

National Agromet Advisory Service Bulletin



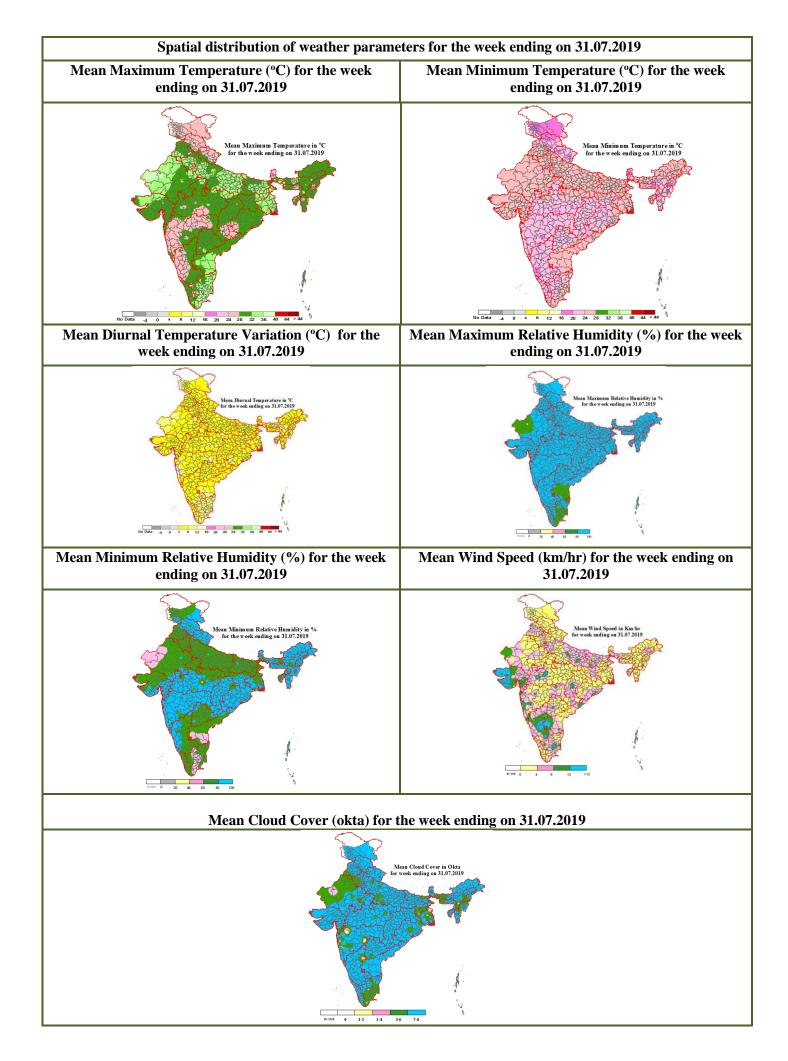
Friday 2nd August 2019 (For the period 2nd to 6th August 2019)

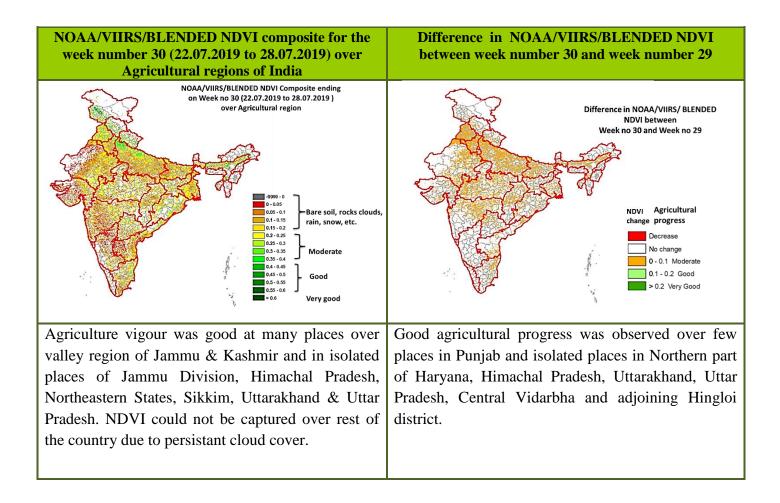


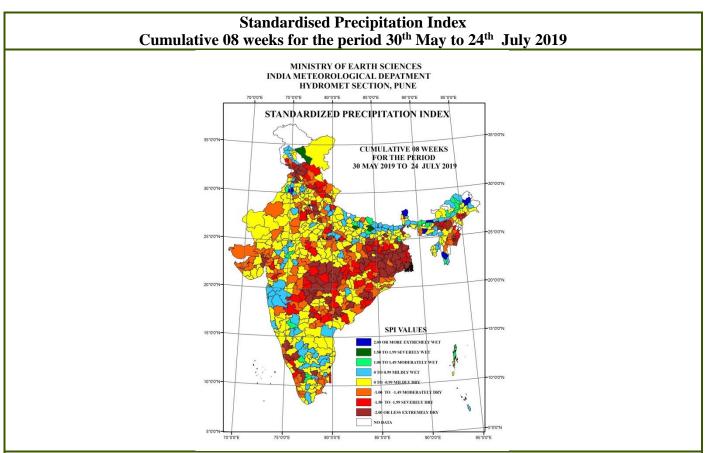
Issued by India Meteorological Department

Weblink For

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- Extremely/Severely wet conditions exist in Lower Dibang Valley district of Arunachal Pradesh; Baksa district of Assam; Gopalganj, Siwan districts of Bihar; Kargil district of Jammu; East Garo Hills district of Meghalaya; Lunglei district of Mizoram; Bhatinda district of Punjab; Ambedkar Nagar district of Uttar Pradesh; North Sikkim district of Sikkim.
- Moderately wet conditions exist in Papumpara, West Siang districts of Arunachal Pradesh; Barpeta, Kokrajhar, Nalbari, Dhemaji, Chirang districts of Assam; West Champaran district of Bihar; Bagalkote, Mandya districts of Karnataka; Ratlam districts of West Madhya Pradesh; Lawngtlai district of Mizoram; Muktsar district of Punjab; Tirupur district of Tamilnadu; Ballia, Basti districts of Uttar Pradesh; North & Middle Andaman districts of Andaman & Nicobar Islands; Sahibganj districts of Jharkhand.
- Extremely/Severely dry conditions exist in Srikakulam, Vizianagaram, West Godavari districts of Andhra Pradesh; Tirap districts of Arunachal Pradesh; Darrang, Nagaon, Sibsagar and Karbi Anglong districts of Assam; Aurangabad, Begusarai, Gaya, Rohtas, Sheikhpura districts of Bihar; Ahmedabad districts of Gujarat.
- Moderately/ mildly dry conditions experienced in remaining districts in the country.

Long Range Forecast for the Rainfall during Second Half (August –September) of the 2019 Southwest Monsoon

Quantitatively, the rainfall over the country as a whole during the second half of the season is likely to be 100% of the long period average (LPA) with a model error of $\pm 8\%$. The rainfall during August is likely to be 99 $\pm 9\%$ of LPA as was predicted in June. The season (June to September) rainfall over the country

as a whole is likely to be normal (96% $\pm\,4\%$ of LPA) as was predicted in June.

Weather Forecast for next 5 days valid upto 0830 hours of 07th August 2019

• Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table-1.

• No significant change in maximum temperatures likely over major parts of the country during next 3-4 days.

5 Day Rainfall Forecast (MID-DAY) 02th August 2019

Met-Sub-Division	02-A Tod		Aug at	04Aug Sun	05Aug Mon	06Aug Tue
1. Andaman & Nicobar Islands			vs	WS	WS	FWS
2. Arunachal Pradesh	SC	r s	ст	SCT	SCT	SCT
3. Assam & Meghalaya	FW	S F	ws	SCT	SCT	SCT
4. N. M. M. & T.	FW	S F	ws	SCT	SCT	FWS
5. S.H. West Bengal & Sikkim	FW	S F	ws	FWS	FWS	FWS
6. Gangetic West Bengal	FW	S F	ws	FWS	WS	WS
7. Odisha	WS	v	VS	WS	ws	ws
8. Jharkhand	ISO	L S	СТ	FWS	ws	ws
9. Bihar	SC	r s	CT	SCT	SCT	SCT
10. East Uttar Pradesh	SC	F	ws	FWS	FWS	FWS
11. West Uttar Pradesh	FW	S F	ws	FWS	FWS	FWS
12. Uttarakhand	ws	V	VS	WS	ws	ws
13. Haryana, Chd & Delhi	FW	S F	ws	FWS	WS	WS
14. Punjab	WS	V	VS	FWS	WS	WS
15. Himachal Pradesh	WS	V	VS	WS	WS	WS
16. Jammu & Kashmir	SC	F	ws	SCT	SCT	FWS
17. West Rajsthan	SC	r s	СТ	ISOL	ISOL	ISOL
18. East Rajasthan	WS	V	VS	WS	FWS	FWS
19. West Madhya Pradesh	ws	V	VS	WS	WS	WS
20. East Madhya Pradesh	ws	V	VS	FWS	FWS	WS
21. Gujarat Region	WS	V	VS	FWS	SCT	SCT
22. Saurashtra & Kutch	FW	s s	ст	SCT	SCT	SCT
23. Konkan & Goa	WS	V	VS	WS	WS	WS
24. Madhya Maharashtra	WS	V	VS	WS	WS	WS
25. Marathawada	ws	F	ws	FWS	FWS	FWS
26. Vidharbha	ws	V	VS	WS	FWS	FWS
27. Chhattisgarh	WS	F	ws	FWS	WS	WS
28. Coastal A. P. & Yanam	WS	F	ws	FWS	FWS	SCT
29. Telangana	WS	F	ws	FWS	FWS	FWS
30. Rayalaseema	FW	S I	SOL	ISOL	ISOL	ISOL
31. T.N.,Puducherry & Karaikal	ISO	LI	SOL	ISOL	ISOL	ISOL
32. Coastal Karnataka	WS	V	VS	WS	WS	WS
33. North Interior Karnataka	FW	S F	ws	FWS	FWS	FWS
34. South Interior Karnataka	FW	S S	СТ	SCT	FWS	FWS
35. Kerala & Mahe	SCI	r s	СТ	FWS	WS	WS
36. Lakshadweep	ISO	LI	SOL	SCT	FWS	FWS
% Station	Repo	orting F	lainfa	ıll		
% Stations Category		% Station	_	Category		
76-100 Widespread (WS/Most Place	es)	26-50		Scattered (SCT/ A Few Places)		
51-75 Fairly Widespred (FWS/ Many P	laces)	1-25	5 Isolated (ISOL)			
No Rain Dry						

Weather Warning during next 5 days

02 August(Day 1): Heavy to very heavy with extremely heavy falls very likely at isolated places over Konkan & Goa, Madhya Maharashtra and Chhattisgarh; Heavy rainfall at a few places with very heavy at isolated places very likely over East Rajasthan; Heavy to very heavy rainfall at isolated places very likely over Coastal Andhra Pradesh, Telangana, Gujarat Region, Vidarbha, Himachal Pradesh, Punjab, West Rajasthan and Odisha and heavy rainfall at isolated places over Coastal & North Interior Karnataka, Marathwada, Saurashtra & Kutch, Madhya Pradesh, Jammu & Kashmir, Uttarakhand, Haryana, Chandigarh & Delhi and West Uttar Pradesh.

• Strong winds, speed reaching 40-50 kmph, are likely to prevail over north, central and southwest Arabian Sea; central Bay of Bengal and along & off Gujarat-Maharashtra-Goa coasts and Andhra Pradesh coast. Fishermen are advised not to venture into these areas.

03 August (Day 2): • Heavy to very heavy at a few places with extremely heavy falls at isolated

places very likely over Konkan & Goa; **Heavy to very heavy with extremely heavy falls** very likely at isolated places over Madhya Maharashtra; **Heavy rainfall at a few places with very heavy at isolated places** very likely over East Rajasthan; **Heavy to very heavy rainfall** at isolated places very likely over West Madhya Pradesh, Vidarbha, Chhattisgarh, Uttarakhand and Odisha and **heavy rainfall** at isolated places over Coastal & North Interior Karnataka, Telangana, Gujarat region, East Madhya Pradesh, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, West Rajasthan and West Uttar Pradesh.

• Strong winds, speed reaching 40-50 kmph, are likely to prevail over north, central and southwest Arabian Sea; north & central Bay of Bengal and along & off Gujarat-Maharashtra-Goa coasts and Andhra Pradesh coast. Fishermen are advised not to venture into these areas.

04 August (Day 3): • Heavy to very heavy at a few places with extremely heavy falls at isolated places very likely over Konkan & Goa; Heavy to very heavy with extremely heavy falls very likely at isolated places over Madhya Maharashtra; Heavy to very heavy rainfall at isolated places very likely over East Rajasthan and Odisha and heavy rainfall at isolated places over Coastal Karnataka, West Madhya Pradesh, Chhattisgarh, Himachal Pradesh, Uttarakhand, West Uttar Pradesh and Nagaland.

• Strong winds, speed reaching 40-50 kmph, are likely to prevail over north, central and southwest Arabian Sea; north & central Bay of Bengal and along & off Gujarat-Maharashtra-Goa coasts and West Bengal, Odisha and Andhra Pradesh coasts. Fishermen are advised not to venture into these areas.

05 August (Day 4): ♦ Heavy to very heavy rainfall at isolated places likely over Coastal Karnataka, Konkan & Goa, Madhya Maharashtra, Uttarakhand, Punjab, Odisha & Haryana, Chandigarh & Delhi and heavy rainfall at isolated places over Kerala, South Interior Karnataka, Coastal Andhra Pradesh, West Madhya Pradesh, Chhattisgarh, Jammu & Kashmir, Himachal Pradesh, West Uttar Pradesh, East Rajasthan, Gangetic West Bengal and Jharkhand.

• Strong winds, speed reaching 40-50 kmph, are likely to prevail over north, central and southwest Arabian Sea; north & central Bay of Bengal and along & off Maharashtra-Goa-Karnataka coasts and West Bengal, Odisha and Andhra Pradesh coasts. Fishermen are advised not to venture into these areas.

06 August (Day 5): ♦ Heavy to very heavy rainfall at isolated places likely over Coastal Karnataka, Konkan & Goa, Madhya Maharashtra, Uttarakhand, Punjab, Odisha & Haryana, Chandigarh & Delhi and heavy rainfall at isolated places over Kerala, South Interior Karnataka, Coastal Andhra Pradesh, Telangana, Madhya Pradesh, Chhattisgarh, Himachal Pradesh, West Uttar Pradesh, Rajasthan, Gangetic West Bengal and Jharkhand.

• Strong winds, speed reaching 40-50 kmph, are likely to prevail over north, central and southwest Arabian Sea; north & central Bay of Bengal and along & off Karnataka-Kerala coasts and West Bengal &Odisha coasts. Fishermen are advised not to venture into these areas.

Weather Outlook for subsequent 2 days from 07th August to 09th August 2019

• Fairly widespread to widespread rainfall with isolated heavy falls likely over East, central and Northwest India and along west coast.

• Scattered to fairly widespread rainfall likely over the rest of the country except over southeast peninsular India, where rainfall is likely to be isolated.

Salient advisories

As rain/thundershowers likely at most/many places over Maharashtra during the period and over Gujarat region from 2nd to 4th August along with Heavy to very heavy rainfall at a few places with extremely heavy falls very likely at isolated places over Konkan & Goa from 2nd to 4th, Heavy to very heavy rainfall with extremely heavy falls very likely at isolated places Madhya Maharashtra from 2nd to 4th, Heavy / Heavy to very heavy rainfall at isolated places over Gujarat region on 2nd & 3rd August, rain/thundershowers likely at most/many places over **East Rajasthan** during the period along with **Heavy to very heavy rainfall at a few places with extremely heavy falls** very likely at isolated places from 2nd to 4th, rain at most/many places over Madhya Pradesh and Chhattisgarh during the period along with **heavy/ heavy to very heavy rainfall** very likely at isolated places over Chhattisgarh during the period, **heavy rainfall** very likely at isolated places over west Madhya Pradesh from 4th to 6thAugust, rain/thundershowers likely at at most places over **Coastal Karnataka** with **heavy/ Heavy to very heavy rainfall** very likely at isolated places over **Coastal Karnataka** with **heavy/ Heavy to very heavy rainfall** very likely at isolated places, rain/thundershowers likely at most/many places over **Himachal Pradesh**, **Uttarakhand**, **Punjab**, **Haryana** and **West Uttar Pradesh** during the period along with **heavy rainfall** very likely at isolated places, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields like vegetables, pulses and maize. Provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to heavy rain.

- In Assam, due to heavy rainfall during the past week, flood situation was observed in many parts of the State, the following contingency measures are suggested:
 - In Upper Brahmaputra Valley Zone, for flood affected areas, undertake nursery raising of the photo insensitive short duration (90-100 days) varieties in the areas where the rice crop is totally damaged due to flood.
 - In flood affected areas of North Bank Plain Zone of Assam, if there is the total damage of seedlings or crops in the main field, farmers are advised to sow medium to short duration rice varieties in nursery bed within 1st week of August. Sow wet seeding of sprouted seeds (@75-80 kg/ha) of short to medium duration varieties. Undertake direct seeding with the photo insensitive short duration variety. In partially affected fields, drain out excess water and apply 1/3rd N₂ + 50% K₂O as top dressing during the tillering stage after current spells of rain.
- > Utilizing the reliased and expected rainfall, undertake sowing/transplanting of following *Kharif* crops:
 - In South Interior Karnataka, undertake sowing of Foxtail millet, Kodo millet, Proso millet, ragi, Jowar and maize, continue nursery sowing of rice in Southern Transition Zone.
 - Continue transplanting of rice in Madhya Pradesh and Chhattisgarh.
 - In Nagaland and Manipur, continue transplanting of rice.
 - In East Uttar Pradesh, continue transplanting of rice and sowing of groundnut, arhar, sunflower, lobia, jowar, bajra and maize. In Western Plain Zone of Uttar Pradesh, undertake sowing of sorghum, pearl millet, groundnut, pigeon pea, black gram, green gram and groundnut at optimum soil moisture conditions.

Detailed Agromet Advisories

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

Realised Rainfall: Significant rainfall occurred in the all districts except Nellore in Coastal Andhra Pradesh, Nalgonda, Rangareddy, Sangareddy and Wanaparthy districts of Telangana, Kannur, Ernakulam, Idukki , Kasaragod, Kozhikode, Malappura, Thrissur, Wayanad districts of Kerala, Chennai, Kanchipuram, Nilgiris, Sivaganga, Tiruvannamalai, Vellore in Tamilnadu, in all districts of Coastal Karnataka, in Belagavi, Dharward, Haveri, Yadgir districts of North Interior Karnataka and in Chikkamagaluru, Kodagu and Shivamogga districts of South Interior Karnataka during the week. Weather remained mainly dry over Rayalaseema.

Advisories:

As rain/thundershowers likely at most places over **Coastal Karnataka**, most/many places Telangana and North Interior Karnataka during the period over Coastal Andhra Pradesh from 2nd to 5th August along with **heavy/ Heavy to very heavy rainfall** very likely at isolated places over Coastal Karnataka, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields like vegetables, pulses and maize. Provide mechanical support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to heavy rain in Coastal Karnataka.

Kerala:

- In Problem Area Zone, in pepper gardens, the vines may be drenched over a radius 45-50 cm with copper oxychloride 2g / litre@ 5-10 litres/ vine. A foliar spray with 1 per cent Bordeaux mixture is also to be given on a non rainy day.
- In Central Zone, weather is congenial for Pseudostem weevil in banana, spray 2.5 ml of Chlorpyrifos or 2 ml of Quinalphos mixing with gum per one litre of water in leaf axils and by inserting the nozzle through the boreholes made by the larvae.
- In Northern Zone, weather is congenial for attack of leaf folder in paddy, spray Takumi
 @ 3g/10 ltr of water on a non rainy day.
- In Central Zone, to control green leaf hopper attack in Bhindi. Spray 2 g Thiamethoxam per 10 litre of water on a non rainy day.

Andhra Pradesh:

- In North Coastal Andhra Pradesh, undertake nursery sowing of medium duration rice instead of long duration or go for direct seeding of medium duration rice. In 15-20 days aged nurseries for both grasses and broad leaf weeds control, spray bispyribac sodium @ 5 ml / 10 liters of water, if echinocloa (ooda) is predominant go for spraying with cyhalofop butyl @ 20 ml /10 liters of water.
- In Scarce rainfall Zone of Rayalaseema, wherever sufficient soil moisture is available, farmers are advised to takeup sowing of Redgram, Bajra, Foxtail millet, Castor and Cotton Crops.
- ➢ In Krishna Godavari Zone of Andhra Pradesh, continue sowing of Direct Sown Paddy. Maintain optimum water level and drain out the excess water stagnation in the field so as to encourage the healthy growth and more number of tillers.
- In Southern Zone of Andhra Pradesh, the present weather conditions are favourable for sucking pests in groundnut. To control spray monocrotophos @ 1.6 ml. (or) imidachloprid @ 0.3 ml./L of water after current spells of rain.

Telangana:

- In Southern Telangana zone, complete the sowing of paddy nurseries of Telangana Sona (RNR 15048) and other short duration rice varieties by 05th August.
- In Northern Telangana, prevailing weather conditions are favorable for blast in paddy. To control apply of tricyclozole @ 0.6 g or isoprothiolane @ 1.5 ml liter of water after current spells of rain. Sow the Redgram crop as intercrop in cotton and maize.
 Terril No dec.

Tamil Nadu:

- In Western Zone, complete sowing of gourd vegetables. Also undertake propping for sugarcane and banana crop.
- In North Western Zone, undertake land preparation with compartmental bunding and undertake sowing of groundnut.
- In Cauvery Delta Zone, weather is congenial for incidence of black bug in kuruvai paddy which is in tillering stage, spray Cholpyriphos 20 E.C 500 ml /acre or Neem seed kernel extract 5% on a non rainy day.
- In Southern Zone, weather is congenial for Cercospora leaf spot in groundnut, spray Mangozeb @ 2.5 g per litre of water.

Karnataka:

- ➢ In Coastal Karnataka, drain out excess water from crop fields /orchards. This is the right time for planting of areca nut seedlings.
- In North Interior Karnataka, continue sowing of onion crop. Undertake sowing of sunflower during second week of August for avoiding Necrosis. Complete sowing of cowpea, soybean, maize, red gram and sesame crops.
- In South Interior Karnataka, undertake sowing of Foxtail millet, Kodo millet, Proso millet, ragi, Jowar, maize and pulses like Avare, cowpea. Avoid planting of sugarcane. Carry out intercultural operation in maize, red gram crops. Prepare ridges and furrows and compartment bunds in the lands reserved for *rabi* sowing so as to conserve moisture which will be helpful for the *rabi* crops.
- In North Interior Karnataka, incidence of Agromyzid fly has been noticed in the green gram crop; spray Imidacloprid 17.8 SL @0.2ml or Thiamethoxam @0.3 gram of per litre of water on a non-rainy day. There is a chance of development of powdery mildew in black gram; if noticed, spray 0.2% water soluble Sulphur or 1% Hexaconezole 5 EC per litre of water after current spells of rain. Animal Husbandry
- In Karnataka, for milch animals, regularly follow schedule of 1 kg feed + 50 g mineral mixture per 2 litres of milk yield. Feed animals with a mixture of green grass + hay + minerals + dry feed like a khichri.

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

Realised Rainfall: Rainfall occurred in all districts of Arunachal Pradesh except East Kameng and Upper Subansari; in Barpeta, Bongaigaon, Cachar, Chirang, Dhemaji, Dhubri, Dibrugarh, Goalpara, Golghat, Hailakandi, Jorhat, Karimganj, Kokrajhar, Lakhimpur, Morigaon, N.C.Hills, Nowgaon, Sonitpur, Sibsagar, Tinsukia and Udalgiri districts of Assam; all districts of Meghalaya except Ri-Bhoi; all districts of Mizoram except Serchhip; all districts of Manipur except Chandel; Dimapur, Kohima, Longleng, Mokokchung, Paren, Phek, Wokha and Zunheboto districts of Nagaland and all districts of Tripura.

Advisories:

Arunachal Pradesh:

In Arunachal Pradesh, if there is total damage of seedlings or crops in the main field of rice due to heavy rainfall during the last week, farmers are advised sowing of medium to short duration varieties of seeds in nursery bed within 1st week of August. Provide proper drainage in crop fields to avoid water stagnation.

Assam & Meghalaya:

- In Upper Brahmaputra Valley Zone of Assam, in flood affected areas, undertake nursery raising of the photo insensitive short duration (90-100 days) varieties in the areas where the rice crop was totally damaged due to flood. The tender seedlings of these varieties can be transplanted in the main field during 1st week of September. Due to congenial weather, there is chance of attack of stem borers, hoppers etc. in the sali rice seedlings in the nurseries. Under fair weather condition, it is advised to spray Chlorpyriphos 20 EC or Quinalphos 25 EC (66-80 ml per 66-80 litre of water per bigha) against the pests. Continue sowing of sesame seeds in the flood-free upland areas.
- In Lower Bramhaputra Valley Zone of Assam, complete transplanting of paddy seedlings without delay. In case of excess water in the very low land situation, the field is to be drained out for good aeration which will reduce the incidence of pest and disease. Complete sowing of sesame upto mid of August. Maintain proper drainage in the fields of standing crops.
- In Barak Valley Zone of Assam, complete the transplanting of Sali rice at the earliest and keeps some extra seedling which will be require for gap filling.
- In Central Bramhaputra Valley of Assam, continue transplanting of Sali paddy seedlings of medium and long duration varieties (120-150) days. Continue sowing of *kharif* sesame. Undertake land preparation for sowing of *kharif* pulses (green gram & black gram).

- Complete the transplanting of Sali rice at the earliest in North Bank Plain Zone of Assam. In flood affected areas of North Bank Plain Zone of Assam, if there is the total damage of seedlings or crops in the main field, farmers are advised to sow medium to short duration rice varieties in nursery bed within 1st week of August. Sow wet seeding of sprouted seeds (@75-80 kg/ha) of short to medium duration varieties. Undertake direct seeding with the photo insensitive short duration variety. In partially affected fields, drain excess water and apply 1/3rd N₂ + 50% K₂O as top dressing during the tillering stage after current spells of rain. Avoid water logged condition in the olitorious jute field. Continue land preparation and sowing of *kharif* sesame.
- > In Hill Zone of Assam, continue land preparation and sowing of Arhar and summer seasame.
- In Meghalaya, continue transplanting of low land Sali rice. After transplanting maintain a thin layer of 2-3 cm stagnating water in the field. Maintain proper drainage in the field of ginger, turmeric and maize fields.

Manipur, Mizoram, Tripura and Nagaland:

- In Nagaland, continue transplanting of TRC/WRC rice and sowing of groundnut. Continue land preparation for sowing of soybean. If due to deficit of water, cultivation of paddy is not possible in all the plots then go for alternative crops like maize, oilseed crops, pulses in the remaining plot.
- In Nagaland, spray neem oil @5 ml/litre of water along with suitable agent like nirma powder 1g l-1 or NSKE 5% against Hairy caterpillar in groundnut at vegetative stage after current spells of rain
- In Manipur, continue transplanting of kharif rice. Maintain a thin film of water up to 7 days after transplanting and then increase water to 5-8 cm. Continue sowing of black gram, groundnut, black gram, rice bean and millet. Spray Carbendazim @ 0.5g / lit of water to control tikka disease in groundnut after current spells of rain.
- In Mizoram, to manage Northern leaf blight disease in maize at cob formation stage, spray Approach (Methoxy-acrylates) @ 2 g/litre of water after current spells of rain. Continue transplanting of rice. Drain out excess water in maize, green gram,ginger/turmeric and jhum rice field after current spells of rain
- In Tripura, continue transplanting of Aman rice. Apply Trizophos 40 EC, 1ml per litre of water against attack of Yellow Stem Borer in Aman rice after current spells of rain.
- > Animal Husbandry:
- In flood affected areas of Upper Brahmaputra valley zone of Assam, vaccinate domestic livestock like cattle, goat and pigs against BQ, HS, Foot and mouth disease as well as anthrax disease. During the monsoon season animals should not be fed with water submerged rotten grasses.
- In Lower Bramhaputra Valley Zone of Assam, keep the animal in raised platform during the flood situation. Maintain a proper distance from the free flowing flooding streams and rivers. Provide seasonal vaccination against viral and bacterial diseases like FMD, BQ, HS etc.supply adequate amount of clean and pure drinking water.
- In Tripura, monsoon weather could lead to gastrointestinal parasites infection in pig. It is advised to maintain good sanitary conditions of pig sheds.
 Fishery:
- In Barak Valley Zone of Assam, after draining out of flood water, apply lime @ 30 kg per bigha of pond, 15 days to 20 days after lime application apply 250-300 kg FYM per bigha of pond and if possible provide net around the pond to protect from flowing out with flash flood.
- In Arunachal Pradesh, provide additional feed for the fishes in the pond. There is possibility of muddy water influx from the surrounding areas into the fishery resulting reduction of dissolved oxygen contents. Stirring the water with a bamboo pole will help in increasing the gaseous exchange and protect the fishes from suffocation.

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

Realised Rainfall: Rainfall occurred in North and Middle Andaman and South Andaman districts of Andaman & Nicobar Islands; in all districts of Bihar except Katihar, Patna and Saran; in all districts of Jharkhand; in all districts of Odisha; in all districts of Gangetic West Bengal except Howrah and in all districts of Sub-Himalayan West Bengal and Sikkim except North Dinajpur. Weather remained dry over rest of the region.

Advisories: Odisha:

- Taking the advantage of recent rain, undertake nursery sowing with rice varieties of not more than 145 days duration. Complete the sowing of non-paddy crops like ragi, green gram, black gram, cowpea, sesame, rice bean, castor, horse gram, etc. and vegetables like cowpea, guar, okra, pumpkin, chilli, brinjal, tomato, etc. Continue coconut plantation.
- Due to high humidity, aphid population may increase in vegetable crops. To control, spray Dimethoate 30% EC @ 2 ml/litre of water or Imidacloprid 17.8% SL @ 3 ml/10 litre of water measures after current spells of rain.

Bihar:

- Complete the transplanting of rice seedlings in low and medium land areas at the earliest. Carry out transplanting of 45-50 days old onion seedlings in raised seedbed. Complete the sowing of pigeon pea in upland areas without further delay. Take up nursery sowing of chilli in raised seedbed. Planting of new saplings of fruit plants such as mango, litchi, jackfruit, guava, blackberry, custard apple, lemon and forest trees such as Sagwan, Chah, Hara Simal, Desi Simal, Safed Shirish, Kala Shirish, Arjun, Gamhar, Gulmohar, etc. is advised.
- Monitor sucking insect pests such as white fly, leaf hopper and aphids in vegetable nursery. For management, spray Imidacloprid @ 0.3ml/litre of water on clear days. Undertake plant protection measures on a non rainy day.

Jharkhand:

- Provide drainage channels in maize, vegetables, ginger and turmeric fields to prevent water logging. Undertake planting of new orchards by taking advantage of recent rains.
- Direct seeded sown finger millet is at vegetative stage whereas transplanted finger millet is at establishment or early vegetative stage. Carry out plant protection measures as population of different leaf eating and soil borne insects is likely to increase. Undertake plant protection measures after current spells of rain.

West Bengal:

- In Sub-Himalayan West Bengal, continue sowing of early cauliflower in nursery bed and planting of ginger and turmeric in the main field. Keep okra and ginger fields weed-free and avoid irrigation. Carry out field preparation for transplanting Aman rice. Mix Cholorantaniliprole 0.4% @ 10kg/ha against stem borer and Gallmidge at final land preparation.
- For the management of insect/pests in kharif vegetables, spray Neem oil 1% @ 3ml/litre of water with sticker @ 0.5ml/litre at evening hours. Undertake plant protection measures after current spells of rain.
- In Gangetic West Bengal, repair bunds of Aman rice fields to avoid run off of rain water. Use rainwater for irrigation to seed bed where paddy seedings are not yet ready. In low land area where seedlings are ready, start transplanting after preparing land by ploughing at a depth of 12-15 cm and puddling the field. Complete the sowing of tomato, chilli and brinjal seeds in upland area for transplanting at the end of August on comparatively upland area with proper drainage facility.
- Remove the infected fruits of brinjal and spray Neem Seed Kernel extract @ 50 ml /litre of water at clear weather conditions. Undertake plant protection measures after current spells of rain.
 Andaman & Nicobar Islands:
- In Andaman & Nicobar Islands, transplant paddy seedlings after proper land levelling. Clip the top of the seedlings to avoid stem borer attack. Do weeding in the vegetable field.
- Remove pest infected fruits of beans and cowpea from the field. Collect and destroy the affected fruits of cucurbits and spray neem oil @ 3.0 % during rain free days to manage fruit fly.
 Animal Husbandry:
- In Bihar, take prophylactic measures against contagious diseases in milch animals as per the instructions of veterinarians. Hygiene should be maintained at the place where animals are kept.
- In Jharkhand, vaccinate cattle against FMD, HS, BQ and Anthrax diseases. Protect poultry birds against Ranikhet and Gamboro diseases.
- In West Bengal, to prevent fungal attack in poultry sheds due to wet weather, change the litter and mix lime and old news papers in the litter. Provide proper warming for new born chicks.
- In Andaman & Nicobar Islands, provide mineral mixture @ 0.10 gm/kg feed to the poultry birds grown under backyard condition. Do not feed the animals green lush pasture alone. Add some leaves or dry fodder along with grain mixture.

Fishery:

- > In Odisha, apply Urea @ 10kg/bigha-m and SSP @ 15kg/bigha-m in fish pond if required.
- In Andaman & Nicobar Islands, spawn can be stocked in nursery pond at the rate of 25-35 lakhs spawn per hectare.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Rainfall occurred in all districts of Gujarat State except Aravalli, Dahod, Gandhinagar, Mahisagar, Mehsana and Sabarkantha districts of Gujarat Region. Rainfall occurred in all districts of Konkan & Goa, Vidarbha, Madhya Maharashtra except Solapur district and in all districts of Marathwada except in Beed and Latur districts.

Advisories:

As rain/thundershowers likely at most/many places over Maharashtra during the period and over Gujarat region from 2nd to 4th August along with Heavy to very heavy rainfall at a few places with extremely heavy falls very likely at isolated places over Konkan & Goa from 2nd to 4th, Heavy to very heavy rainfall with extremely heavy falls very likely at isolated places Madhya Maharashtra from 2nd to 4th, Heavy / Heavy to very heavy rainfall at isolated places over Gujarat region on 2nd & 3rd August, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields.

Maharashtra:

- In Konkan region, drain out excess water from the fields of groundnut wherever necessary. Maintain 5 cm water level in rice fields. To control weeds in rice, spray herbicide Gramoxzone @ 3 ml per litres of water after current spell of rain.
- In Madhya Maharashtra, in Ahmednagar, Dhule, Nandurbar districts, continue sowing of 5 lines or 20% non-Bt cotton around Bt cotton so as to maintain resistance in Bt cotton against bollworm. Undertake sowing of alternate crops like Sunflower, Pigeon pea, Caster, Onion, Maize, Horse Gram, Seasamum in Karjat and Rahata blocks up to 15th August. Drain out excess water and maintain 5 cm water level in rice fields in Kolhapur and Nashik districts.
- In Marathwada, undertake sowing of pearl millet (varieties : ABPC-4-3 or Phule Dhanshakti). To control leaf spot disease in turmeric, spray Mancozeb @ 25 g per 10 liter of water along with sticker after current spells of rain.
- In Vidharbha, for remaining kharif sowing under prevailing late sown condition in August, alternate crops/intercropping system of sesame (AKT-64), pearlmillet (PKV Raj, Phule Adishakti, Phule Mahashakti), sunflower (TAS-82, LFSH-171), castor (AKC-1, GCH-4, GCH-5, Dipti (DCH-32), Deepak (DCH-177), intercropping systems of pearlmillet+pigeonpea(4:2) and intercropping system of sunflower+pigeonpea (2:1) may be adopted. At the initiation of infestation (5% plant damage) of maize army worm (Spodoptera frugiperda), undertake mechanical picking of egg larvae masses and its destruction regularly. For monitoring Install pheromone traps @ 5/acre and as the intensity of infestation increases for mass trapping, increase number of pheromone traps. Drain out excess water from waterlogged areas of orchards and vegetable fields.
- ➢ In North Gujarat, drain out excess water from the cotton, groundnut, sesame, maize, pulses and vegetable crops.
- In Saurashtra & Kutch, in view of medium to heavy rainfall, arrange for proper drainage in cotton, groundnut, all vegetables, pulses, maize and nurseries of the crops; harvest rain water and store it in reservoirs for future use. Continue transplanting of brinjal, chilli and early cauliflower after current spells of rain.
- > In Middle Gujarat, undertake transplanting of rice.
- ➢ In South Gujarat, complete planting of banana (Basrai variety) by 15th August and continue transplanting of rice seedlings.
- In South Gujarat Zone, to manage whitefly in sugarcane, spray Acephate 75 SP @ 11 g/10 litre of water or Neem Oil @ 50 ml/10 litre of water after currnt spells of rain.

Animal Husbandry

> In Gujarat, take care of cattle and stored dry fodder during heavy rainfall period. Provide adequate

fodder and keep the animals in clean shed.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Rainfall occurred in all districts of Madhya Pradesh except Panna districts of East Madhya Pradesh and in all districts of Chhattisgarh.

Advisories:

As rain/thundershowers likely at most/many places over Madhya Pradesh and Chhattisgarh during the period along with heavy/ heavy to very heavy rainfall very likely at isolated places over Chhattisgarh during the period, heavy rainfall very likely at isolated places over west Madhya Pradesh from 4th to 6thAugust, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields.

Madhya Pradesh

- In Kymore Plateau & Satpura hills, continue transplanting of rice in main field and dip the roots of paddy seedling in the azotobecter culture before transplanting the seedlings.
- In Jabhua Hill Zone, provide drainage channels in proper distance for drainage of excess rainy water in tomato, chilli, brinjal, kharif onion and early cauliflower crop and give recommended dose of fertilizers.
- In Satpura Plateau Zone, if leaf caterpillar is observed in soybean crop, apply Trizofas @ 2 ml/ acre or Flubendiamide @ 0.5 ml/acre +200 liter water. Incidence of YMV disease has noticed at some places. Farmers are advised to remove infected soybean plants and spray pre-mixed insecticide Betacyfluthrin + Imidacloprid @ 350 ml/ha in 500 litre of water. Farmers are advised to install Light Trap / Insects specific Pheromone Traps in the fields.
- > In Central Narmada Valley Zone, continue transplanting of rice and undertake weed management in soybean crops.
- In Malwa Plateau Zone, continue sowing of pigeon pea and cotton and undertake planting of ginger and turmeric. Apply intercultural operations in all the sown crops during Kharif season. In present weather conditions, rouging of viral infested crop should be done in chilli. Infected crop should be uprooted and buried in the soil. After rouging, spraying of Imidacloprid @ 0.3 ml per litre of water is advised to control the vector after current spells of rain. Chhattisgarh:
- In North Hill Zone, in the transplanted rice fields maintain water level up to 5 cm. Undertake planting of fruit crops i.e. Papaya, Guava, Mango, Litchi, and Pomegranate etc. Undertake sowing of brinjal, early tomato, chilli and onion in the nursery in the upland areas after current spells of heavy rain.
- In Chhattisgarh Plain Zone, continue transplanting of rice. Mat type nursery should be prepared for automatic paddy transplanter. Complete sowing of soybean and other pulses crops like arhar.
- In Bastar Plateau zone, go for line sowing method for Early and medium duration rice varieties, as this method will minimize the labour cost as well as prevent from Biyasi. Continue plantation of banana.

Animal Husbandry:

- In Madhya Pradesh, cattle sheds should be kept dry as far as possible. During monsoon season normally low light duration due to cloudy weather condition hence farmers are advised increase light duration in poultry farms.
- In Chhattisgarh, dairy animal should not be allowed to drench in rain. Cattle shed should be kept dry as far as possible to prevent from foot rot disease. The rainwater should not be allowed to accumulate. In case the floor is cemented then the floor washing should be done with Phenyl and repair of roof top should be done to stop leakage.

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

Realised Rainfall: Rain occurred in all districts except Kinnaur and Lahaul & Spiti districts of Himachal Pradesh; in all districts of Jammu & Kashmir except Badgam, Bandipore, Kargil, Leh, and Pulwama districts and in all districts except Udham Singh Nagar district of Uttarakhand, in East Delhi, North Delhi, South Delhi and West Delhi districts of Delhi; Bhiwani, Chandigarh, Faridabad, Gurgaon, Karnal, Kurukshetra, Mahendargarh, Mewat, Mewat, Palwal, Rewari, Sirsa, Yamunanagar districts of Haryana; Amritsar, Gurdaspur, Hoshiarpur, Kapurthala, Ludhiana, Muktesar, Patiala, Ropar, Tarn Taran districts of Punjab. in all districts of East Uttar Pradesh except Ambedkar Nagar, Amethi, Azamgarh, Gazipur, Jaunpur, Kanpur Dehat, Kheri, Mau, in all districts of West Uttar Pradesh except Ambedkar Nagar, Amethi, Azamgarh, Gazipur, Jaunpur, Kanpur

Dehat, Kheri, Mau, in all districts of West Uttar Pradesh except Auraiya, Jyotiba phule Nagar, Mahoba, Pilibhit, Saharanpur, Shamli, in all the districts of Rajasthan except Banswara, Dungarpur, Udaipur, Bikaner, Jaisalmer and Jalore.

Advisories:

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As rain/thundershowers likely at most/many places over East Rajasthan during the period along with **Heavy to very heavy rainfall at a few places with extremely heavy falls** very likely at isolated places over East Rajasthan from 2nd to 4th, rain/thundershowers likely at most/many places over Himachal Pradesh, Uttarakhand, Punjab, Haryana and West Uttar Pradesh during the period along with **heavy rainfall** very likely at isolated places, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields.

Jammu & Kashmir:

- In Valley Temperate Zone, carry out intercultural operations in fodder crops like jowar, bajra and maize. Carry out weeding operations in pulses and vegetables. Undertake land preparation and sowing of carrot. Spray Chlorpyriphos 20EC@ 1ml/litre of water to control thrips on cucurbits.
- In Sub Tropical Zone, carry out hoeing and weeding operations in kharif pulses. Strengthen and raise the height of field bunds to retain rain water in rice field. Drain out excess water from maize field. Carry out earthing up operation in turmeric fields.
- In Cold Arid Zone, carry out hoeing and weeding operations in cruciferous crops and onion in the open field conditions. Apply Neem oil @ 4ml/litre to control aphids on vegetables.
- In Intermediate Zone, carry out hoeing and weeding in paddy 15 days after transplanting. If symptoms of blast are observed in paddy, apply Trycyclazole @ 0.06 % or 1 ml in 1.5 liters of water on a non-rainy day. Carry out weeding operation at regular intervals in maize crop. Provide proper drainage facility in maize and kharif pulses. To avoid wilting in chillies, tomato and brinjal, avoid water logging conditions in the field. For control of red pumpkin beetle in cucurbits, apply imidachloprid 1 ml/3 litres of water or Dichlorvos 30 EC @ 2 ml/ litre of water on a non-rainy day.

Himachal Pradesh:

- In Mild Hills Sub Humid Zone, spray Captan(600 gm) or Ziram Metiram55% (600ml) per 200 litres of water on apple trees for the control of scab/ fly speck/ bitter rot scab. Spray Malathion 200 ml or Oxy-demeton methyl 200 ml per 200 litres of water for the control of Aphid Sanjose scale on apple trees. Spray Bactinash (70 gm) or Propineb (600 gm) or Mancozeb (600 gm) for the control of bacterial fruit spots, alternaria spots on pomegranate after current spells of rain.
- In High Hill Temperate Dry Zone, if white powder appears on pea leaves, spray Contaf @ 0.5ml / litre of water or Karathane @ 0.5ml / litre of water. Undertake weeding operation in potato field. Spray fenazaquin(50ml/200lts) or propargite(200ml/200lts) to control mites on apple after current spells of rain. Punjab, Haryana and New Delhi
- In Punjab, continue transplanting of vegetables (tomato, chilli, brinjal, cauliflower) and sowing of maize. Complete the transplanting of basmati rice and sowing of mash and moong. Drain out the excess water from the cotton fields as cotton crop is highly sensitive to standing water.. Due to congenial weathe, there is chance of attack of cotton jassid in cotton vegetative/ flower initiation stage, spray 80g Ulala to control the attack.
- In Haryana, continue transplanting of matured seedlings of tomato, cauliflower, cabbage in prepared field and complete the sowing of ladyfinger, bottle gourd, cucumber, ridge gourd and summer radish. Complete transplanting of rice and continue land preparation for sowing for pulses i.e. green gram, lobia, moth. Due to possibility of rain farmers are advised to drain out the excess rain water in the cotton crop if required.
- In Delhi, continue transplanting of early cauliflower, tomato, chilli and brinjal whose seedlings are ready. Undertake sowing of fodder sorghum, sweet corn and baby corn. Provide proper drainage in the field of all pulses, vegetables and other crops. Protect cucurbitaceous crops against fruit fly by use of bait trap (mixing jaggary 10 % with Malathion 10 % and putting at different corners of the field).
- In Haryana, due to congenial weather, there is chance of attack of cotton jassid in cotton vegetative/ flower initiation stage, spray 80g Ulala to control the attack after current spells of rain.
- In Undulating Plain Zone of Punjab, prevailing weather conditions may increase attack of fruit borer in tomato and fruit & shoot borer in brinjal, spray Coragen 18.5 SC @ 60 ml in tomato and 80 ml in brinjal for control of the insects during clear weather. Due to sporadic rainfall in the region, sucking pest population may increase which can also transmit Mosaic disease in Mung and Mash. Spray recommended insecticides for control of sucking pest after current spells of rain.

Uttar Pradesh

- In East Uttar Pradesh, continue transplanting of paddy seedlings. Continue sowing of groundnut, arhar, sunflower, lobia, jowar, bajra and maize. Continue planting of new fruit orchards. Undertake sowing of rainy season chaulai @ 2-3 kg/ha. Make arrangements for drainage of excess water under heavy rainfall condition in the fields. Carry out broadcasting of Zinc Sulphate @ 25kg or spraying of Zinc Sulphate @ 5kg plus lime @ 2.5kg in 100 litres of water per hectare for control of khaira disease in paddy crop.
- In West Uttar Pradesh, continue transplanting of 20-25 days old paddy seedlings in the main field. In Western Plain zone, undertake sowing of sorghum, pearl millet, groundnut, pigeon pea, black gram, green gram and groundnut at optimum soil moisture conditions. Make arrangements for drainage of excess water under heavy rainfall condition.

Uttarakhand:

- ➤ In Hill Zone, apply second dose of urea in tillering stage of paddy. Provide adequate drainage in vegetable fields. Remove rotten mulch. Pick the matured fruits of apple, pear, peach etc. Carry out gap filling in finger millet.
- In Bhabar and Tarai Zone, undertake sowing of black gram and green gram. Carry out weeding and hoeing operations in maize crop sown last month. To control the weeds in transplanted paddy, spray solution of Butachlor (50 EC) @ 3 litres/ 750 litres of water within 3 days of transplanting. On the occurrence of circular brown spot on the leaves of cauliflower, spray solution of Mancozeb @ 2.5 g/litre of water.
- In Sub-Humid Sub-Tropic Zone, complete transplanting of rice. Drain out excess water from sugarcane and fodder crop fields

Rajasthan:

- In Transitional Plain Zone of Inland Drainage Zone, undertake sowing of guar, bajara, moong, til and groundnut.
- In Semi-Arid Eastern Plain Zone, undertake sowing of rainy season cucurbits like khira, bottle gourd, ridge gourd, bitter gourd & cucumber after current spells of heavy rain.
- ▶ In Arid Western Plain Zone, undertake sowing of bajara, guar, moong and moth.
- In Sub Humid Southern Plain and Aravali Hill Zone, weather is congenial for spotted bollworm in cotton crop, spray Fenvalerate 20 EC @ 1 ml per liter water after current spells of rain. Animal Husbandry:
- In Rajasthan, animals may be attacked by external & internal parasites. To control internal parasites give Albendazol or Fenbendazol under the guidance of Veterinary Doctor. To subside attack of external parasites like ticks, flies, mosquitoes etc. spray Butox on animal surrounding & body. Floriculture :
- In Mid Hills Sub Humid Zone of Himachal Pradesh, harvest gladiolus spikes at colour bud stage leaving atleast two-three pairs of leaves on the main plant. Plant chrysanthemum rooted cuttings in the fields.
- In Valley Temperate Zone of Jammu & Kashmir, undertake harvesting of Gladiolus, Lilium and Alstroemeria cut flowers. Keep flower beds moist by watering regularly as and when needed. Carry out weeding and hoeing operations in flower beds.

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