbendazim (Dirosol) @ 1g/litre of water for controlling the blast disease after current spells of rain.
- In Central Brahmaputra Valley Zone of Assam, there is chance of attack of gundhi bug in *boro* rice at heading to flowering stage. Apply Phorate 10G, make small pack of 10g Phorate using hanky sized cotton clothes. Then erect sticks (at least 10 nos. per bigha) at uniform distance and hang over the Phorate packs after current spells of rain.
- In Lower Brahmaputra Valley Zone of Assam, spray Carbaryl 50 WP against pod borer in French bean thrice at fortnightly intervals after current spell of rain.

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

- In Nagaland, continue transplanting of brinjal after current spells of rain.
- In Manipur, maintain 5-8 cm of water level after 3-4 days of transplanting of Pre-kharif rice. Continue main land preparation for main *kharif* rice and *kharif* maize. Undertake land preparation for sowing of soybean, groundnut and blackgram. Undertake harvesting of *rabi* maize after current spells of rain.
- In Mizoram, continue sowing of maize (*jhum*), nursery sowing of pre-kharif rice, *jhum* rice, okra, cow pea and planting of ginger and turmeric. Continue harvesting of potato and onion after current spells of rain.
- In Tripura, complete land preparation of *jhum* rice at the earliest. Allow 5cm water to stand in the field of *boro* rice and drain out excess water.
- In Tripura, in the present weather condition, there are chance of attack of fruit & shoot borer in summer brinjal & tomato at flowering/fruitlet stage. Apply Cypermethrin @ 1.5ml or Flubendamide 0.5 ml per litre of water to manage the attack after current spells of rain.

• **Animal Husbandry**

- In North-eastern states, keep cattle under shed during heavy rainfall period. Proper sanitary measures are to be taken against *Ranikhet* disease. Poultry house, incubators should be properly disinfected sterilization of utensils may be carried regularly. Vaccination may be done during this period. Vaccinate pig against swine fever. Deworming should be done in calves with consultation with veterinary practitioner.

**WEST INDIA [GOA, MAHARASHTRA, GUJARAT]**

- **Realised Rainfall:** Weather remained dry over the region during the week.
- **Advisories:**
  - **Maharashtra:**
    - As thunderstorm accompanied with gusty winds very likely at isolated places over Vidarbha on 28<sup>th</sup> April, 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.

- In Konkan, plough the rice field after harvest to destroy the stubbles and make arrangement for cultural operations for *kharif* season. Groundnut crop is in harvesting stage. Harvest the mature pods, wash them with water and dry them in sunshine for 3 to 4 days and store them in dry place. Harvest matured okra fruits, leafy vegetables, cashew and water melon. As dry weather is prevailing and likely to prevail for next 5 days provide shade and support to newly planted mango grafts. Also give frequent water to nursery grafts/plants.
- In Madhya Maharashtra, as dry weather is prevailing apply irrigation in summer crops, vegetables and orchards. Also apply mulch with crop residue or plastic sheet to vegetables and orchards like pomegranate and banana. Summer groundnut is at pegging & grain filling stage. Reduce the intervals between two irrigation & irrigation should be given during evening hours. As dry weather is prevailing irrigate sugarcane crop at an interval of 8 to 10 days. If there is shortage of water irrigate the alternate furrow. Start cultivation of Ginger from last week of April.
- In Marathwada, as there is forecast of rainfall at isolated places in this week, do not keep harvested crops in open space or field. Earthing up should be done in 16 to 18 weeks old sugarcane crop. Apply fertilizer dose and irrigate the crop. Citrus/Pomegranate fruits are in development stage and as there is forecast of rainfall in next week, spraying of insecticide or pesticide should be done as per requirement. Irrigation should be done in summer Bajara, sown as fodder crop.
- In Vidarbha, as dry weather is prevailing, irrigate summer crops, orchards and vegetables. Summer Mungbean is at flowering and pod formation stage. Irrigate the crop at an interval of 6-9 days. Groundnut crop is at flowering and pegging stage, avoided water stress in those stages otherwise yield may be affected.
- In Vidarbha region, infestation of blast is observed in summer paddy crop, for its control spray Hinosan 6 ml or Copper Oxochloride 25 g along with 0.5 g Streptocycline in 10 liter of water.
- **Gujarat:**
  - In Bhal and Coastal Zone of Gujarat, carry out weeding in timely sown pearl millet crop, green gram, green gram, cluster bean to conserve soil moisture. Irrigate the green gram, pearl millet crops at 6 to 8 days interval. Complete sowing of summer vegetable crops viz. ladies finger, cluster bean, cow pea, bitter gourd, bottle gourd, small gourd etc. in time.
  - Apply irrigation in green gram, black gram at pod development stage in South Saurashtra Zone.
  - In North Gujarat Zone and North West Zone of Gujarat, pluck matured vegetables viz. bhindi, tomato, cucumbers, water melon and muskmelon regularly. Cover papaya fruits using gunny bags to protect against high temperature condition. In view of the high temperature condition, apply irrigation in groundnut, pearl millet (tillering), cluster bean, pomegranate, sapota, lemon and papaya orchards. Carry out weeding and inter cultural operations to conserve soil moisture.
  - In South Gujarat Heavy Rainfall Zone, undertake thinning of crop by maintaining 20 cm distance between two plants or sow by drilling. Maintain 3-5 cm water level in transplanted rice field. Undertake weeding in vegetable and rice crops. Apply irrigation in summer groundnut and pulses as per need of the crops. Operate foggers in capsicum and tomato crop (2-3 month old) between 12.00 noon to 3.00 pm at one hour interval for 3 to 5 minutes.
  - In South Gujarat Zone, undertake sowing of Bt. Cotton with irrigation. As there is an increase in temperature, irrigate the summer vegetable crops at an interval of ten to twelve days. Provide shadow with shade net or coconut branch leaves, give support to small mango plants with stick; due to bright sunlight evaporation rate increases, apply irrigation by drip irrigation for 1/2 to 3/2 hrs.
  - In North Saurashtra Zone of Gujarat, in view of prevailing high temperature, apply irrigation in groundnut (pegging /pod formation stage), vegetable crops and fodder crops at regular intervals.
  - The present weather conditions are favourable for attack of thrips, aphids and anthracnose in mango orchards in South Gujarat Zone; to control, spray Dimethoate @ 2 ml + Carbendazim @ 1 g per litre of water.
- **Animal Husbandry**
  - In Gujarat, in view of prevailing high temperature, keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed & adopt vaccination schedule. For protection of poultry birds from heat, provide curtains from outside the poultry shed and sprinkle it with water.

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

- **Realised Rainfall:** Rainfall occurred in Bhagalpur, Buxar, Darbhanga, Kathihar, Khagadia, Madhepura, Madhubani, Purnea, Samistipur, Sitamrhi, Supaul and West Champaran districts of Bihar, Ranchi, Sahebganj districts of Jharkhand, Murshidabad district of Gangetic West Bengal, all districts of Sub-Himalayan West Bengal & Sikkim except North Dinajpur during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
  - As thunderstorm accompanied with squall and hail very likely at isolated places over Sub-Himalayan West Bengal

& Sikkim and Bihar on 30<sup>th</sup> April and 1<sup>st</sup> 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 Gangetic West Bengal and Odisha on 30<sup>th</sup> April and 1<sup>st</sup> May, 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 gusty winds very likely at isolated places over Gangetic West Bengal and Odisha on 28<sup>th</sup> April, 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.

▪ **Odisha:**

➤ As heat wave conditions very likely at isolated places over interior Odisha on 28<sup>th</sup> and 29<sup>th</sup> April, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave, undertake mulching with straw/polythene to conserve soil moisture.

➤ In North Eastern Coastal Plain Zone, due to dry weather and rise in temperature, apply irrigation in maize and sunflower. In North Eastern Ghat Zone, complete sowing of cowpea.

➤ In East and South Eastern Coastal Plain Zone, continue sowing of summer vegetables.

➤ In East and South Eastern Coastal Plain Zone, infestation of thrips has been occurred on summer groundnut. Spray Endosulphan @ 2 ml/litre of water. Increased temperature may aggravate the white ant and white grub attack in groundnut. Go for thorough soil drenching with Chloropyrifos solution @ 2ml/litre water.

➤ In East and South Eastern Coastal Plain Zone, early stem borer infestation has been found on sugarcane crop. If it crosses the ETL level (5% dead heart) undertake hoeing, weeding and apply 4 kg Phorate or 12 kg Carbofuran or 10 kg Cartap followed by earthing up or spray 400 ml Monocrotophos/Tryozophos/Profenophos.

➤ In North Central Plateau Zone, due to current fluctuation in temperature gradient, white fly population has considerably increased leading to appearance of YVM disease. Destroy the YVM affected plants and spray Thiomethoxam @ 70g/acre to control whitefly population.

➤ In North Central Plateau Zone, due to abrupt rise in temperature there are chances of stem borer attack in rice. Spray Fipronil or Triazophos @ 2ml/litre.

▪ **West Bengal:**

➤ As rain/thundershowers likely at many places over Sub-Himalayan West Bengal & Sikkim on 30<sup>th</sup> April, 1<sup>st</sup> and 2<sup>nd</sup> May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.

➤ In the Coastal Saline Zone, complete harvesting of boro rice as soon as possible, to prevent loss in yield due to shattering of grain caused by strong wind.

➤ In the New Alluvial Zone, continue land preparation for jute cultivation.

➤ In the Hill Zone, continue planting of turmeric and ginger on raised bed to avoid stagnation of water and continue pit preparation for orchards and for existing trees, foliar spraying of Zinc sulphate 0.5% and Borax @ 0.25% should be given at least three times at 10-15 days intervals.

➤ In the Old Alluvial Zone, complete sowing of jute, mesta and planting of ginger and turmeric.

➤ In Laterite and Red Soil Zone, undertake harvesting of *boro* rice in clear weather.

➤ In Terai Zone, undertake harvesting of matured pod of legume vegetables.

➤ In the New Alluvial Zone, present temperature and humidity conditions are congenial for the rapid spread of thrips and mites leading to the leaf curling in chilli. As a control spray Difenthiuron @ 0.75g per litre of water at 7-10 days interval. In this weather condition Stem-borer may be found in *boro* rice, apply Cartap 4 G @ 25 kg/ha or Phorate 10 G @ 10 kg/ha on a non rainy day.

➤ In Laterite and Red Soil Zone, there is chance of attack of aphid and leaf minor in ground nut at pod development stage. Spray Neem oil @ 20litre/ha to control the attack of aphid and leaf minor on a non rainy day.

➤ In Old Alluvial Zone, to control the rice stem borer infestation, spray with Neen oil 1% @ 3ml/litre of water at the evening hour after current spells of rain.

➤ In Terai Zone, for aphid attack in maize, apply Thiomethoxam 0.3 SG @1 gm/litre of water. For foliar blight in maize, apply Tebuconazole @ 1ml/litre of water along with sticker after current spells of rain.

▪ **Andaman and Nicobar Islands:**

➤ In North, South & middle Andaman, undertake land preparation for sowing of bitter gourd, bottle gourd and snake gourd.

➤ In Nicobar Islands, clean the community coconut garden and fire the waste to reduce the pest attack.

▪ **Bihar:**

➤ In North East Alluvial Zone of Bihar, continue sowing of Jute crop.

➤ In North West Alluvial Plain Zone of Bihar, in view of rainfall, continue harvesting of matured wheat, pigeon pea and *rabi* maize crops. Continue land preparation and sowing of elephant foot yam. Intercultural operation is advised in summer vegetables such as lady's finger, pumpkin, cucumber, sponge gourd, bottle gourd.

- In North East Alluvial Zone of Bihar, to control stem borer in maize, apply Fipronil 0.3% GR @ 20-25 Kg/ha or Chlorantraniliprole 0.4% GR @ 10Kg/ha. To control yellow stem borer in rice, apply Fipronil 0.3% GR @ 20-25 Kg/ha or Chlorantraniliprole 0.4% GR @ 10Kg/ha.
- In South Bihar Alluvial Zone of Bihar, complete harvesting of matured wheat and continue sowing of green gram. Farmers are advised to keep harvested crops and grains in the protected place. Adequate drying of harvested grains before storage should be done.
- In South Bihar Alluvial Zone of Bihar, there is chance of attack of red pumpkin beetle in cucurbits, Spray Diclorvos 76 EC (DDVP) @ 1 g per litre of water.
- In South Bihar Alluvial Zone, farmers are advised to complete sowing of green gram and start sowing of maize, jowar, bajra and lobia and irrigate already sown fodder crops to increase the vegetative growth of the fodder plants.
- **Jharkhand:**
- In South Eastern Plateau Zone, rice crop is at panicle initiation or at booting stage hence, at both stages hand weeding should be done and then broadcast urea @ 30 kg per acre. Remove excess water during broadcasting of urea. Also apply Phorate 10 G @ 4 kg per acre for stem borer protection.
- In South Eastern Plateau Zone, continue sowing of summer moong.
- In Central and North Eastern Plateau Zone, continue sowing of green gram and land preparation for sowing of okra. Continue sowing of high yielding variety of maize (Birsas Makka-1, Birsas Vikash Makka-2, Suwan- 1(Hybrid), HQPM (Hybrid) with assured irrigation.
- In South Eastern Plateau Zone, due to increase in day and night temperature, all cucurbitaceous vegetables are prone to insects attack, hence, spray Chlorpyrifos @ 1 ml/litre of water.
- In Central and North Eastern Plateau Zone, to control black tip disease of mango, spray Boric acid @ 4g per litre of water solution at an interval of 15 days and if there is attack of anthracnose disease, apply Indofil M- 45@ 2.5 g/liter of water.
- In Western Plateau Zone, irrigate the fruit bearing trees at regular interval. Spray Planofix @ 5 ml per 10 litre of water to check dropping of tiny fruits. Spray sulfex @ 2 gm per litre of water against Powdery mildew disease.
- In Western Plateau Zone, apply irrigation in vegetables, crops and fruit trees at a regular interval.
- In Western Plateau Zone, prepare the field and arrange the seeds for sowing of ginger and turmeric with improved variety. The improved variety of ginger is Bardhwan, Suruchi, Nadiya, Suprabha etc. and of turmeric is Rajendra, Sonia.
- **Animal Husbandry**
- In view of prevailing heat wave conditions in interior Odisha, keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed & adopt vaccination schedule. For protection of poultry birds from heat, provide curtains from outside the poultry shed and sprinkle it with water. Apply layer of grass or gunny bags on the roof of poultry shed and sprinkle water on it. Provide fresh and cool drinking water for the poultry birds and chicks. Make arrangement of curtains and proper ventilation in poultry house.
- In Coastal Saline Zone of West Bengal, due to high temperature, avoid the cattle for free grazing during noon and in Terai Zone, undertake vaccination against Foot and Mouth disease (FMD) in cattle.
- In Andaman and Nicobar Islands, provide electrolyte power in drinking water to poultry birds to prevent heat stress during day times.

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

- **Realised Rainfall:** Weather remained dry over the region during the week.
- **Advisories:**
  - **Madhya Pradesh:**
  - In Satpura Plateau Zone, as dry weather would prevail, apply irrigation in moong and urad. Apply irrigation in sugarcane and undertake weeding. Apply irrigation in vegetables in Nimar Valley Zone.
  - In Malwa Plateau Zone, continue sowing of cucurbits and okra. Continue sowing of green gram and black gram.
  - In Central Narmada Valley Zone, apply irrigation in vegetables and moong. Continue sowing of amaranthus, lady's finger, bottle gourd, cluster bean and summer radish. Continue earthing up in sugarcane. Undertake weeding in vegetables.
  - In Jhabua Hill Zone, apply irrigation in cucurbits, green gram and groundnut.
  - In Vindhya Plateau Zone, continue sowing of cucurbitaceous crops, bhindi and maize. Continue transplanting of vegetables like chilli, tomato, brinjal.
  - In Kymore Plateau and Satpura Hill Zone, continue weeding and intercultural operations in moong and urad followed by irrigation. Apply light irrigation in vegetables.
  - In Jhabua Hill Zone, due to rise in temperature there may be chances of attack of sucking pests in green gram and groundnut, spray Thiamethoxam @ 0.35-0.45 gm/litre of water.



- In Central Narmada Valley Zone, due to rise in temperature there are chances of attack of whitefly in moong, spray Triazophos 40 EC @ 2.0 ml/litre or Malathion 50 EC @ 2.0 ml/litre of water.
- **Chhattisgarh:**
- As thunderstorm accompanied with gusty winds very likely at isolated places over South Chhattisgarh on 28<sup>th</sup> April, 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.
- In North Hill Zone, as temperature is increasing, apply irrigation in summer rice, sugarcane and summer moong and vegetable crops as per requirement. Continue digging of matured tubers of onion and garlic. Undertake deep summer ploughing in vacant fields and keep inputs ready for *kharif* rice.
- In Bastar Plateau Zone, continue sowing of summer moong, urad, til, summer vegetables like okra, sponge gourd, cucumber, ridge gourd and bitter gourd. Continue planting of summer sweet potato. Apply last dose of urea in summer rice.
- In Chhattisgarh Plain Zone, apply irrigation in vegetables, summer rice, groundnut and sunflower as per requirement.
- In Bastar Plateau Zone, there are chances of leaf curl disease in lady's finger, cowpea, pumpkin, chilly and tomato, spray Dimethoate 30 EC @ 1-1.5 ml/litre of water.
- **Horticulture**
- In Kymore Plateau and Satpura Hill Zone of Madhya Pradesh, apply irrigation in mango, pomegranate, sapota and citrus orchards.
- In Chhattisgarh Plain Zone, undertake planting of papaya in polybags.
- **Animal Husbandry**
- In Madhya Pradesh, keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. For protection of poultry birds from heat, provide curtains from outside the poultry shed and sprinkle it with water.
- In Chhattisgarh, give lot of clean water to animals for drinking and keep them in shaded place. Cover the poultry house with mat and keep it wet to protect from heat.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Jammu & Kashmir except Jammu, Kargil, Kathua, Ladakh (Leh), Rajouri, Reasi, Samba, Udhampur, in Kinnaur, Kullu, Lahaul & Spiti, Mandi, Una districts of Himachal Pradesh, Chamoli, Pithoragarh, Rudraprayag districts of Uttarakhand 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 Jammu & Kashmir, Himachal Pradesh and Uttarakhand on 29<sup>th</sup> and 30<sup>th</sup> April and thunderstorm accompanied with squall very likely at isolated places over Punjab, Haryana & Delhi on 29<sup>th</sup> and 30<sup>th</sup>, over west Uttar Pradesh, northern parts of Rajasthan on 29<sup>th</sup> April, 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 gusty winds very likely at isolated places over Uttarakhand, Haryana & Delhi, West Uttar Pradesh, northern parts of Rajasthan on 28<sup>th</sup> April, 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 Jammu & Kashmir on 29<sup>th</sup>, over Uttarakhand and Himachal Pradesh on 30<sup>th</sup> April, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
  - **Jammu & Kashmir:**
  - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, complete harvesting of wheat at the earliest to avoid loss due to shattering of grains. Complete sowing of mash and moong in irrigated areas and harvesting of matured early sown mustard crop and rabi pulses (pea, gram, lentil etc.) in clear weather. Undertake sowing of diancha for green manure @ 62.5 kg/ha in fields where rice has to be taken during *kharif* in order to maintain the soil fertility especially in rice – wheat system.
  - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, continue transplanting of cucurbits (cucumber, bottle gourd, bitter gourd, sponge gourd and pumpkin) in low and mid intermediate areas and solanaceous vegetables (tomato, brinjal, chilli and capsicum) in mid and high intermediate areas of the district. Continue sowing of okra, turmeric and French bean. Continue sowing of maize utilising the realised and expected rainfall.

- In Valley Temperate Zone of Jammu and Kashmir, continue transplanting of cucurbits, cole and solanaceous crops, sowing of leafy vegetables and cucurbits in poly houses and planting of potato tubers in clear weather. Undertake land preparation and nursery sowing for summer rice and land preparation for summer maize.
- In Cold Arid Zone of Leh, continue sowing of vegetable seeds under trenches to get early nursery seedlings. Continue harvesting of leafy vegetables (Chinese cabbage, Haenssaag, Palak, mongol and Lettuce) in protected structures.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, weather is congenial for attack of pod borer in gram, spray neem oil( bio pesticide) @ 2ml per litre of water.If not controlled, spray Cypermethrin @1.5 ml/ 1 litre of water or Chloropyrifos 20EC @ 2ml per litre of water after current spells of rain.
- **Uttarakhand:**
- In Udham Singh Nagar district of Bhabar and Tarai Zone, complete harvesting of matured crops like lentil, gram and wheat and barley in clear weather. Continue harvesting of matured pea and sowing of turmeric, ginger and arbi after current spell of rain.
- In Nainital district of Bhabar and Tarai Zone, continue harvesting of wheat and mustard crops. In irrigated valley regions, continue sowing of French bean with varieties Arka komal or Contender after current spell of rain. Continue transplanting of the seedlings of tomato, brinjal and capsicum should be done in the afternoon in the region of height less than 6000 ft in clear weather. Irrigation should be given after transplanting. Thick layer of organic mulch should be spread over transplanted seedlings for moisture conservation.
- In Hill Zone, continue transplanting of tomato, brinjal, capsicum cucurbits in poly houses. Continue sowing of French bean and okra in High to Mid altitude areas. Continue land preparation in high altitude areas for sowing of pea, French bean, lobia, ginger, turmeric, rajama and potato. Complete sowing of barnyard millet, French bean, ginger, turmeric and undertake land preparation for sowing of finger millet.
- In Sub Humid and Sub Tropic Zone of Uttarakhand, continue sowing of sunflower, urad, mung, lobia, fodder maize and elephant grass etc. Intercultural operation in summer vegetables and sugarcane are advised under moist soil condition. Continue sowing of lady's finger, ridge gourd, water melon, etc. Continue planting of summer sweet potato.
- In Udham Singh Nagar district of Bhabar and Tarai Zone, there may be attack of stem and fruit borer in brinjal, spray Emamectin Benzoate 5SG @ 200g/ha, Cypermethrin 25 EC @ 200ml/ha, Lambda cyhalothrin 5CS @ 300ml/ha on a non rainy day.
- **Himachal Pradesh:**
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, continue harvesting of matured mustard crop in clear weather. Apply light irrigation in vegetable crops. In lower regions, continue sowing of green gram and black gram, cucurbits crops, early okra, spinach, coriander, fenugreek. Complete sowing moong and mash in irrigated areas. Continue nursery sowing of tomato, brinjal, chillies and capsicum crops in poly house. Continue transplanting of young seedlings of tomato, chilli and cole crop. In High hills regions continue sowing of peas, French bean, Oglā, palak, radish, turnip and carrot in addition to transplanting of cabbage, Cauliflower, broccoli and exotic vegetables.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmour districts, apply irrigation to tomato, capsicum, brinjal at seedling growth stage.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, undertake sowing of peas using 25 kg seed/hectare. Treat the seed with 2.5 g Bavistin per kg of seed to avoid yellowing of the plants which occur at lower stage. Undertake beds preparation for sowing of vegetable nursery in poly house.
- 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, 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 Mild Hills Sub-Humid Zone of Himachal Pradesh, in Kullu and Mandi districts, present weather is conducive for attack of scab, core rot etc. in apple trees, for control spray Score (Difenoconazole) @ 40 ml in 200 litres of water after petal fall 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 red pumpkin beetle in cucurbitaceous crops, for control, spray Diclorvos 76 EC (DDVP) @ 1 g per litre of water on a non rainy day.
- **Punjab, Haryana and Delhi:**
- In Western Plain Zone, continue harvesting of matured wheat crop. Continue land preparation and sowing of cotton.
- In Western Plain Zone of Punjab, complete sowing of summer moong and summer mash. Continue harvesting of matured mustard.
- 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 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 early sown mustard and wheat crop and apply the irrigation in late sown wheat crop. Continue sowing of ladyfinger, bottle gourd, cucumber, ridge gourd and summer radish and apply irrigation to planted vegetable crops. Continue sowing of Desi cotton.
- In Eastern Zone of Haryana, continue planting of spring season sugarcane and harvesting of matured wheat crop.
- 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.
- 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, continue sowing of bhindi. Continue planting of spring season sugarcane crop. Apply irrigation to timely sown urad crop after 30 to 35 days of sowing as per requirement. Apply first irrigation to maize crop at 20 to 25 days of sowing, in jwar at 20 to 25 days of sowing and in bajra at 20 to 25 days of sowing. Undertake sowing of multi harvesting fodder crop like maize, lobia. Apply irrigation in tomato and onion crops as per requirement.
  - In Eastern plain Zone of Uttar Pradesh, as cloudy weather and very light rainfall forecast in few places during the week, farmers are advised for threshing of wheat and pigeon pea crop at the earliest. Apply irrigation at shorter interval in sugarcane, moong and zaid vegetables etc. as per requirement in view of looking the higher evaporation demand. Summer ploughing in fallow lands are advised for reducing the infestation of weeds and also harmful insect-pest/diseases and to increase the soil moisture retention capacity of the field.
  - In Bundelkhand Zone of Uttar Pradesh, Complete sowing of urad, moong. Continue sowing of *bhindi*, cucurbitaceous vegetables and transplanting of tomato, chilli and brinjal. Apply irrigation to spinach, fenugreek, radish, carrot and cabbage, cauliflower, tomato, chilli, brinjal crop as per requirement.
  - In Western Plain Zone of Uttar Pradesh, apply light irrigation in all vegetable and fodder crops. Irrigation should be done in the morning or evening hours. 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 red pumpkin beetle in cucurbitaceous crops and fruit borer in tomato crop, for control red pumpkin beetle broadcast Malathion @ 5 %, for control fruit borer, spray Malathion @ 0.1% after plucking of fruit.
  - In North Eastern plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of Aphid blight in bhindi, for control spray mixture of 0.2% Redomil MZ and Monocrotophos 0.2 % @ 200 ml in 200 litres of water per acre.
- **Rajasthan:**
  - In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, in chilli crop, one month after transplanting, broadcast 40 to 44 kg urea and repeat after 40 to 45 days. Apply irrigation in regular interval in vegetables and fruits crops. Undertake deep summer ploughing in vacant field. Continue sowing of green manuring crops like as Daincha, sunhemp etc. for increase the soil fertility
  - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, Continue sowing of Desi cotton. Apply irrigation in sugarcane crop as per requirement. Apply first irrigation in moong crop.
  - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, deep summer ploughing is recommended just after harvesting of *rabi* crops to control insects, disease, nematode attack. This will also help in conserving rainfall insitu. Looking into the rise in temperature farmers are advised to irrigate their summer vegetables & saplings as per requirement. Undertake picking of summer watermelon and muskmelon.
  - In Jaisalmer and Bikaner districts of Arid Western Plain Zone, continue sowing of fodder sorghum, pearl millet, cowpea.
  - In Barmer, Churu, Jalore, Jodhpur, Pali districts of Arid Western Plain Zone, continue sowing of cotton.
  - In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, continue transplanting of 15 cm seedlings of tomato at 60 cm x 45 cm spacing in ridges during evening time. Apply light irrigation after transplanting.
  - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing dry weather condition is congenial for attack of fruit fly in summer vegetables like bitter gourd, ridge gourd, muskmelon & watermelon, for control fruit fly, pickup the affected fruits & burry them in soil and spray Malathion 50 EC @ 1.0 ml per litre of water.
  - In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, prevailing dry weather condition is congenial for attack of stem and fruit borer in okra, for control of spray



Malathion @ 2 ml or Thioron @ 1 ml in one litre of water.

- In Barmer, Churu, Jalore, Jodhpur, Pali districts of Arid Western Plain Zone, prevailing dry weather condition is congenial for attack of yellow mosaic virus in bhindi, for control spray Malathion 50 EC @ 1 ml per litre of water.
- **Horticulture**
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of thrips in kinnow orchards, for control spray Monocrotophos 36 SL @ 1 ml per litre of water.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, right time for raising nursery for planting papaya. Use 250 gm seed for raising plants for one hectare. Honey dew, Coorg Honey dew, Pusa delicious, Pusa Nanaha and CO-2 are improved varieties of papaya.
- In Jaisalmer and Bikaner districts of Arid Western Plain Zone, undertake pruning operation in ber and it should be completed by end of May. It is most essential operation in Ber as flowering and fruiting takes place only on the new growth/branches.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, as heat waves may cause damage to horticultural crop, apply frequent and light irrigations.
- 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 @ 20g in 1 litre of water or spray Plenofix @ 5 ml per 10 litres of water after current spells of rain. In Eastern plain Zone and Bundelkhand Zone of Uttar Pradesh, apply irrigation in aonla, banana, ber, guava and papaya etc as per requirement.
- In Central Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of leaf spot or leaf rot in banana, for control spray Bavistine or Carbendezim @ 1 gm per litre of water after current spells of rain.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, due to rise in temperature farmers are advised to protect young fruit plants from heat by providing thatches/cover but ensure free circulation of air. Spray 2,4-D @ 10mg/litre of water against fruit drop.
- In Bhabar and Tarai Zone of Uttarakhand, on the occurrence of mango hopper after fruit setting, Imidacloprid @ 3 ml/10 liter should be sprayed to the mango trees.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, there may be attack of mealy bug on fruit plants especially in the lower areas of district. To control spray Cloropyrifos 20EC or Dichlorbos (Nuvan 30EC) 2 2ml/litre of water after current spells of rain.
- **Floriculture**
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, raise nursery for summer marigold using 700-800g / ha seed in 15 cm raised beds at 6 cm spacing in rows at 2 cm depth.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts of Himachal Pradesh, for inflorescence rotting disease in marigold crop spray Bavistin @ 1 gram per litre or Indofil-M 45 @ 2 ml per litre of water. For the flowers affected with aphids, spray Malathion @ 0.05% on a non rainy day.
- 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, the winter packing may be taken away as the temperature is rising. The weak apiary should be given artificial food, also insert empty frame/combs for egg laying to the queen as the population starts builds up. Dust sulphur on sealed brood in the colony and not on larvae to control mites attack on honeybees.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, migrate bee colonies near floral resources. Prepare colonies for honey flow. It is the right time to start bee keeping especially for beginners as pollen and nectar are in plenty and bee activity is at its peak with least problems.
- **Animal Husbandry**
- In Rajasthan, Punjab, Haryana, Chandigarh & Delhi, 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. Also provide balanced feed & adopt vaccination schedule.
- In Himachal Pradesh, monitor the animals for FMD and advised Vaccination. Ecto-parasite attack is expected in this weather, for control, spary Butox @ 2ml per litre in cow shed and give mixture of hay & green fodder. Protect the animals from ticks by spraying Cypermethrin @ 2 to 2.5 ml per litre of water.
- **Fishery**
- In Himachal Pradesh, fish seed, stockings should be put in newly constructed/renovated fish ponds having 6 feet depth. Water depth of atleast 5 feet should be maintained in order to rear all the three types of fish viz., mirror carp, grass carp and silver carp. The rate of stocking recommended for this zone is 15,000 fingerlings per ha with artificial feeding. It is good to stock the ponds with fingerlings of 40-60 mm size for better survival and high production. It is better to stock the pond after 15 days of manuring in early hours of day or in the evening. The cloudy day or warmer part of day is to be avoided for stocking.
- **Poultry**
- In Himachal Pradesh, as temperature is rising, so ensure proper ventilation in poultry houses. Replace the poultry

houses with fresh litter (bedding material) 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.

- In Rajasthan, for protection of poultry birds from heat, provide curtains from outside the poultry shed and sprinkle it with water. Apply layer of grass or gunny bags on the roof of poultry shed and sprinkle water on it. Provide fresh and cool drinking water for the poultry birds and chicks. In poultry, there is a probability of drop in feed intake, drop in egg weight and shell quality deterioration in poultry birds; maintain optimum temperature between 18 to 29°C in poultry shed for better egg production.

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