



# *National Agromet Advisory Service Bulletin*

*Friday 23<sup>rd</sup> June 2017*  
*(For the period 23<sup>rd</sup> to 27<sup>th</sup> June 2017)*



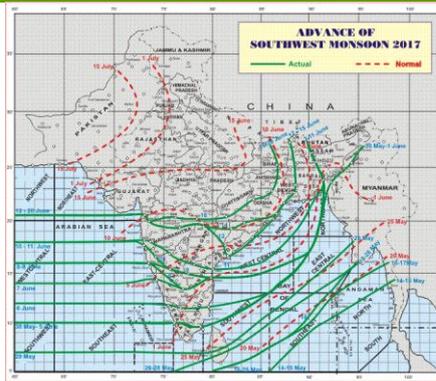
*Issued by*  
*National Agrometeorological Advisory Service Centre,*  
*Agricultural Meteorology Division,*  
*India Meteorological Department, Shivajinagar, Pune.*

**Weblink For**

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

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

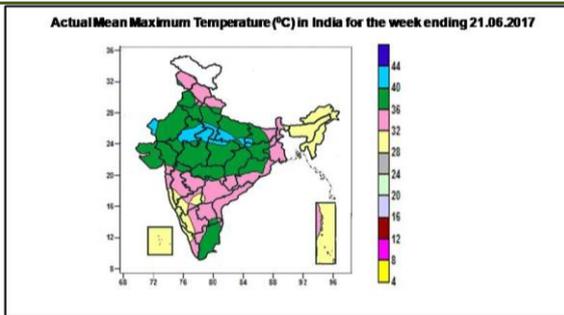
## Monsoon watch dated 23.06.17



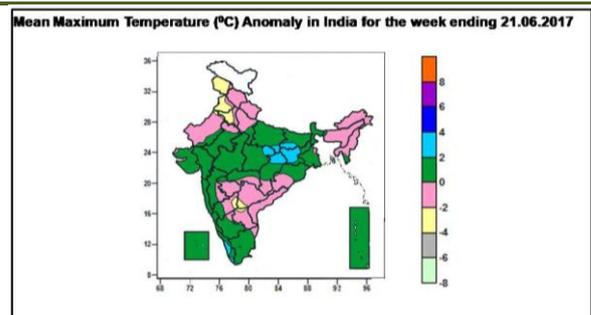
- The Northern Limit of Monsoon (NLM) passes through Lat. 20.5°N / Long. 60°E, Lat. 20.5°N / Long. 70°E, Valsad, Nasik, Buldana, Nagpur, Mandla, Patna and Lat. 27°N / Long. 85°E.
- Favourable conditions are developing for further advance of southwest monsoon into some more parts of north Arabian sea & south Gujarat during next 48 hours.
- Favourable conditions are likely to develop for further advance of southwest monsoon into remaining parts of Madhya Maharashtra, Marathwada Vidarbha, some more parts of East Madhya Pradesh, remaining parts of Bihar and some parts of West Madhya Pradesh and East Uttar Pradesh during next 3-4 days.

### Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 21.06.2017

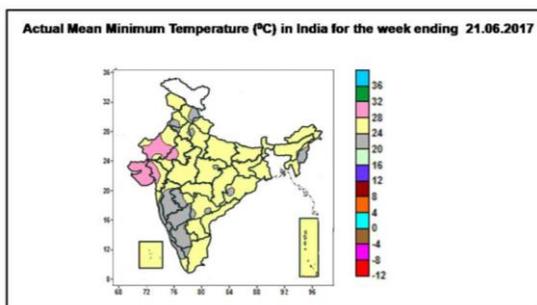
**Actual Mean Maximum Temperature (°C) in India for the week ending 21.06.2017**



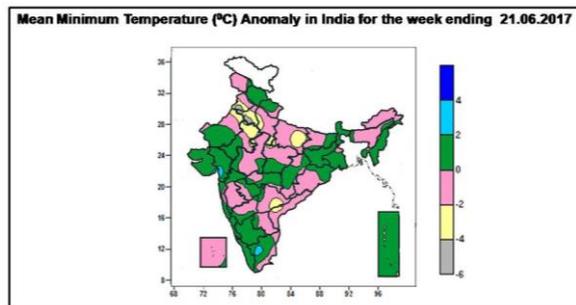
**Mean Maximum Temperature (°C) Anomaly in India for the week ending 21.06.2017**



**Actual Mean Minimum Temperature (°C) in India for the week ending 21.06.2017**

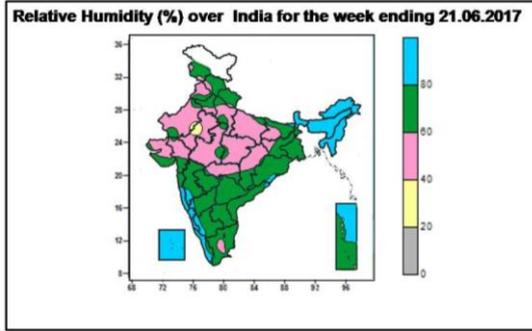


**Mean Minimum Temperature (°C) Anomaly in India for the week ending 21.06.2017**

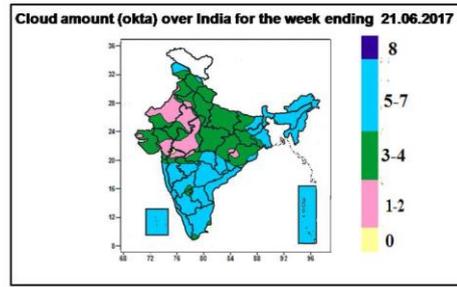


**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 21.06.2017**

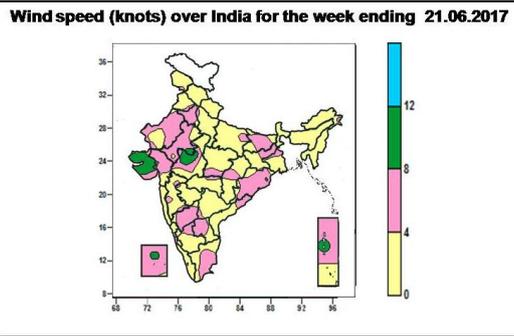
**Relative Humidity (%) over India for the week ending 21.06.2017**



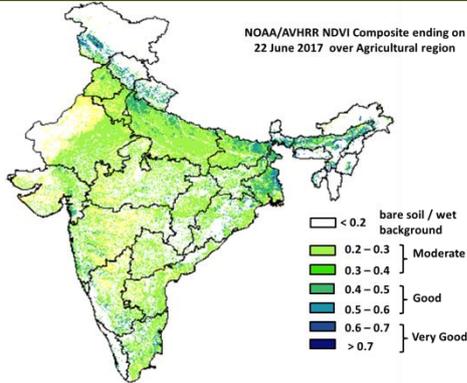
**Cloud amount (okta) over India for the week ending 21.06.2017**



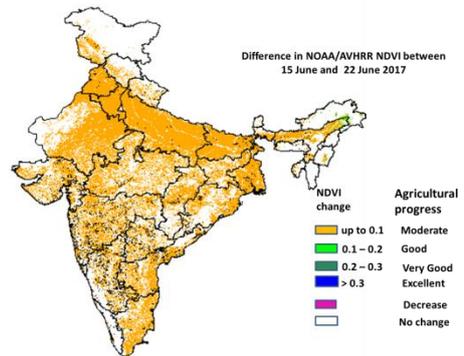
**Wind speed (knots) over India for the week ending 21.06.2017**



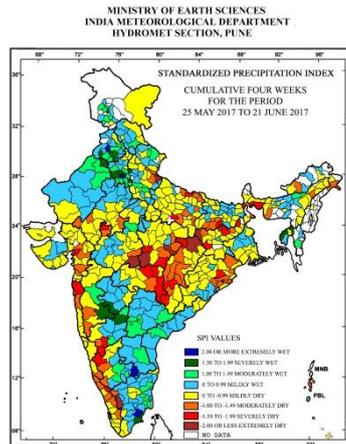
**NOAA/AVHRR NDVI composite ending on 22<sup>nd</sup> June 2017 over Agricultural regions of India**



**Difference in NOAA/AVHRR NDVI between 15<sup>th</sup> June and 22<sup>nd</sup> June 2017**



**Standardised Precipitation Index  
Four Weekly for the period 25<sup>th</sup> May to 21<sup>st</sup> June 2017**



Weather Warning during next 5 days

23 JUNE (Day 1):

- **Heavy rain** very likely at isolated places over SubHimalayan West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Coastal Karnataka, Kerala and Lakshadweep.

24 JUNE (Day 2):

- **Heavy to very heavy rain** very likely at isolated places over south Konkan & Goa, Coastal Karnataka and Assam & Meghalaya; heavy rain very likely at isolated places over Odisha, Andaman & Nicobar Islands, Nagaland, Manipur, Mizoram & Tripura, southern parts of Gujarat state, north Konkan, south interior Karnataka, Kerala and Lakshadweep.

25 JUNE (Day 3):

- **Heavy to very heavy rain** very likely at isolated places over south Konkan & Goa and Coastal Karnataka; heavy rain very likely at isolated places over Chhattisgarh, Sub Himalayan West Bengal & Sikkim, Odisha, Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, southern parts of Gujarat state, coastal Andhra Pradesh, north Konkan, south interior Karnataka, Kerala and Lakshadweep.
- Thunderstorm accompanied with squall very likely at isolated places over Uttarakhand.

26 JUNE (Day 4):

- **Heavy to very heavy rain** very likely at isolated places over south Konkan & Goa and Coastal Karnataka ; **heavy rain** very likely at isolated places over Uttarakhand, Vidarbha, Chhattisgarh, Bihar, Sub Himalayan West Bengal & Sikkim, Odisha, north Konkan, coastal Andhra Pradesh, Kerala and Lakshadweep.
- Thunderstorm accompanied with squall very likely at isolated places over Uttarakhand, Uttar Pradesh and east Rajasthan.

27 JUNE (Day 5):

- **Heavy to very heavy rain** very likely at isolated places over south Konkan & Goa and Coastal Karnataka; **heavy rain** very likely at isolated places over Himachal Pradesh, Uttarakhand, Uttar Pradesh, east Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Sub Himalayan West Bengal & Sikkim, Odisha, north Konkan, Andaman & Nicobar Islands, Coastal Andhra Pradesh and Kerala.
- Thunderstorm accompanied with squall and hail very likely at isolated places over Uttarakhand.
- Thunderstorm accompanied with squall very likely at isolated places over Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh and east Rajasthan.

Weather Outlook for subsequent 2 days from 28<sup>th</sup> to 30<sup>th</sup> June 2017

- Rain very likely at most places over east, northeastern states, west coast and central India; at a few places over northwest and peninsular India.

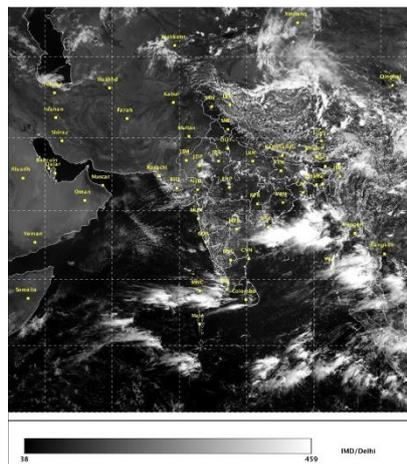
**Meteorological sub-division wise detailed 5 day rainfall forecast (Mid day)  
23<sup>rd</sup> June 2017**

**Met-Sub-Division      23 June   24 June   25 June   26 June   27 June**

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

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

**Satellite image dated 23.06.2017, 0600 UTC**



## Salient Advisories

- As favourable conditions are developing for further advance of southwest monsoon into some more parts of south Gujarat during next 48 hours, favourable conditions are likely to develop for further advance of southwest monsoon into remaining parts of Madhya Maharashtra, Marathwada, Vidarbha, some more parts of East Madhya Pradesh, remaining parts of Bihar and some parts of West Madhya Pradesh and East Uttar Pradesh during next 3-4 days; the following agromet advisories are suggested:
  - Undertake land preparation and sowing of soybean, jowar, bajra, urad, moong and sesame in **East Madhya Pradesh** and continue nursery sowing of rice. In **West Madhya Pradesh**, undertake land preparation for soybean, jowar, bajra, urad, moong and wait for sowing till receipt of sufficient rainfall.
  - In **Madhya Maharashtra**, undertake sowing of *kharif* crops like soybean, cotton and moong etc. in Dhule, Nandurbar and Jalgaon districts after receipt of sufficient rain. Continue sowing of soybean, tur, cotton, groundnut and sunflower in Nasik, Pune, Solapur, Kolhapur, Satara and Sangli districts.
  - In **Marathwada**, continue sowing of pigeon pea, green gram, black gram, groundnut soybean, Bt. cotton and maize.
  - In **Vidarbha**, continue land preparation and undertake sowing of *kharif* crops like soybean, cotton, tur and moong in Central and West Vidarbha utilizing the the realised and expected rainfall. Continue nursery sowing of *Kharif* rice on raised beds in East Vidarbha.
  - In **East Uttar Pradesh**, complete nursery sowing of rice. Undertake land preparation and direct sowing of rice in low land areas. Undertake sowing of long duration varieties of maize and arhar.
  - Continue 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.

### Bihar

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

### Jharkhand

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

### West Bengal

- In Laterite and Red Soil Zone, continue nursery sowing of rice crop under upland condition and lowland condition. Provide adequate drainage in already sown jute fields and vegetable fields.

### Odisha

- Continue 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 sowing of kharif maize, red gram and groundnut crops.
- Utilising the realized and expected rainfall;
  - Undertake sowing of soybean, maize, jowar and groundnut in **Chhattisgarh**. Continue nursery sowing of kharif rice in south Chhattisgarh.
  - 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 **Royalaseema**, continue sowing of kharif groundnut in Southern Zone and continue sowing of rainfed red gram, korra and land preparation for sowing of groundnut in Anantpur districts.
  - Undertake land preparation and sowing of *kharif* crops like cotton, jowar, groundnut, red gram, green gram, black gram in **Telanagana**.
  - In **Konkan**, in view of realized rainfall and expected widespread rain with isolated heavy/very heavy spells during next 4 days, provide adequate drainage in already sown rice and nagli fields to avoid water stagnation continue sowing of rice, nagli and varai seeds in prepared nursery beds after current spells of heavy rain.

- In the Central and in the Northern Zones **Kerala** , continue transplanting of *Viruppu* 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**, continue nursery sowing of Sali rice. Provide adequate drainage in rice nurseries and vegetable fields,
- In **Meghalaya**, continue nursery sowing rice and 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**, continue nursery preparation for sowing of TRC/WRC 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. Continue main field preparation for transplanting of rice
- In **Mizoram**, undertake transplanting of rice.

## *Detailed Zonewise Agromet Advisories*

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

- **Realised Rainfall** Rainfall occurred in Kannur, Ernakulam, Kasargod, Kozhikode, Malappuram, Palakkad and Thrissur districts of Kerala; in all districts of Coastal Andhra Pradesh except Vizianagaram, in Cuddapah and Kurnool districts of Rayalaseema and all districts of Telangana except Hyderabad; in all districts of Coastal Karnataka, in all districts of North Interior Karnataka except Dharwad, Gadag, Haveri and Koppal, in Kodagu and Shivamogga districts of South Interior Karnataka; in Ariyalur, Cuddalore, Perambalur, Pudukkottai, Sivaganga, Thanjavur and Villupuram districts of Tamil Nadu during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - **Kerala:**
    - In the Northern and Central Zone, continue transplanting of rice, planting of coconut seedlings and black pepper.
    - In the Southern Zone, complete transplanting of *Viruppu* rice. In Kollam district, continue planting new grafts in mango field. In Thiruvananthapuram district, undertake planting of cucurbitaceous vegetables like bitter gourd, snake gourd and bottle gourd, avoid water logging in the vegetable fields and continue tapping of rubber.
    - In the Problem Area Zone, continue wet sowing of rice. Undertake all sprayings to the crops early in the morning or evening only to get a gap of 2 hours before rain.
    - In the High Altitude Zone, continue planting of coconut, pepper and arecanut.
    - In the Central Zone, hang perforated Mancozeb , 3 sachet @ 5 gm around spindle leaves as a prophylactic measure to prevent bud rot incidence in coconut 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, for low land rice Intan, Abhilash, Jaya and Mugada Sirsi-1253 and for upland rice Amrut or Prasanna varieties are recommended. Continue planting of arecanut seedlings; undertake planting of turmeric and ginger.
    - In Southern Transition Zone, undertake nursery sowing of rice. Continue sowing of *kharif* crops maize, ragi, red gram, groundnut in Shivamogga and Chikmangaluru districts utilising realised rainfall.
    - In Southern Dry Zone, undertake sowing of minor millets like foxtail millet, Koda millet, prosomillet, ragi, jowar,

maize and pulses like Avare, cowpea etc. after seed treatment; continue sowing of black gram and green gram in Kodagu district with realised and expected rainfall. Undertake planting of turmeric and zinger rhizomes.

- In Central Dry Zone, continue sowing of red gram and castor under monocropping and sesame, cowpea and green gram under double cropping after receipt of sufficient rainfall.
- In the Eastern Dry Zone, Aaridra Rainstar starts from 22nd June to 5th July; the normal rainfall of Aaridra rainstar is 33.0 mm; utilise the rainwater for sowing of kharif crops: continue sowing of ragi, sesame, black gram, green gram, cowpea, groundnut and field bean under double cropping and sowing of red gram, maize, castor under monocropping in Chikaballapura and Kolar districts. Provide staking support to Banana and vegetable crop to protect from uprooting of crops.
- In North Dry Zone, undertake sowing of green gram, sunflower, maize, Bt. cotton, red gram, bajra, sorghum, sesamum, navane and groundnut (bunch type) with realized rainfall. 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. Sow the crops in rows across the slope.
- In North Transition Zone, continue sowing of green gram, black gram, red gram, groundnut and soybean where sufficient moisture condition is available.
- In North East Transition Zone, continue nursery sowing of rice and continue sowing of green gram, black gram, jowar, soybean crops first and then sowing of red gram crop with seed treatment and with proper spacing, with realised and expected rainfall.
- Due to cloudy weather, high humidity and low temperature, incidence of thrips and whiteflies menace was noticed in cowpea, black gram and green gram in Southern Dry Zone; to control, spray Rogar @ 1.7ml / liter of water, mix the spraying solution with spid adhesive, in case there is rainfall.

▪ **Andhra Pradesh:**

- In the North Coastal Zone, continue sowing of bajra, pulses, ragi etc. and planting rainfed sugarcane
- In the Krishna Godavari Zone, continue nursery sowing of paddy, sowing of maize, black gram, green gram and red gram.
- In the Scarce Rainfall Zone of Rayalaseema, undertake sowing of maize under irrigated conditions after seed treatment with Kaptan @ 3.0 gm/one kg of seed. By taking advantage of rains, take-up sowing of sunhemp and dhaincha as in-situ green manure crops preceding rice in Kurnool district. Continue sowing of castor, korra and rainfed red gram, planting of ber and pomegranate and land preparation for sowing of groundnut in Anantpur district.
- In the East Godavari Zone, undertake nursery preparation for kharif rice and continue land preparation for sowing of cotton and other green manure crops(sesamum and green gram).
- In the Southern Zone, as there was rainfall in Chittoor and Kadapa districts, take up sowing of millets like ragi, bajra, jowar and korra. Continue sowing of *kharif* groundnut after seed treatment with Mancozeb @ 3g/litre of water after current spells of rain.

▪ **Telangana:**

- In South Telangana Zone, drain out excess water from the vegetable nurseries where heavy rainfall has been received. Drench nursery bed with Copper-Oxy-Chloride @ 3 g/ litre of water and provide adequate drainage to prevent incidence of damping off in vegetable nurseries. Continue sowing 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.
- In North Telangana Zone, undertake land preparation for sowing of red gram and continue sowing of maize, green gram and soybean.

▪ **Tamil Nadu:**

- In the Cauvery Delta Zone, undertake SRI cultivation of rice after appropriate seed treatment and continue nursery sowing of Kuruvai rice.
- In the Western Zone, utilizing the realized rainfall, undertake ransplanting of short duration rice varieties can be done with enough provision of drainage. Continue sowing of irrigated maize and sunflower. Since heavy wind (>18km/hr) is anticipated, early season sugarcane and five months old banana crops may be propped against lodging. Considering the morning and evening high relative humidity, pruning in monsoon grapes may be continued and spray Pseudomonas @ 20gm/litre of water 25 days after pruning.
- In the Cauvery Delta Zone, incidence of boll worms is noticed in cotton. To control this, spray Indoxacarb 15.8 SC @ 200 ml/acre.
- In the North Western Zone, undertake soil drenching of Carbendazim @ 1g/litre of water to control occurrence of damping and root rot in groundnut.
- In the High Altitude Hilly Zone, due to cloudy weather, to manage leaf blight disease in carrot, undertake foliar spray of Zineb + Hexaconazole @ 1.5 g/litre of water .

- **Animal Husbandry**

- In the Cauvery Delta Zone of Tamil Nadu, feed Azolla 1-2 kg per cow and 0.5-1kg for other animals daily in the afternoon. Increase the quantity of green fodder during the day time and decrease the quantity of dry fodder on cooler part of the day.
- In the South Zone of Tamil Nadu, supplementation of mineral mixture @ 50 grams along with drinking water is to be given to livestock to reduce heat stress of cattle.
- In the Central Zone of Kerala, adopt mosquito control measures. Avoid water logged conditions in and around cattle sheds to avoid foot and mouth disease.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Arunachal Pradesh; in Barpeta, Bongaigaon, Cachar, Dhubri, Gopalpara, Golghat, Hailakandi, Kamrup(Rural), Kamrup(Metro), Karbi Anglong, Karimganj, Kokrajhar, Lakhimpur, Morigaon, N.C.Hills, Nagaon, Nalbari, Sonitpur, Sibsagar, Tinsukia and Udalgiri districts of Assam; in East Garo Hills, East Khasi Hills, Ri-Bhoi and West Garo Hills districts of Meghalaya; in Aizwal, Lunglei, Saiha and Serchhip districts of Mizoram; in Imphal East & West, Senapati and Thoubal districts of Manipur; in Dimapur Kohima, Phek and Wokha districts of Nagaland and in all districts of Tripura.

- **Advisories:**

- **Assam, Arunachal Pradesh and Meghalaya:**

- In Assam, continue nursery raising of *Sali* rice with adequate drainage facilities.
- In Karbi Anglong and NC Hills districts of Hill Zone of Assam, continue sowing of arhar and planting of banana.
- In Baksa, Barpeta, Bongaigaon, Chirang, Dhubri, Goalpara, Kamrup(Rural), Kamrup(Metro), Kokrajhar and Nalbari districts of Lower Brahmaputra Valley Zone of Assam, maintain standing water to a depth of 2-3 cm in the nursery beds of Sali rice at least 2-3 days before uprooting.
- In the Barak Valley Zone of Assam, select high land for nursery beds of Sali rice. Undertake transplanting healthy and disease free sucker banana sucker in the main banana field.
- In Upper Brahmaputra Valley Zone, continue land preparation for Sali rice.
- In Nagaon and Marigaon districts of Central Brahmaputra Valley Zone of Assam, continue nursery bed preparation/main field preparation for Sali rice, transplanting of Bao paddy and sowing of arhar.
- In Dhemaji, Darrang, Lakhimpur, Sonitpur and Udalgiri districts of North Blank Plain Zone of Assam, continue sowing of Sali rice in nursery bed/ main field preparation for transplanting. Continue harvesting of Ahu rice.
- In East Garo Hills, East Khasi Hills, Jaintia Hills, Ri-Bhoi, South Garo Hills, West Garo Hills and West Khasi Hills districts of Meghalaya, continue nursery bed preparation for *Sali/ kharif* rice and sowing of groundnut and soybean. Provide bamboo structure to bottle gourd, ash gourd and pumpkin plants.
- In Arunachal Pradesh, undertake raising of low-land rice nursery. Undertake sowing of finger millet and sowing of Soybean after current spells of heavy rain. Maintain proper drainage in already sown crop fields.
- In Lower Brahmaputra Valley Zone of Assam, to control bark eating caterpillar in citrus crops, spray with monocrotophos 0.04% on the infested portion after current spells of rain.
- In Barak Valley Zone of Assam, apply Malathion @ 2ml/litter of water against fruit and shoot borer and Jassids in Okra crop after current spells of rain.
- In Upper Brahmaputra Valley Zone, present weather is favourable for early shoot borer infestation in sugarcane crop. Monitor the crop and collect the egg masses from leaves and destroy them. Shoot borer infestation may be checked by burying or burning the infested canes. Proper earthing up will reduce the early shoot borer infestation.
- In Dhemaji, Darang, Lakhimpur, Sonitpur and Udalgiri districts of North Bank Plain Zone of Assam, to control caterpillar in jute, apply Malathion 5% dust. Apply plant protection measures after current spells of rain.
- In Arunachal Pradesh, undertake need-based application of carbendazim@2gm/lit with sticker @ 2ml/litre to protect rice seedlings from diseases. Spray Triazophos @ 2 ml / litre in young seedlings of groundnut. Undertake plant protection measures after current spells of rain.
- In Meghalaya, high humidity with intermittent rain is favourable for development of blast in *jhum* rice. Spray Mancozeb @ 2g/litre of water or Carbendazime @ 1g/litre of water. Also apply Furandian 3G granules@ 2-3 granule to each whorl of maize plant at tasselling/cob formation stage against shoot fly/cob borer/stem borer incidence. Apply plant protection measures after current spells of rain.

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

- In Dimapur, Kephire, Kohima, Longleng, Mokokchung, Mon, Paren, Phek, Tuensang, Wokha and Zunheboto districts of Nagaland, continue nursery preparation for sowing of TRC/WRC rice. Gitesh, short duration variety can also be incorporated as it can be transplanted with 40 – 60 days old seedlings.
- In Bishnupur, Chandel, Churachandpur, Imphal East, Imphal West, Senapati, Tamenglong, Thoubal and Ukhrul districts of Manipur, continue sowing of *kharif* rice and black gram. Undertake field preparations for transplanting of *kharif* rice. Avoid water logging in and around the ginger and turmeric field.

- In Aizwal, Champhai, Chhimituipui, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts of Mizoram, continue transplanting of rice and sowing of *kharif* pulses like green gram, black gram and rajma. Maintain proper drainage in the jhum rice, ginger/turmeric, cowpea, okra and maize fields.
- In Tripura, complete sowing maize. Continue land preparation and planting of banana. Undertake nursery sowing of *Aman* rice.
- In Nagaland, there is chance of attack of blast disease in jhum rice at tillering stage. Spray Tricyclazole 0.1% at 12-15 days interval. Spray neem oil 5ml/litre of water to control leaf eating caterpillars in cucurbits. For fruit fly in cucurbits, poison bait can be prepared with 250gm jaggery with Fenthion/ Dimethoate(Rogor) 20ml + 1 litre water can be kept in plastic bowls in bottle gourd/cucumber/curcurbit fields to check the fruit fly after current spells of rain.
- In Mizoram, apply 60 to 100 g of neem seed powder or neem cake against comb weevil and stem weevil in banana after current spells of rain.
- In Tripura, temperature above 30°C with humidity over 80 percent is highly favorable for fungal diseases like brown Spot, rice blast in the nursery bed of *Aman* rice. Excess of nitrogen aggravates the disease severity. To manage the attacks, apply Carbendazim+Mancozeb @ 2.5g per litre of water into the seedbed after current spells of rain.
- **Animal Husbandry**
  - In Assam & Meghalaya, farmers are advised to keep animals in sheds during heavy rain fall period.
  - In Assam, carry out immunizations against FMD, HS and BQ in cattle & buffaloes and swine-fever in pigs during monsoon season.
  - In Meghalaya, undertake immunization of cattle and buffaloes against FMD, Hemorrhagic Scepcaemia and Black Quarter. Vaccinate 6-9 months calves against brucellosis. Vaccinate poultry birds against Ranikhet disease and Coccidiosis.
- **Fishery**
  - In Meghalaya, provide sufficient feed like rice bran, mustard oil cake, fish meal, minerals & vitamins to major/minor carp brooders for proper egg development.
  - In Tripura, check the PH of the fish pond water. Apply 50 kg of lime per hectare if the PH of the water found below 6.5. Avoid excess feeding as it leads to depletion of oxygen.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa except Mumbai City, Mumbai Suburban, Palghar districts; in all districts of Madhya Maharashtra except Dhule, Jalgaon, Nandurbar, Nasik and Satara districts; in all districts of Marathwada except Parbhani district, in all districts of Vidarbha except Amraoti, Bhandara, Chandrapur, Gadchiroli, Gondia and Nagpur districts during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - **Maharashtra:**
    - In Konkan, in view of realized rainfall and expected widespread rain with isolated heavy to very heavy spells during next 5 days, drain out excess water from nursery and transplanted rice fields. Undertake transplanting of 20 to 25 days old rice seedlings. Provide mechanical support to gourd crops. Also drain out water from vegetable fields like bhendi and gawar. Continue land preparation for sowing of groundnut (Konkan Gaurav and Trombay Konkan (Tapura), TG-26, TAG-24 and TPG-4. Continue planting of fruit saplings like mango, cashew, coconut, arecanut and sapota. Undertake application of fertilizers and plant protection methods after current spells of rain.
    - In Madhya Maharashtra, undertake sowing of *kharif* crops like soyabean, cotton and moong etc. in Dhule, Nandurbar and Jalgaon districts after receipt of sufficient rain. Continue sowing of *kharif* vegetables in the nursery on raised beds. Continue sowing of *kharif* crops like soyabean, tur, cotton, groundnut and sunflower in Nasik, Pune, Solapur, Kolhapur, Satara and Sangli districts.
    - In Marathwada, continue nursery preparation for *kharif* onion. Continue sowing of pigeon pea, green gram, black gram, groundnut, soyabean, Bt. cotton and maize etc. Continue land preparation for sowing of fodder maize (African Tall, Ganga-5, Vijay, Manjari, Ganga safed-2 hybrids varieties).
    - In Vidarbha, continue nursery sowing of *Kharif* rice on raised beds in East Vidarbha. Undertake sowing of *Kharif* crops like soybean, cotton, tur and moong etc. in Central and West Vidarbha utilising the realised and expected rainfall. Continue sowing of vegetables like bitter gourd, tinda, ridge gourd, smooth gourd, bottle gourd, cowpea, cluster bean and coriander.
    - In Konkan, to protect the new flush of mango from mango hoppers, leaf eating caterpillars, shoot borer and midge fly, spray Dimethoate 25 EC @ 12 ml or Monocrotophos 36 WSC @ 11 ml per 10 litres of water after current spells of rain.
  - **Gujarat:**
    - In South Gujarat Heavy Rainfall Zone, continue nursery sowing of *kharif* rice and continue land preparation for sowing of pigeon pea, green gram, black gram, groundnut etc. and undertake sowing after receipt of sufficient rainfall.

- In South Gujarat Zone, continue sowing of pigeon pea, cotton in Vagra block of Bharuch district, where sufficient rain occurred; undertake sowing of these crops in remaining districts and plantation of horticultural crops after receipt of sufficient monsoon rain. Undertake staking in banana, as there is forecast of high wind speed.
- In South Saurashtra Zone, continue land preparation and undertake sowing of irrigated hybrid cotton and B.T. cotton, continue early sowing of groundnut with irrigation.
- In Middle Gujarat Zone, undertake nursery sowing of rice after seed treatment. Continue land preparation for sowing of *kharif* crops like groundnut, pearl millet, green gram, black gram, red gram, cowpea, 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 nursery preparation for *kharif* fennel under irrigation facilities. Prepare farm ponds in the lower region of the fields in North West Zone of Gujarat.
- In North Saurashtra Zone of Gujarat, 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, continue land preparation for sowing of Bt. Cotton. Complete harvesting of pearl millet, continue picking of matured pods/ fruits of vegetable crops and harvesting of mango fruits regularly.
- There is a possibility of occurrence of powdery mildew and hoppers in mango in South Gujarat Zone; spray wettable Sulphur @ 3gm/litre and Carbryl @ 4gm/litre of water, respectively on a non rainy day.
- **Animal Husbandry**
- **In Konkan**, keep cattle/goats indoor during heavy rainfall period & keep the animal shed dry and clean. Undertake vaccination against Foot and Mouth Disease in cows, buffaloes and goats under the supervision of veterinary doctor.
- In Gujarat, provide 30-35 gm mineral mixture in daily diet of animals. Protect animals from rain and wind. Care should be taken in rainy days for stored dry fodder. Vaccinate animals against FMD and BQ.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Gangetic West Bengal and Sub Himalayan West Bengal & Sikkim; in all districts of Bihar except Arwal, Aurangabad, Begusarai, Buxar, East and West Champaran, Gaya, Monghyr, Muzaffarpur, Nalanda, Nawada, Patna, Rohtas, Samastipur and Sitamarhi; all districts of Jharkhand except Bokaro, Chatra, Deogarh, Garwa, Giridh, Godda, Koderma, Latehar, Palamau and Ranchi ; in all districts of Odisha during the week.
- **Advisories:**
  - **Odisha:**
    - In East and South Eastern Coastal Plain Zone, continue land preparation and sowing of direct seeded rice in medium and low lands and continue sowing of arhar and maize in medium/uplands. Undertake planting of fruit crops like Mango, Coconut, Citrus, Guava, Sapota, Papaya, Banana, Litchi and Pineapple in uplands and in marginal lands .
    - 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 uplands. 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 and sowing of pulses and maize in uplands.
    - 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.
  - **West Bengal:**
    - In the Laterite and Red Soil Zone, continue raising lowland rice nursery. Make proper bunding to maintain optimum water in the fields.
    - In the Terai Zone, undertake main field preparation and transplant the seedlings of rice after cutting the tips as far as possible.
    - In the New Alluvial Zone, complete nursery sowing of *Aman* rice. Prepare land for planting of banana suckers.
    - In the New Alluvial Zone, in prevailing weather is congenial for attack of mite control in jute crop, apply Monocrotophos @ 1.5 ml per litre of water and after one week again apply Propergite/Simba @ 1.5 ml per litre of water. Undertake plant protection methods after current spells of rain.
    - In the Coastal Saline Zone, undertake sowing of direct seeded long duration paddy varieties like Sabita Foundation, Swarna sub-1 certified, IR-64, Hira T.L., etc., after proper tillage operation like ploughing, weeding etc. Prepare pits for plantation of saplings of mango, guava and coconut.
    - In the Old Alluvial Zone, apply Neem oil 10,000 ppm @ 2ml/liter of water to control fruit and shoot borer in brinjal crop. Use pheromone trap @ 6-7 traps/bigha, to control the fruit fly in cucurbitaceous vegetables and repeat after

10-15 days interval after current spells of rain.

- In the Terai Zone, to control extreme fruit and shoot borer infestation in brinjal crop, apply Cartap Hydrochloride 50 SP @ 1g/litre of water. Apply Spiromesifen (Pyromite) 1 ml/lit. of water to control red mite and (Matalaxyl + Mancozeb) @ 2.0 gm/ litre or Azoxystrobin @1 ml/litre of water to control downy mildew in cucurbits.

- **Andaman and Nicobar Islands:**

- In the North and Middle Andaman, maintain thin film of water in paddy nursery. Transplant already grown vegetable seedlings of brinjal, okra and chilli in upland area with proper drainage facility. Provide support to the fruit bearing banana trees as wind speed may rise to 20-30 km/h.
- In the Nicobar Islands, clean the crown of coconut tree to avoid the attack of Rhinoceros beetle in coconut field.

- **Bihar:**

- In North East Alluvial Zone, continue nursery sowing of long duration paddy. Undertake 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 and 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 the Andaman and Nicobar Islands, keep the 1 day old chicks inside the shelter and keep the floor of poultry shed dry.

- **Fishery**

- In the Laterite and Red Soil Zone and the Coastal Saline Zone of West Bengal, undertake putting fingerling of carp in the pond. Supply food during night in tiger prawn cultivation. Stir pond water with wheel in case of oxygen deficiency. Apply lime for cleaning water.

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

- **Realised Rainfall:** Rainfall occurred in Anuppur, Damoh, Sagar, Singrauli and Tikamgarh districts of East Madhya Pradesh, Ashoknagar, Gwalior and Vidisha districts of West Madhya Pradesh; Dantewada, Dhamtari, Durg, Janjgir, Jashpurnagar, Kondagaon, Mahasamund, Raigarh and Sukma districts of Chhattisgarh during the week. Weather remained mainly dry over rest of the region..

- **Advisories:**

▪ **Madhya Pradesh:**

- In Kymore Plateau and Satpura Hill Zone, continue nursery sowing of rice and sowing of red gram.
- In Satpura Plateau Zone, undertake nursery sowing of rice, sowing of soybean, maize, red gram and moong. Continue nursery preparation for tomato, chilli, brinjal and early cauliflower.
- In **West Madhya Pradesh**, undertake land preparation for soybean, jowar, bajra, urad, moong and wait for sowing till receipt of sufficient rainfall.
- In Gird Zone, continue nursery sowing of rice and *kharif* vegetables and sowing of red gram in irrigated areas.
- In Malwa Plateau Zone, continue land preparation for sowing soybean and maize and preparation for transplanting rainy season vegetables like brinjal, tomato, *kharif* onion, early cauliflower, chilli etc. and fruit plants. Harvest the mature fruits of cucurbits and other vegetables in clear weather.
- In Kymore Plateau and Satpura Hill Zone, continue nursery sowing of rice with irrigation facility and sowing of red gram.
- In Jhabua Hill Zone, continue nursery sowing of rice and sowing of maize, soybean and black gram utilising the realised rainfall. Continue nursery preparation for rainy season vegetables.
- In Central Narmada Valley Zone, continue nursery preparation for tomato, chilli, brinjal and early cauliflower. Continue nursery bed preparation for rice. Continue 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 on a non rainy day.

▪ **Chhattisgarh:**

- In North Hill Zone, continue nursery sowing of long duration varieties of rice. Continue 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 rice. Continue field preparation and sowing of soybean, maize and groundnut.
- In Bastar Plateau Zone, for control of leaf curl disease in lady's finger, cowpea, pumpkin, chilli 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 Jammu, Rajouri, Reasi districts of Jammu & Kashmir, in Hamirpur, Kangra, Mandi, Shimla, Solan districts of Himachal Pradesh, in Champawat, Dehradun districts of Uttarakhand, in Amritsar, Barnala, Gurdaspur, Ludhiana, Mansa, Moga, Muktesar, Sangrur, Taran taran districts of Punjab, in Bhiwani, Chandigarh, Faridabad, Gurgaon, Hisar, Jhajjar, Jind, Mahendragarh, Mewat, Palwal, Rewari, Rohtak, Sonapat districts of Haryana, in all divisions of Delhi, in Bahraich,, Basti, Deoria, Farrukhabad, Gonda, Gorakhpur, Hardoi, Kheri, Lucknow, Sant Kabir Nagar, Shrawasti, Varanasi districts of East Uttar Pradesh, in Aligarh, Baghpat, Bulandshahar, Ghaziabad, Lalitpur, Meerut, Shahjahanpur districts of West Uttar Pradesh, in Hanumangarh district of West Rajasthan, weather remained mainly dry/dry over rest of the region.

• **Advisories:**

- As thunderstorm accompanied with squall very likely at isolated places over Uttarakhand on 25<sup>th</sup> and 26<sup>th</sup> June ; over Uttar Pradesh and east Rajasthan on 26<sup>th</sup> and 27<sup>th</sup> June and over Jammu & Kashmir and Himachal Pradesh on 27<sup>th</sup> June, provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake prooping up in sugarcane in Uttar Pradesh
- As thunderstorm accompanied with squall and hail very likely at isolated places over Uttarakhand on 27<sup>th</sup> 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.

▪ **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 melon, sponge melon, bitter melon and okra. Continue harvesting of summer moong.

- 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, complete 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, Oglia, palak, radish, turnip and carrot in addition to transplanting of cabbage, cauliflower, broccoli 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, continue 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 leaf spot disease in Pomegranate, for control spray Mancozeb @ 600 gram and Carbendazim @ 100 gram 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.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh, in Kullu and Mandi districts, present weather is conducive for attack of leaf curl disease in stone fruit, for control spray two sprays at 10 days interval of Hexaconazole 0.05% or Contaf or Hexole @ 100 ml per 200 litres of water after current spells of rain.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of mite in okra, for control spray Ethion @ 1.5 to 2 ml per litre of water after current spells of rain.

▪ **Punjab, Haryana and Delhi:**

- In Punjab, continue nursery sowing of rice 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 moong and 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. Undertake direct seeding of basmati with varieties Pusa Basmati 1121 and Pusa Basmati 1509 and undertake sowing of nursery basmati varieties CSR 30, Basmati 370, Basmati 386 and Pusa Basmati 1509.
- In Western Zone of Haryana, complete sowing of ladyfinger, bottle gourd, cucumber, ridge gourd and summer radish and apply irrigation to planted vegetable crops.
- In Eastern Zone of Haryana, continue planting of spring season sugarcane.
- In New Delhi, continue sowing of okra. Seed rates should be 10-15 kilogram per acre. Continue sowing of French

bean, cluster bean, summer radish as present temperature is suitable for germination of seeds. Continue transplanting of young seedlings of brinjal and chilli. Complete sowing of green gram and black gram. 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 200 litres 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 on a non rainy day.
- Due to heavy rainfall in Western Plain Zone, there may be parawilt attack on the cotton crop, control it by spraying Cobalt chloride @ 10 mg/ litre of water only on the affected plants on a non rainy day.

▪ **Uttar Pradesh:**

- In Central Plain Zone of Uttar Pradesh, undertake land preparation/early sowing of *kharif* hybrid maize. Undertake land preparation / nursery sowing of paddy. Continue land preparation for sowing of arhar under irrigated condition or beginning of monsoon.
- In Eastern plain Zone of Uttar Pradesh, complete nursery sowing of mid and late variety of rice and early variety of rice before 25<sup>th</sup> June. Continue sowing of early maturing variety of arhar in irrigated areas. Undertake sowing of long duration varieties of maize. Continue nursery sowing of *kharif* onion. Continue nursery sowing of brinjal, chilli, bhindi, tomato, 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. Continue sowing of paddy in nursery. Continue 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 on a non rainy day.
- In Western Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of fruit fly in cucurbitaceous crops, for control spray Dimethoate @ 2 ml per litre of water at 50 litres per hectare on a non rainy day.

▪ **Rajasthan:**

- 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 to conserve the rain water in soil for *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 rainy season cucurbits like Khira, bottle gourd, ridge gourd, bitter gourd & cucumber. Treat seeds with Bavistin @ 2 gm per kg of seeds. Give 30 kg nitrogen, 40 kg P<sub>2</sub>O<sub>5</sub> phosphorous & 40 kg potash per hectare. Keep inputs ready for *kharif* crops like pearl millet, sorghum, maize & cluster bean, greengram, cowpea sowing should be done after onset of monsoon.
- In Jaisalmer and Bikaner districts of Arid Western Plain Zone, continue land preparation for sowing of groundnut and go for sowing after receipt of sufficient rainfall. Undertake sowing of rainfed pearl millet on receiving of monsoon rain, apply seed @ 4kg/ha after treating with Thiram @ 3g/kg seed and Chloropyrifos @ 4 ml/kg. In Barmer, Churu, Jalore, Jodhpur, Pali districts of Arid Western Plain Zone, keep inputs ready for sowing of *kharif* crops
- In Southeastern Humid Plain Zone, in Jhalawar, Kota, Bundi, Baran districts, apply light irrigation to standing summer crops and sugarcane crop. Continue nursery sowing of rice.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhapur 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 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, seed rate of 16-20 kg/hectare.
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of white fly in BT and American cotton, when white fly population reach above economic threshold level (8-12 white fly/leaf), for control spray Nimbecidine @ 5 ml + liquid soap @ 1 ml per litre of water on a non rainy day.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhapur 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 on a non rainy day.

- **Horticulture**

- 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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