



National Agromet Advisory Service Bulletin

Friday 16th June 2017
(For the period 16th to 20th June 2017)



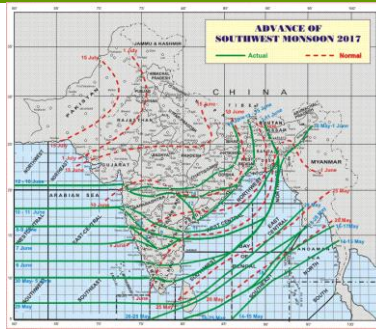
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India Meteorological Department, Shivajinagar, Pune.

Weblink For

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

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

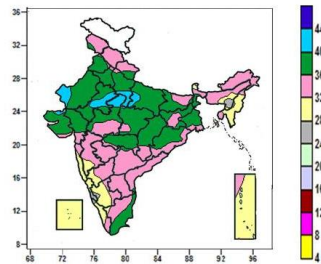
Monsoon watch dated 16.06.17



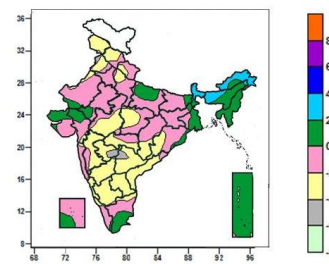
- The southwest monsoon has further advanced into some more parts of Madhya Maharashtra, remaining parts of Marathwada, some parts of Vidarbha, some more parts of Chhattisgarh, most parts of Odisha, remaining parts of West Bengal and some parts of Jharkhand and Bihar. The Northern Limit of Monsoon (NLM) passes through Lat. 20.5°N/Long. 60.0°E, Lat. 20.5°N/Long. 70.0°E, Valsad, Nasik, Buldana, Yeotmal, Kanker, Jharsuguda, Jamshedpur, Bhagalpur and Lat. 27.0°N / Long. 86.0°E.
- Favorable Conditions are developing for further advance of southwest monsoon into some more parts of Madhya Maharashtra, Vidarbha, Chhattisgarh, remaining parts of Odisha, Jharkhand and Bihar during next 3-4 days.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 14.06.2017

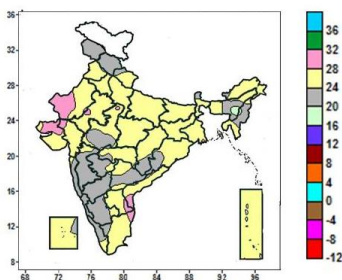
Actual Mean Maximum Temperature (°C) in India for the week ending 14.06.2017



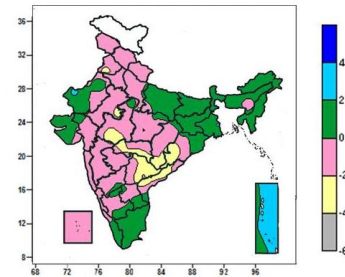
Mean Maximum Temperature (°C) Anomaly in India for the week ending 14.06.2017



Actual Mean Minimum Temperature (°C) in India for the week ending 14.06.2017

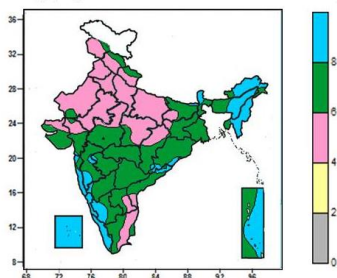


Mean Minimum Temperature (°C) Anomaly in India for the week ending 14.06.2017

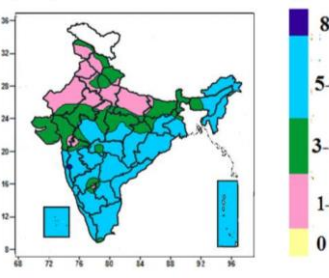


Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 14.06.2017

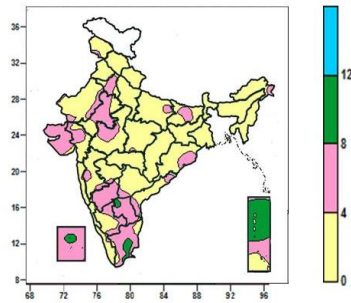
Relative Humidity (%) over India for the week ending 14.06.2017



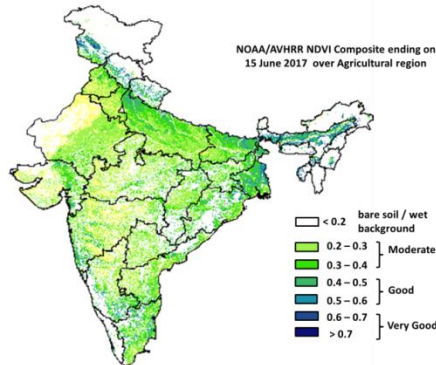
Cloud amount (okta) over India for the week ending 14.06.2017



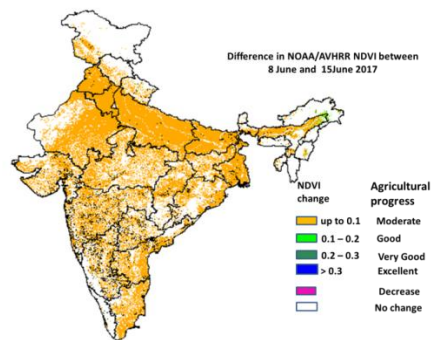
Wind speed (knots) over India for the week ending 14.06.2017



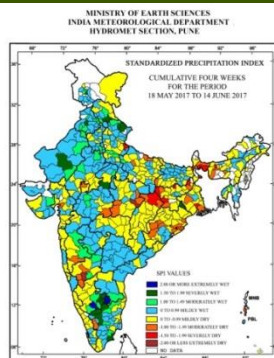
NOAA/AVHRR NDVI composite ending on 15th June 2017 over Agricultural regions of India



Difference in NOAA/AVHRR NDVI between 8th June and 15th June 2017



Standardised Precipitation Index Four Weekly for the period 18th May to 14th June 2017



Weather Forecast for next 5 days valid upto 0830 hours of 21st June 2017

- No significant change in maximum temperatures over most part of the country during next 2-3 days.

Weather Warning during next 5 days

- 16 June (Day 1):** Heavy to very heavy rain very likely at isolated places with extremely heavy falls at isolated places over Assam & Meghalaya; heavy to very heavy at isolated places over Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Coastal Karnataka; heavy at isolated places over Chhattisgarh, Gangetic West Bengal, Odisha, Arunachal Pradesh, south Konkan & Goa and Telangana. Thunderstorm with Lightning very likely at isolated places over Madhya Maharashtra and Marathawada. Thunderstorm accompanied with gusty winds very likely at isolated places over Madhya Pradesh & Chhattisgarh. Thunderstorm accompanied with squall very likely at isolated places over Uttarakhand & Uttar Pradesh.
- 17 June (Day 2):** Heavy rain very likely at isolated places Vidarbha, Chhattisgarh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, south Konkan & Goa, Coastal Andhra Pradesh, Telangana and Coastal Karnataka. Thunderstorm with Lightning very likely at isolated places over Bihar. Thunderstorm accompanied with squall very likely at isolated places over Uttarakhand.
- 18 June (Day 3):** Heavy rain very likely at isolated places over Vidarbha, Sub-Himalayan West Bengal &

Sikkim, Assam & Meghalaya, south Konkan & Goa. Thunderstorm with Lightning very likely at isolated places over Bihar. Thunderstorm accompanied with hail very likely at isolated places over Uttarakhand.

- **19 June (Day 4):** Heavy to very heavy rain very likely at isolated places over Assam & Meghalaya and Konkan & Goa; heavy at isolated places over Uttarakhand, West Uttar Pradesh, Vidarbha, Bihar, West Bengal & Sikkim, Odisha, Madhya Maharashtra, Marathwada, Telangana, Coastal Karnataka, Kerala & Lakshadweep. Thunderstorm accompanied with hail very likely at isolated places over Uttarakhand. Thunderstorm accompanied with squall very likely at isolated places over Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, East Uttar Pradesh & East Rajasthan.
- **20 June (Day 5):** Heavy to very heavy rain very likely at isolated places over Konkan & Goa; heavy at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Vidarbha, Bihar, West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Madhya Maharashtra, Marathwada, Coastal Karnataka, Kerala & Lakshadweep. Thunderstorm accompanied with hail very likely at isolated places over Uttarakhand and Haryana, Chandigarh & Delhi. Thunderstorm accompanied with squall very likely at isolated places over East Rajasthan.

Weather Outlook for subsequent 2 days from 21st to 23rd June 2017

- Rain very likely at most places over east and northeastern states; at many places over west coast & adjoining Central India; at a few places over northwest and peninsular India.

Meteorological sub-division wise detailed 5 day rainfall forecast (Mid day) 16th June 2017

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

Salient Advisories

- The southwest monsoon has further advanced into some more parts of Madhya Maharashtra, remaining parts of Marathwada, some parts of Vidarbha, some more parts of Chhattisgarh, most parts of Odisha, remaining parts of West Bengal and some parts of Jharkhand and Bihar. As favorable Conditions are developing for further advance of southwest monsoon into some more parts of **Madhya Maharashtra, Vidarbha, Chhattisgarh**, remaining parts of Odisha, Jharkhand and Bihar during next 3-4 days., the following agromet advisories are suggested:

Odisha

- Undertake land preparation and direct sowing of kharif rice in medium and low lands and land preparation and sowing of red gram in East and South East Coastal Plain Zone. Undertake land preparation for sowing of kharif maize, red gram and groundnut crops and undertake sowing after receipt of rainfall.

West Bengal

- In the New Alluvial Zone, continue sowing of jute. In Laterite and Red Soil Zone, continue nursery raising for sowing the rice crop under upland condition and lowland condition.

Bihar

- Continue nursery sowing of rice and undertake land preparation for sowing of maize and minor millets.

Jharkhand

- Continue nursery sowing of rice and undertake land preparation for sowing of maize, urad and arhar.

Chhattisgarh

- Undertake land preparation for sowing of soybean, maize, jowar and groundnut. Undertake nursery sowing of kharif rice in south Chhattisgarh.

Maharashtra

- In **Konkan**, continue sowing of rice, nagli and varai seeds in prepared nursery beds and provide adequate drainage in already sown fields to avoid water stagnation.
- In **Madhya Maharashtra**, complete nursery sowing of rice/finger millet in Nasik, Dhule, Nandurbar, Ahmednagar and Pune districts and continue sowing of *kharif* crops like soyabean, tur, cotton, groundnut and sunflower in Pune, Solapur, Kolhapur, Satara and Sangli districts and undertake sowing of *kharif* crops like soyabean, cotton and moong in Nasik, Dhule, Nandurbar and Jalgaon districts as rainfall is expected during next 3 days.
- In **Marathwada**, undertake sowing of pigeon pea, green gram black gram, groundnut and maize.
- In **Vidarbha**, continue land preparation and sowing of *kharif* crops like soybean, cotton, tur and moong in Central and West Vidarbha. Undertake nursery sowing of *Kharif* rice on raised beds in East Vidarbha.
- Undertake nursery sowing of *kharif* rice in Dangs, Valsad and Navsari districts of **South Gujarat** and undertake land preparation for sowing of bajra, maize, groundnut, cotton, pigeon pea and green gram in Middle and North Gujarat region.
- In **Madhya Pradesh**, undertake land preparation for sowing of soybean, jowar, bajra, urad, moong and sesame and keep inputs ready for sowing. Continue nursery sowing of rice.
- Utilising the realized and expected rainfall;
 - In **Coastal Andhra Pradesh**, in Krishna Godavari Zone, continue land preparation and nursery sowing of rice, sowing of maize, black gram, green gram and red gram.
 - In **Rayalaseema**, continue sowing of kharif groundnut in Southern Zone and continue sowing of rainfed red gram and land preparation for sowing of groundnut in Anantpur and Kurnool districts.
 - Undertake land preparation and sowing of *kharif* crops like cotton, jowar, groundnut, red gram, green gram, black gram in **Telanagana**.

Kerala

- In the Southern and Central Zones, continue transplanting of *Viruppu* rice and in the Northern Zone, undertake transplanting of rice. In the Problem Area Zone, continue wet sowing of rice with adequate drainage facilities.

Karnataka

- In **Coastal Karnataka**, continue transplanting of rice. In Hill Zone, undertake drill sowing of rice and continue sowing of pulse crops after current spells of heavy rain. Provide adequate drainage/clean drainage channels in already sown crop fields to avoid water stagnation.
- In **South Interior Karnataka**, continue sowing of pulses like cowpea, green gram, black gram, horse gram, and field bean. In the Eastern Dry Zone, undertake land preparation and sowing of *kharif* crops like red gram, ragi, groundnut and maize.
- In **North Interior Karnataka**, undertake sowing of jowar, pearl millet, red gram, black gram, maize, groundnut, soybean, sunflower, sesame.

Assam, Meghalaya and Arunachal Pradesh

- In **Assam**, as heavy to heavy rain with isolated extremely heavy falls are expected is expected on 16th and 19th June, postpone nursery sowing of Sali rice. In high rainfall areas of Assam, farmers can prepare nursery beds for Sali rice cultivars like Jalashree and Jalkuwari for flood prone areas after current spells of heavy rain.
- In **Meghalaya**, continue nursery sowing rice and planting of ginger/turmeric after current spells of heavy rain. Provide adequate drainage in ginger/turmeric fields. Undertake land preparation for transplanting of Sali rice/kharif rice
- In **Arunachal Pradesh**, continue transplanting of finger millet and nursery sowing of rice, sowing of cowpea, French bean and soybean.

Nagaland, Manipur & Mizoram

- In **Nagaland**, prepare the main field for transplanting of Jhum rice.
- In **Manipur**, continue nursery raising for main *kharif* rice and sowing of *kharif* maize, soybean, groundnut and black gram and planting of ginger/turmeric. Raise community nursery in upland area so that it may be least affected with the heavy rains. Undertake main field preparation for transplanting of rice
- In **Mizoram**, drain out excess water from rice nurseries and re-sowing may be carried out in nurseries in flood affected areas. Undertake transplanting of rice after receding of flood water.

Detailed Zonewise Agromet Advisories

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

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala except Thiruvananthapuram; in all districts of Coastal Andhra Pradesh except Nellore and Prakasam, all districts of Telangana, all districts of Coastal Karnataka, Bidar, Kalaburgi and Yadgir districts of North Interior Karnataka, Chikkamagaluru, Kodagu and Shivamogga districts of South Interior Karnataka during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Kerala:**
 - In the High Altitude Zone, undertake planting of coconut, pepper and arecanut.
 - In the Southern and Central Zone, continue transplanting of *Viruppu* rice. In Pathanamthitta district of Southern Zone, complete planting of chilli and brinjal before heavy spells of rain. In Kollam district, plant new grafts in mango field. In Thiruvananthapuram district of Southern Zone, continue tapping of rubber and complete planting of new rubber seedlings.
 - In the Problem Area Zone, continue wet sowing of rice with proper drainage facilities. Remove mulches to avoid water stagnation. Undertake all sprayings to the crops early in the morning or evening only, to get a gap of 2 hours before rain.
 - In the Northern Zone, undertake transplanting of rice, give an extra dose of 100g potash per palm to prevent premature nut fall in arecanut and continue planting of coconut seedlings and black pepper.
 - In the Problem Area Zone, in the prevailing weather, undertake prophylactic spraying of Bordeaux mixture @ 1% for leaf spot control in nutmeg after current spells of rain.
 - In the Central Zone, apply *Pseudomonas Fluorescense* @ 20g/litre of water to control incidence of rhizome rot in bananas after current spells of rain.
 - In the High Altitude Zone, drench the soil with 1% Bordeaux mixture and 0.3% Mancozeb to control soft rot incidence in ginger (vegetative stage) after current spells of rain.
 - **Karnataka:**
 - In Coastal Zone of Karnataka, continue transplanting of rice. Drain out excess water from transplanted rice. In Hill Zone, continue drill sowing of rice and planting of areca nut seedlings; undertake sowing of green manure crops or any pulse crop in the rice field after current spells of heavy rain.

- In Central Zone, undertake sowing of red gram and castor under monocropping and sesame, cowpea and green gram under double cropping.
- In the Eastern Dry Zone, continue sowing of ragi, sesame, black gram, green gram, cowpea, groundnut and field bean under double cropping and undertake sowing of red gram, maize, castor under monocropping.
- In Southern Transition Zone, continue sowing of *kharif* crops maize, ragi, red gram, groundnut with sufficient rainfall. Continue planting of ginger/turmeric.
- In Southern Dry Zone, continue sowing of pulses like cowpea, green gram, black gram, horse gram, field bean with sufficient rainfall.
- In North Dry Zone, undertake land preparation for sowing of green gram, sunflower, maize, Bt. cotton, red gram, bajra, sesamum, navane and groundnut (bunch type). To make efficient use of available soil and water resources and to get higher returns, adopt intercropping systems in light and medium black soils; bajra + groundnut(bunch) in 2:4 row proportion ; bajra + red gram in 2:1 row proportion; groundnut (bunch) + red gram in 3:1 or 4:2 row proportion, red gram + sesamum in 1:2 or 2:4 row proportion. Use short duration varieties of red gram for sowing; use wilt resistant variety TS-3R of red gram.
- In North East Dry Zone, continue nursery sowing of rice, sowing of green gram, black gram, maize, Bt. cotton, red gram, bajra, sesame, soybean, jowar, groundnut (bunch type) crops after receipt of sufficient monsoon rainfall. In light and medium black soils take up intercropping of cotton + onion (1:5), cotton + chilli (1:1), cotton+ groundnut (1:3), cotton + green gram (1:1), cotton + soybean (1:1), *kharif* Jowar + red gram (2:1), groundnut + castor (3:1), bajra + red gram (2:1), sesamum + red gram (2:1), groundnut + red gram (3:1), green gram / black gram + red gram (2:1), groundnut + castor (3:1), bajra + groundnut (2:4), chilli + onion (2:4), red gram + soybean (2:4), hybrid cotton + soybean (1:2), maize + soybean (1:2) row proportion.
- In North Transition Zone, continue sowing of green gram, black gram, red gram, groundnut and soybean.
- In North East Transition Zone, continue nursery sowing of rice and undertake sowing of jowar, red gram, black gram and soybean crops.
- **Andhra Pradesh:**
 - In the North Coastal Zone, continue ploughing for planting rainfed sugarcane and sowing of bajra, mesta, rainfed sugarcane etc. and green manure crops after current spells of heavy rain.
 - In the Krishna Godavari Zone, continue land preparation for nursery sowing of paddy, sowing of maize, black gram, green gram and red gram after current spells of heavy rain.
 - In the Scarce Rainfall Zone, undertake sowing of castor and korra and continue sowing of rainfed red gram, planting of ber and pomegranate and land preparation for sowing of groundnut.
 - In the East Godavari Zone, continue land preparation for sowing of cotton and other green manure crops(sesamum and green gram).
 - In the Southern Zone, undertake harvesting of green gram and nursery sowing of paddy in Nellore district. Continue sowing of *kharif* groundnut after seed treatment with Mancozeb @ 3g/litre of water after current spells of rain.
 - In the Southern Zone, there is possibility of occurrence of fillody in late sown sesamum crop. To control, spray Imidachlorprid @ 0.3 ml/litre of water after current spells of rain.
- **Telangana:**
 - In South Telangana Zone, by utilizing the realized and expected rainfall, undertake sowings of rainfed crops like jowar, bajra, maize, soybean, green gram, cotton, red gram etc. Sow red gram as inter crop in cotton or maize fields. Take up rice nurseries using medium duration varieties after seed treatment with Mancozeb @ 2.5 g/ kg of seed. Continue sowing of sunhemp and dhaincha as in-situ green manure crop preceding rice and sowing of green gram as catch crop preceding rice depending on the availability of water.
 - In North Telangana Zone, continue land preparation for sowing of paddy, maize, green gram and soyabean.
- **Tamil Nadu:**
 - In the Cauvery Delta Zone, continue land preparation for nursery sowing of Kuruvai rice.
 - In the Western Zone, continue preparing the main field for planting of Kuruvai rice by utilizing the realized rainfall.
 - In the High Rainfall Zone, harvested banana bunches and jackfruit should be stored in dry places.
 - In the Southern Zone, due to prevailing drought, there is possibility of increase in sucking pests like papaya mealy bug, whitefly and spiraling whitefly attacking some agricultural and horticultural crops. Monitor for movement of sucking pests by installing yellow sticky traps @ 5/acre. If any incidence is noticed, release parasitoids for managing papaya mealy bug. For managing other sucking pests, spray NSKE @ 5%. Due to current weather, leaf minor incidence was sporadically noticed in groundnut. To control, use light traps. Spray Neem seed kernel extract @ 5% if pest crosses ETL level on a non rainy day.
 - In the High Altitude Hilly Zone, due to cloudy weather, there may be chances of spread of fungal diseases in hilly vegetable crops. Adopt prophylactic fungicide spray to control fungal diseases on a non rainy day.
- **Animal Husbandry**
 - In the Cauvery Delta Zone of Tamil Nadu, add 0.25% of salt to drinking water to increase water consumption, provide supplementing dietary sodium and potassium to increase milk yield during the period of heat stress. Proper de-worming and vaccination schedule must be followed for maintaining the health of animal.

- In Karnataka, vaccinate livestock against foot and mouth disease (FMD vaccination), black quarter disease (BC vaccination) and Haemorrhagic Septicaemia, ET vaccine against Enterotoxemia for sheep and goats.

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

- **Realised Rainfall:** Rainfall occurred in East Siang, West Siang, Lohit, Papumpara, Tirap, West Kameng and Upper Subanshiri districts of Arunachal Pradesh, all districts of Assam except Tinsukia and N C Hills, in West Garo Hills and Ribhoi districts of Meghalaya, Aizwal, Lunglei and Serchip districts of Mizoram, Imphal East and Imphal West districts of Manipur, Kohima, Kiphire, Wokha and Dimapur districts of Nagaland and in all districts of Tripura during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Assam, Meghalaya & Arunachal Pradesh:**
 - In Assam, as heavy to heavy rain with isolated extremely heavy falls are expected is expected on 16th and 19th June, postpone nursery sowing of Sali rice. In high rainfall areas of Assam, farmers can prepare nursery beds for Sali rice cultivars like Jalashree and Jalkuwari for flood prone areas after current spells of heavy rain.
 - In the upper Brahmaputra Zone of Assam, complete planting of papaya seedlings in the main field after current spells of heavy rain.
 - In the Barak Valley Zone of Assam, continue nursery sowing of flood tolerant Sali rice variety viz. Ranjit, Pankaj, Lakhimi, Manirum and Kushal after current spells of heavy rain. Undertake planting of lemon and banana in the prepared pits.
 - In the Central Brahmaputra Valley Zone in Assam, prepare nursery beds for Sali rice and continue transplanting of Bao paddy after current spells of heavy rain. Seedlings of papaya may be planted up to the month of June. Undertake land preparation and sowing of Arhar.
 - In the North Bank Plain Zone of Assam, undertake nursery sowing/main land preparation for Sali rice. Undertake harvesting of matured Boro rice after current spells of heavy rain.
 - In Arunachal Pradesh, continue sowing of soybean and finger millet. Maintain proper drainage. Continue transplanting of rice in lowlands, undertake sowing of rice. Avoid water stagnation in ginger and turmeric crops.
 - In Meghalaya, continue nursery sowing Sali rice/kharif rice after current spells of heavy rain and undertake land preparation for transplanting of Sali rice/kharif rice. Provide staking to the tomato plants.
 - In the Upper Brahmaputra Zone of Assam, to control Gummosis in citrus plants, rub and clean the infested portion and apply Bordeaux mixture after current spells of rain.
 - In the North Bank Plain Zone of Assam, spray Quinalphos @ 2.5 ml per litre of water to control stem borer, leaf folder and case worms in Ahu rice. Spray Malathion 5% dust to control caterpillar in Jute crop after current spells of rain.
 - **Nagaland, Manipur, Mizoram and Tripura:**
 - In Nagaland, prepare the main field for transplanting TRC/WRC paddy. Flood the field for 1 or 2 days before ploughing to allow water to soak in. Keep 2.5cm water level in the fields.
 - In Manipur, undertake sowing of cowpea and preparation of nursery for early cauliflower in the upland area or in rain protective structures after current spells of heavy rain, carry out land preparation for transplanting rice seedling of main *kharif* rice, maintain water level at 5-8 cm in pre-*kharif* rice, treat black gram and rice bean seeds with Thiram or Captan @ 2g/kg seeds before sowing.
 - In Mizoram, drain out excess water from rice nurseries and re-sowing may be carried out in flood affected areas. Undertake transplanting of rice after receding of flood water. Maintain proper drainage in the Jhum rice, cowpea, okra and maize fields.
 - In Nagaland, spray neem oil to the Naga King Chilli plants to control white fly infestation after current spells of rain. Remove plants infested with leaf curl. Remove infested plant parts to control stem borer in kharif maize crop.
- **Animal Husbandry**
 - In Assam & Meghalaya, farmers are advised to keep cattle in sheds during heavy rainfall period. Provide iodised salt and minerals mixture with the feed/green fodder under the advice of vet. experts.
 - In Central Brahmaputra Valley Zone in Assam, carry out immunization in cattle and buffaloes against FMD, HS and BQ in and in pigs swine fever may be carried out during monsoon season. In Barak Valley Zone of Assam, vaccinate cattle against Anthrax and Foot & Mouth Disease.
 - In Mizoram, vaccinate pigs with SF vaccines at 2 months and yearly/half-yearly interval afterwards.
- **Fishery**
 - In Barak Valley Zone of Assam, there may be chances of bacterial disease to the fishes if ponds are filled up with the rain water. To control the disease apply lime @ 6 kg per bigha of land.
 - In Meghalaya, provide sufficient feed like rice bran, mustard oil cake, fish meal, minerals & vitamins to major/minor carp brooders for proper egg development.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, all districts of Madhya Maharashtra except Sangli, all districts of Marathwada, all districts of Vidarbha except Amraoti, Bhandara and Nagpur, all districts of Gujarat Region except Ahmedabad, Anand, Aravalli, Banaskantha, Gandhinagar, Mehsana, Kheda, Patan, Sabarkantha, Vadodara, in Amreli, Botad, Diu, Gir Somnath and Rajkot districts of Saurashtra & Kutch during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, provide adequate drainage in already sown rice and nagli fields to avoid water stagnation. Continue sowing of *kharif* vegetables like okra, bitter gourd, snake gourd, ridge gourd after current spells of heavy rain. Use high yielding varieties for sowing. Okra should be sown on ridges and furrows and sowing of gourd vegetables may be done on soil mounds. Continue land preparation for sowing of groundnut (Konkan Gaurav and Trombay Konkan (Tapora), TG-26, TAG-24 and TPG-4 after current spells of heavy rain. Continue planting of fruit saplings like of mango, cashew, coconut, arecanut and sapota.
 - In Madhya Maharashtra, complete nursery sowing of rice/finger millet (Nasik, Dhule, Nandurbar, Ahmednagar, Pune). Continue sowing of *kharif* vegetables in the nursery on raised beds. Continue sowing of *kharif* crops like soyabean, tur, cotton, groundnut and sunflower in Pune, Solapur, Kolhapur Satara and Sangli districts. Undertake sowing of *kharif* crops like soyabean, cotton and moong in Nasik, Dhule, Nandurbar and Jalgaon districts as rainfall is expected during next 3 days.
 - In Marathwada, continue nursery preparation for *kharif* onion. Undertake sowing of pigeon pea, green gram black gram, groundnut, soybean and maize. Continue land preparation for sowing of fodder maize (African tall, Ganga-5, Vijay, Manjari, Ganga safed-2 hybrids varieties).
 - In Vidarbha, undertake nursery sowing of *kharif* rice on raised beds in East Vidarbha. As rain is expected during next 5 days, continue land preparation and sowing of *kharif* crops like soyabean, cotton, tur and moong in Central and West Vidarbha. Undertake cultivation of vegetables like bitter gourd, tinda, ridge gourd, smooth gourd, bottle gourd, cowpea, cluster bean and coriander.
 - **Gujarat:**
 - In South Gujarat Heavy Rainfall Zone, continue nursery sowing of *kharif* rice in Dangs, Valsad and Navsari districts and undertake sowing of *kharif* crops like pigeon pea, green gram, black gram, groundnut etc. with sufficient rainfall.
 - In South Gujarat Zone, as rain is likely to occur, undertake sowing of *kharif* crops like pigeon pea, sorghum, cotton etc. Undertake plantation of horticultural crops after receiving sufficient rainfall.
 - In South Saurashtra Zone, continue land preparation for sowing of irrigated hybrid cotton and B.T. cotton. Undertake timely sowing of cotton after receipt of sufficient rainfall. Continue early sowing of *kharif* groundnut with irrigation.
 - In Middle Gujarat Zone, continue land preparation for sowing of *kharif* crops like groundnut, green gram, black gram, red gram, cowpea, Bt. Cotton etc.
 - In North Gujarat Zone and North West Zone of Gujarat, continue sowing of irrigated Bt. Cotton and irrigated groundnut and gap filling in early sown irrigated B.T. cotton/hybrid cotton. Continue land preparation for sowing of *kharif* crops like pearl millet, red gram, black gram, sesame, maize, cotton, groundnut etc. Continue picking of matured fruits of vegetable crops and harvesting of mango fruits.
 - In North Saurashtra Zone of Gujarat, continue pre-sowing of groundnut with irrigation, land preparation for sowing of *kharif* cotton, groundnut, sesame, pearl millet, black gram, green gram, cowpea and pigeon pea. Procure good quality seeds for sowing of *kharif* crops.
 - In Bhal and Coastal Zone of Gujarat, undertake land preparation for sowing of Bt. Cotton and harvesting of pearl millet. Carry out picking of matured pods/ fruits of vegetable crops and harvesting of mango fruits regularly.
 - To manage sigatoka disease in banana crop in South Gujarat Zone, spray the crop with Propiconazole @1 ml or Dithane Z-78, @ 2.5 g. dissolved in one litre of water on a non rainy day.
- **Animal Husbandry**
 - In Maharashtra, vaccinate cows, buffaloes and goats for Foot and Mouth Disease.
 - In Gujarat, keep animal shed hygienic and clean to avoid flies and mosquitoes. Regular check-up of disease (like, Anthracis, milk fever and Brucellosis) infected animals and regular vaccination for the animal be done.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands, Howrah district of Gangetic West Bengal, all districts of Sub Himalayan West Bengal & Sikkim except Malda, North Dinajpur, South Dinajpur and South Sikkim, in Jahanabad, Kathihar, Madhepura, Madhubani, Purnea, Saharsha, Samastipur, Sheikpura, Supau and Vaishali

districts of Bihar, Chatra, Hazaribag, Latehar, Seraikela-Kharsawan and Simdega districts of Jharkhand, Bargarh, Bhadrak, Gajapati, Ganjam, Jajpur, Kandhamal, Kendrapara, Keonjhar, Koraput, Malkangiri, Nawapara, Nawarangpur, Rayagada and Sundargarh districts of Odisha during the week and weather remained dry over rest of the region.

• **Advisories:**

▪ **Odisha:**

- In East and South Eastern Coastal Plain Zone, undertake land preparation and sowing of direct seeded rice in medium and low lands and sowing of arhar.
- In East and South Eastern Coastal Plain Zone, the weather is optimum for sowing of maize for green cob purpose.
- In East and South Eastern Coastal Plain Zone, undertake planting of fruit crops as Mango, Coconut, Citrus, Guava, Sapota, Papaya, Banana, Litchi and Pineapple in uplands, even in marginal lands .For planting of fruit crops in July and August.
- In East and South Eastern Coastal Plain Zone, due to abrupt rise and fall in temperature, the problem of sucking pests like White fly will aggravate in vegetables. To control these pests spray Imidacloprid @ 4ml/10 litres of water after current spells of rain.
- In Eastern Ghat High Land Zone, complete sowing of direct seeded paddy in low land and medium low land. Undertake land preparation for sowing of medium duration (around 120 days duration or more) non-paddy crops like Groundnut, Arhar, cotton in rainfed upland. Undertake sowing of pigeon pea and vegetables.
- In South Eastern Ghat Zone, undertake sowing of maize in North Central Plateau Zone, undertake planting of ginger and turmeric and in West Central Table Land Zone, undertake sowing of Arhar.
- In Western Undulating Zone, undertake land preparation for sowing of *kharif* crops other than rice in banded upland and undertake sowing after receipt of sufficient rainfall.
- In North Eastern Coastal Plain Zone, due to abrupt rise and fall in temperature, the problem of sucking pests like White fly will aggravate in vegetables. To control these pests spray Imidacloprid @ 4ml/10 litres of water.

▪ **West Bengal:**

- In Laterite and Red Soil Zone, continue nursery raising for sowing the rice crop under upland condition and lowland condition. In the New Alluvial Zone, continue sowing of jute.
- In the Hill Zone, continue planting of large cardamom plants and harvesting of beans. Avoid stagnation of water in the maize, round chilli, ginger and turmeric fields.
- In the New Alluvial Zone, to control chilli anthracnose or chilli fruit rot, spray Carbendazim @ 1gm/liter of water in the morning or evening hours after current spells of rain and repeat at 10-15 days interval. To control stem rot of Jute, drench the soil at collar region of plants with Copper Oxochloride @ 4gram/liter of water. Spray with Milbemectin 1% E.C@ 0.5 ml/liter of water for control of mite after current spells of rain.
- In Laterite and Red Soil Zone, to control die back and fruit rot sucking pest, remove the affected plant parts and spray Carbendazim @ 1g/litre. To control shoot and fruit borer in brinjal and fruit borer in lady's finger, spray Neem oil @ 5ml/litre of water after current spells of rain.
- In Old Alluvial Zone, to control the anthracnose/fruit rot in chillies, spray Carbendazim @ 1gm/litre of water in morning or evening hour after current spells of rain and repeat after 10-15 days interval.
- In Terai Zone, in case of brown colour spots in leaves in rice, 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 after current spells of rain.

▪ **Andaman and Nicobar Islands:**

- In North and Middle Andaman, continue preparing main field of rice and sow green manure Dhaincha. Harvest mature bananas and provide support to the fruit bearing banana trees as wind speed may rise to 30 kmph.

▪ **Bihar:**

- In North East Alluvial Zone, continue nursery sowing of long duration paddy. Undertake land preparation for sowing of maize and minor millets.
- In North East Alluvial Zone, undertake sowing of kharif vegetable such as lady's finger, pumpkin, cucumber, sponge gourd, bottle gourd etc.
- In North East Alluvial Zone, complete the nursery sowing of long duration rice varieties such as Rajshree, Rajendra sweta, Rajendra mansuri, BPT-5204, Swarna sub-1, Swarna, Satyam and Kishori.
- In North West Alluvial Plain Zone, undertake nursery sowing for medium duration of rice varieties such as Sita, Santosh, Saroj, Rajshri, Prabhat, Rajendra suhasni, Rajendra kasturi and Rajendra bhagwati in North Bihar.
- In North West Alluvial Plain Zone, undertake sowing of kharif vegetables such as lady's finger, pumpkin, cucumber, sponge gourd, bottle gourd.
- In North West Alluvial Plain Zone, complete the sowing of turmeric, ginger and elephant foot yam at the earliest.
- In South Bihar Alluvial Zone, in present weather conditions farmers are advised to start sowing of paddy seeds in nurseries.
- 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 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 after current spells of rain.
- 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 after current spells of rain.
- **Jharkhand:**
 - In Jharkhand continue nursery sowing of rice and undertake land preparation for sowing of maize, urad and arhar.
 - In Central and North Eastern Plateau Zone, continue planting of turmeric, ginger and yam.
 - In Western Plateau Zone, continue sowing of ginger, yam and turmeric with improved variety. Undertake harvesting of matured rice and moong in clear weather conditions.
 - 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 after current spells of rain.
 - In South Eastern Plateau Zone, taking the advantage of downpour rain received during previous days, start land preparation for timely (15 to 30 June) sowing of direct seeded upland rice.
- **Animal Husbandary**
 - In the Terai Zone of West Bengal, undertake routine vaccination of cattle, buffalo and goat for Foot and Mouth disease (FMD).
 - In the Old Alluvial Zone, apply appropriate dose of systematic de-wormer to all live stock and poultry birds throughout pre-shining season to control parasite consignment.
 - In Andaman and Nicobar Islands, keep the day old chicks under light preferably 40 watt bulb during cloudy days and provide clean drinking water.
- **Fishery**
 - In Coastal Saline Zone in West Bengal, feed the fishes during morning and afternoon hours. Make shadow by green pana (aquatic weed) at one side of pond. Uproot weeds from the bottom of ponds for more oxygen supply.
 - In Andaman and Nicobar Islands, do breeding of IMC carps during rainy days. Breed 1:2 (female : male) ratio of body weight and inject ovaprim @ 0.5 ml/kg for female and 0.2-0.3 ml/kg for male during evening hours in hapa.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rainfall occurred in Umari district of East Madhya Pradesh, Alirajpur, Ashoknagar, Barwani, Bhopal, Dewas, Dhar, Indore, Jhabua, Khandwa, Rajghar, Ratlam, Shajapur, Ujjain districts of West Madhya Pradesh, Bastar, Bijapur, Dantewada, Kanker, Kondagaon, Raigarh, Rajnandgaon, Sukma districts of Chhattisgarh during the week and weather remained mainly dry over rest of the region.
- **Advisories:**
 - As thunderstorm accompanied with gusty winds very likely at isolated places over Madhya Pradesh & Chhattisgarh on 16th June, provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds.
 - **Madhya Pradesh:**
 - In Satpura Plateau Zone, continue field preparation for nursery sowing of rice. Continue field preparation for sowing of soybean, maize and groundnut. Continue nursery preparation for tomato, chilli, brinjal and early cauliflower.
 - In Gird Zone, continue harvesting of matured moong in clear weather. Continue planting of turmeric and nursery sowing of rice and *kharif* vegetables. Continue sowing of red gram in irrigated areas.
 - In Malwa Plateau Zone, continue deep ploughing of the field and keep inputs ready for sowing of *kharif* crops. Continue nursery preparation for rainy season vegetables like brinjal, tomato, *kharif* onion, early cauliflower chili etc. Continue harvesting of matured moong in clear weather.
 - In Kymore Plateau and Satpura Hill Zone, undertake nursery sowing of rice with irrigation facility and sowing of red gram.
 - In Jhabua Hill Zone, continue cultivation of ginger and turmeric. Continue nursery sowing of rice. Continue nursery preparation for rainy season vegetables. Undertake sowing of maize, soybean and black gram utilising the realised rainfall.
 - In Central Narmada Valley Zone, continue nursery preparation for tomato, chilli, brinjal and early cauliflower. Continue nursery bed preparation for rice. Continue harvesting of matured moong. Undertake field preparation for sowing of soybean and maize.
 - In Bundelkhand Zone, continue seed bed preparation for sowing of *kharif* onion. Continue nursery preparation for rice with irrigation facility.
 - In Vindhya Plateau Zone, continue nursery sowing of rice. Continue sowing of red gram.

- In Bundelkhand Zone, due to cloudy weather there are chances of leaf curl disease in tomato and chilly crops, spray Dimethoate 30 E.C @ 2.0 ml per litre of water after current spells of rain.
- **Chhattisgarh:**
- In North Hill Zone, continue nursery sowing of long duration varieties of rice. Continue land preparation for sowing/transplanting of rainy season vegetables.
- In Bastar Plateau Zone, continue nursery preparation of vegetables like tomato, brinjal, and chilly. Undertake nursery sowing of rice.
- In Chhattisgarh Plain Zone, continue direct sowing of rice and nursery sowing of vegetables. Continue nursery sowing of rice. Continue field preparation for sowing of soybean, maize and groundnut.
- In Bastar Plateau Zone, for control of leaf curl disease in lady's finger, cowpea, pumpkin, chilly and tomato, spray Dimethoate 30 EC @ 1-1.5 ml/litre of water after current spells of rain.
- **Horticulture**
- Continue digging of pits of appropriate size and distance for planting of new orchards in Madhya Pradesh and Chhattisgarh.
- **Animal Husbandry**
- In Madhya Pradesh, undertake vaccination to protect the animals from mouth and Jahari fever disease and to develop the immunity power.
- In Chhattisgarh, undertake vaccination of animals against the Black Quarter and Anthrax disease.

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

- **Realised Rainfall:** Rainfall occurred in Baramula, Rajouri districts of Jammu & Kashmir, in Pithorgarh district of Uttarakhand, in Bhatinda, Muktesar districts of Punjab, in Kanshiramnagar districts of West Uttar Pradesh, in Banswara districts of East Rajasthan, weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As thunderstorm accompanied with hail very likely at isolated places over Uttarakhand on 18th, 19th and 20th, over Haryana, Chandigarh & Delhi on 20th June, 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 16th and 17th, over Uttar Pradesh on 16th, over Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, East Uttar Pradesh on 19th, over East Rajasthan on 19th and 20th June, provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds.
 - **Jammu & Kashmir:**
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue nursery sowing of rice. Continue land preparation for maize after the receipt of rains and try to conserve moisture for early sown maize crop under irrigated conditions. Continue land preparation for sowing of rainy season bitter gourd, sponge gourd, bitter gourd and okra. Continue harvesting of summer moong in clear weather.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, continue sowing of paddy nursery in the fields under subtropical and intermediate areas of the district. Undertake sowing of maize utilising the realised rainfall.
 - In Valley Temperate Zone of Jammu and Kashmir, continue sowing of maize. Continue planting of cucurbits, cole and solanaceous crops. Continue 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, there is chance of incidence of bacterial wilt in tomato, brinjal, chilli and cucurbits especially under higher areas of district. If observed, apply Streptocyclin Sulphate @ 1.0 gm/10 litres of water on a non rainy day and repeat the spray at the time of flowering.
 - **Uttarakhand:**
 - In Sub Humid and Sub Tropic Zone of Uttarakhand, continue nursery sowing of rice. Undertake sowing of maize.
 - In Udham Singh district of Bhabar and Tarai Zone, continue direct sowing of rice in the first fortnight of June. Continue sowing of maize, cowpea and early maturing varieties of pigeonpea.
 - In Hill Zone, continue nursery sowing of rice. Undertake earthing-up in potato at seedling/ vegetative stage.
 - In Bhabar and Tarai Zone, there are chances of fruit borer in tomato, spray Chlorantraniliprole 18.5 SC @ 150 ml/ha and Indoxacarb 14.5 SC @ 500ml/Ha respectively after current spells of rain.
 - **Himachal Pradesh:**
 - In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, continue 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 complete sowing

of peas, French bean, Opla, palak, raddish, turnip and carrot in addition to transplanting of cabbage, cauliflower, brocloi and exotic vegetables. It is optimum time for nursery sowing of Tomato, Brinjal, chillies and capsicum crops in poly house.

- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul&Spiti, undertake transplanting of tomato/cabbage/cauliflower in main field.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmaur districts, present weather is conducive for attack of fruit rot disease in tomato and leaf Curl disease in capsicum, for control spray Diathane-M-45 @ 250 gm per 100 litres of water or Blitox-50 @ 300 gm per 100 litres of water after current spells of rain.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmaur districts, present weather is conducive for attack of mite in apple, for control spray Fenazaquine (Mejester 100 EC) @ 50 ml or Properjoit (Simba/Omite) @ 200 ml in 200 litres of water after current spells of rain.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh, in Kullu and Mandi districts, present weather is conducive for attack of aphid in pomegranate, for control spray Imidacloprid @ 60ml per 200 litres of water after current spells of rain.

▪ **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 sowing of cotton.
- In Western Plain Zone of Punjab, complete sowing of summer moong and summer mash.
- 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. Undertake sowing of maize with varieties/hybrids PMH 1, PMH 2, Parbhat, Kesri and soybean with recommended varieties SL 958, SL 744 and SL 525.
- In Western Zone of Haryana, complete sowing of okra, 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. 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.
- Incidence of thrips is noticed in cotton in some areas of South-Western region of Punjab. Thrips attack at this stage can be controlled by irrigating the crops.
- In Undulating Plain Zone of Punjab due to humid weather, downy mildew may occur in cucurbits, spray Indofil M 45 or Kavach 500g in 200L of water at weekly interval. Due to intermittent rainfall, whitefly may increase in okra and thus yellow vein mosaic virus attack may also increase. To control whitefly spray Malathion 50mL/acre after current spells of rain.

▪ **Uttar Pradesh:**

- In Central Plain Zone of Uttar Pradesh, undertake land preparation/early sowing of *kharif* hybrid maize. Complete nursery sowing of paddy. Undertake land preparation for sowing of arhar under irrigated condition or beginning of monsoon.. Complete harvesting of matured zaid sown urad, mung and sunflower crops in clear weather.
- In Eastern plain Zone of Uttar Pradesh, complete nursery sowing of mid and late variety of rice before 20th June and early variety of rice before 25th June. Undertake sowing of early maturing variety of arhar in irrigated areas. In optimum soil temperature, deep ploughing may be done in fallow fields for increasing the water holding capacity of soil. Undertake direct sowing of rice in water logged areas with improved varieties. Undertake sowing of long duration varieties of maize. Undertake sowing of dhaincha for green manuring use 50 kg seeds/ha. Undertake nursery sowing of brinjal, chilli, bhindi, cauliflower.
- In Bundelkhand Zone of Uttar Pradesh, keep inputs ready for sowing of *kharif* crops like maize, jowar, groundnut, arhar, urad, mung, linseed and fodder crops.
- In Western Plain Zone of Uttar Pradesh, continue field preparation for sowing of cotton and pigeon pea. Undertake sowing of paddy in nursery. Undertake land preparation for sowing of guar, bajara, maize, cluster bean, spinach, amaranthus and bhindi.
- In Central Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of fruit borer in vegetables, for control spray Neem oil @ 1.5 to 2.0 ml per litre of water, 2 to 3 times at the intervals of 8 to 10 days after current spells of rain.
- In North Eastern plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of blight in zaid maize, for control spray mixture of 0.2 % Mencozeb @ 400 gm or 0.2 % Carbedazim @ 400 gm in

200 litres of water after current spells of rain.

- In Western Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of mite and jassid in bhindi, chilli and cucurbitaceous crop, for control spray Phosmite @ 1.5 - 2 ml per litre of water for control of mite while spray Dimethoate 30 EC @ 2 ml per litre of water for control of jassid after current spells of rain.
- **Rajasthan:**
- In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, continue deep ploughing by MB plough in vacant field for more conserve the rain water in soil and sowing of kharif crops. Undertake nursery sowing of brinjal, tomato, rainy onion, cauliflower and chilli. Undertake land preparation/sowing of groundnut, maize. Undertake transplanting of nursery plants of papaya in field.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, undertake sowing of irrigated groundnut, to control white grub, treat groundnut seeds with Clothianidin 50 W.D.G. @ 2 g or Imidacloprid 17.8 SL @ 3.0 ml or Quinalphos 25 EC @ 25.0 ml per kg seed on a non rainy day. Keep inputs ready for *kharif* crops like pearl millet, sorghum, maize & cluster bean, sowing should be done after onset of monsoon.
- In Jaisalmer and Bikaner districts of Arid Western Plain Zone, undertake land preparation for sowing of groundnut and go for sowing after receipt of sufficient rainfall. In Barmer, Churu, Jalore, Jodhpur, Pali districts of Arid Western Plain Zone, undertake land preparation for sowing of bajra. Undertake sowing of okra and nursery sowing of chilli, cucurbits and tomato.
- In Southeastern Humid Plain Zone, in Jhalawar, Kota, Bundi, Baran districts, apply light irrigation to standing summer crops and sugarcane crop. Undertake nursery sowing of rice.
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, in desi cotton apply first irrigation at 30 to 40 days after sowing with apply N 45 (urea 100 kg) kg/ha at the time of first irrigation. Continue nursery sowing of rice. Continue sowing of guar after 15th June, seed rate of 16-20 kg/hectare.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, undertake field preparation by deep ploughing for timely sowing of *kharif* season crop. Keep inputs ready for *kharif* crops.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing dry weather condition is congenial for attack of leaf curl & mosaic disease in chilli crop, for control uproot & burn affected plants & spray Dimethoate 30EC @ 1.0 ml per litre of water on a non rainy day.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing dry weather condition is congenial for attack of blight disease in tomato at fruiting stage, for control spray Mencozeb @ 2 gm or Copper Oxychloride @ 3 gm per litre of water on a non rainy day.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, prevailing mainly dry weather condition is congenial for attack of fruit fly in cucurbits, for control spray Malathion 50 EC@15 ml per 10 litres of water on a non rainy day and repeat at 15 days interval.
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of early stem borer and pyrilla in sugarcane crops, for control apply Furodon dust 3% @ 24 kg per hectare in sugarcane root just after first irrigation. Repeat the dose after 40 to 50 days.
- **Horticulture**
- In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, undertake transplanting of papaya plants in field.
- 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 Acitamidrid (20 SP) @ 0.4 ml or Thiochlorpride (240 SC) @ 1 ml per liter of water.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of mango plant hopper, in mango trees, for control spray Buprofezin 25% SC @ 1 to 2 ml per litres of water after current spells of rain.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Solan, Shimla, Bilaspur, Sirmaur districts, undertake harvesting of matured mango and litchi.
- **Floriculture:**
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, 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.
- **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 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 of five feet in fish ponds. 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, replace the poultry houses with fresh litter and keep the houses clean and ensure plenty of 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.

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