



National Agromet Advisory Service Bulletin

Tuesday 27th March 2018

(For the period 27th March to 1st April 2018)



Issued by

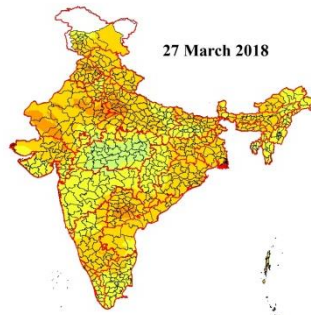
India Meteorological Department

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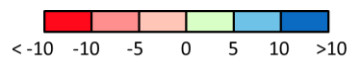
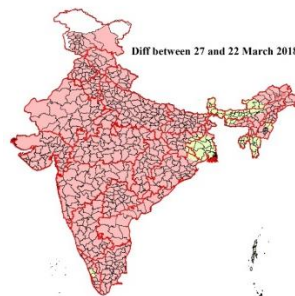
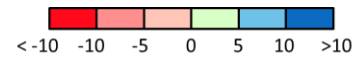
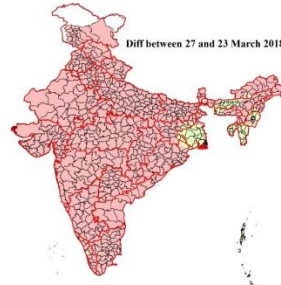
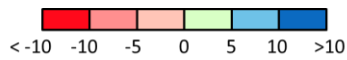
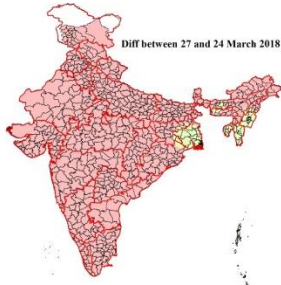
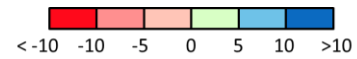
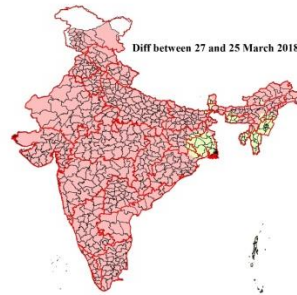
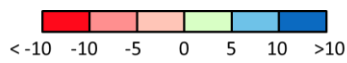
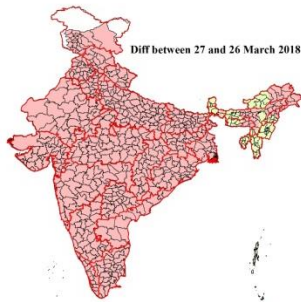
District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>

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

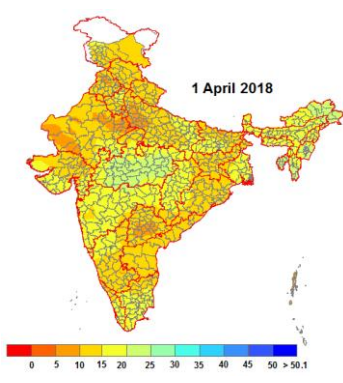
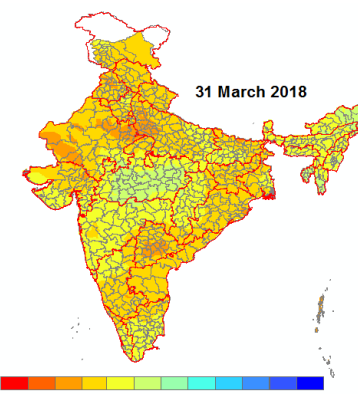
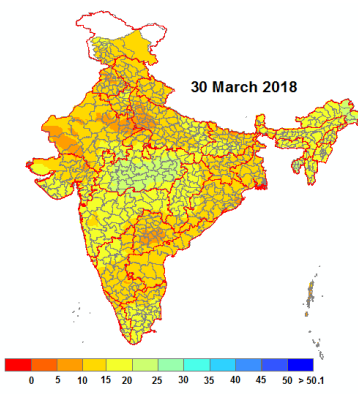
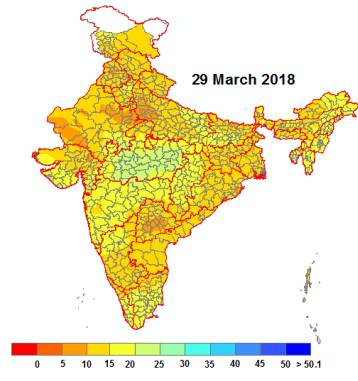
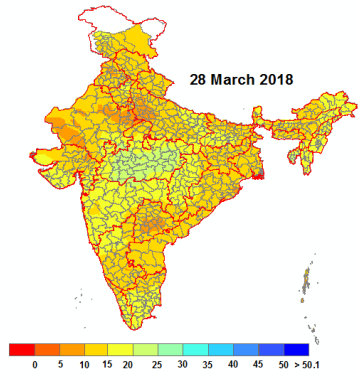
Daily Soil Moisture (mm) for 27th March 2018 (ending at 0830 IST) for 60 cm depth



Difference of Soil Moisture (mm) for 60 cm depth



**Forecasted Soil Moisture (mm) from 28th March to 1st April 2018 (ending at 0830 IST)
for 60 cm depth**



Weather Forecast for next 5 days valid upto 0830 hours of 1st April 2018

- Meteorological subdivision wise detailed 5 days rainfall forecast is given in Table below.
- Maximum temperatures very likely to rise by 2-3°C over northwest India and by 1-2°C over central India during next 2-3 days.
- No significant change in minimum temperatures likely over rest of the country during next 2 days.

5 Day Rainfall Forecast (Mid day) 27th March 2018

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

% Station Reporting Rainfall

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

Weather Warning during next 5 days

- **27 March (Day 1):** Thunderstorm accompanied with gusty winds very likely at isolated places over Assam & Meghalaya and Mizoram & Tripura. Heat wave conditions very likely over some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, southwest Rajasthan, Saurashtra & Kutch and some pockets over Gujarat region.
- **28 March (Day 2):** Thunderstorm accompanied with squall very likely at isolated places over Mizoram & Tripura. Thunderstorm accompanied with gusty winds very likely at isolated places over Assam & Meghalaya. Heat wave conditions very likely over some parts of Jammu & Kashmir, Himachal Pradesh and Uttarakhand.
- **29 March (Day 3):** Thunderstorm accompanied with Hail and gusty winds very likely at isolated places over Sikkim. Thunderstorm accompanied with squall very likely at isolated places over Assam & Meghalaya and Mizoram & Tripura. Thunderstorm accompanied with gusty winds very likely at isolated places over West Bengal. Heat wave conditions very likely over some parts of Jammu & Kashmir, Himachal Pradesh and

Uttarakhand.

- **30 March (Day 4):** Heavy to very heavy rain likely at isolated places over Assam & Meghalaya. Thunderstorm accompanied with Hail and gusty winds very likely at isolated places over Sikkim and Jharkhand. Thunderstorm accompanied with squall very likely at isolated places over West Bengal, Assam & Meghalaya and Mizoram & Tripura. Thunderstorm accompanied with gusty winds very likely at isolated places over Bihar and Odisha. Heat wave conditions likely over some parts of Saurashtra & Kutch, Telangana and East Vidarbha.
- **31 March (Day 5):** Heavy rain likely at isolated places over Assam & Meghalaya and West Bengal. Thunderstorm accompanied with squall very likely at isolated places over Bihar, Jharkhand, West Bengal & Sikkim. Thunderstorm accompanied with gusty winds very likely at isolated places over Odisha, north coastal Andhra Pradesh. Heat wave conditions likely over some parts of Saurashtra & Kutch, Telangana and East Vidarbha.

Weather Outlook for subsequent 2 days from 1st to 3rd April 2018

- Isolated to scattered rain / thundershowers likely over northeast and east India and isolated rain/thundershowers likely over south peninsula and Islands.
- Mainly dry weather likely to prevail over rest parts of the country.

Salient Advisories

- As thunderstorm accompanied with hail and gusty winds very likely at isolated places over **Sikkim** on 29th and 30th, over **Jharkhand** on 30th March, advised to use hail net for orchard crops to protect from mechanical damage. Arrange mechanical support to young fruit plants, banana and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
- As thunderstorm accompanied with squall very likely at isolated places over **West Bengal** on 30th and 31st, over **Sikkim, Bihar** and **Jharkhand** on 31st, over **Mizoram & Tripura** on 28th, 29th and 30th, over **Assam & Meghalaya** on 29th and 30th, thunderstorm accompanied with gusty winds very likely at isolated places over **West Bengal** on 29th, over **Bihar** on 30th, over **Odisha** on 31st, over **Assam & Meghalaya** on 27th and 28th, over **Mizoram & Tripura** on 27th March, provide support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
- As rain/thundershowers would occur at many places over **Arunachal Pradesh** on 29th and 30th, over **Assam & Meghalaya** and **Nagaland, Manipur, Mizoram & Tripura** on 30th and 31st, over **Sub-Himalayan West Bengal & Sikkim** on 30th, over **Gangetic West Bengal** and **Jharkhand** on 31st March, along with heavy to very heavy/heavy rain likely at isolated places over Assam & Meghalaya on 30th and 31st March, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- As heat wave conditions very likely over some parts of **Jammu & Kashmir, Himachal Pradesh, Uttarakhand** from 27th to 29th, over **southwest Rajasthan** on 27th, over some parts of **Saurashtra & Kutch** on 27th, 30th and 31st and some pockets over **Gujarat region** on 27th, over some parts of **East Vidarbha** and **Telangana** on 30th and 31st, apply light and frequent irrigation to the standing crops. Undertake mulching with straw/polythene to conserve soil moisture.
- In **Arunachal Pradesh**, in view of realized and expected rainfall, avoid sowing of summer vegetables. Continue sowing of *Ahu* and *Bau* rice in Assam in clear weather. Continue sowing of summer green gram in **Gangetic West Bengal, Chhattisgarh** and **Punjab**. Continue sowing of cowpea in **Rajasthan** and **Gujarat**.
- As dry weather would prevail continue harvesting of wheat in **Rajasthan** and **Madhya Pradesh**.
- In **Rajasthan**, due to rise in temperature, infection like TPR and Pox in sheep and goats and CRD and Ranikhet in poultry birds may occur, undertake proper vaccination of livestock and poultry.

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

• **Advisories:**

- As heat wave conditions very likely over some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand from 27th to 29th, over southwest Rajasthan on 27th March, apply light and frequent irrigation to the standing crops. Undertake mulching with straw/polythene to conserve soil moisture.
- **Jammu & Kashmir:**
 - Continue preparation of trenches and polyhouses for raising seedlings of vegetables in Cold Arid Zone. Continue sowing of cucurbit seeds in poly bags for early nursery raising inside polyhouses. Continue training and pruning in orchards.
 - In Sub Tropical Zone, continue transplanting of tomato, brinjal and chilli. Continue direct sowing of okra, bottle gourd, bitter gourd and pumpkin. Continue digging up of matured tubers of potato. Apply irrigation in wheat from milk to dough stage. Continue harvesting of mustard crop.
 - In Intermediate Zone, continue transplanting of cucurbits and vegetables. Continue planting of orchards.
 - Continue sowing of seeds of tomato, brinjal, chilli, capsicum, knolkhol, kale in hot beds as well as in raised beds under open conditions in Valley Temperate Zone. Seedlings of vegetables prepared under protected conditions may be transplanted.
 - There are chances of attack of yellow rust and leaf spot in wheat in Sub Tropical Zone, if observed apply Propiconazole (Tilt) @ 0.1% 2-3 sprays and repeat at 15 days interval.
- **Uttarakhand:**
 - In mid and high hills of Bhabar and Tarai Zone, continue nursery sowing of brinjal, tomato, capsicum and chilli. Continue sowing of barnyard millet and French bean. Undertake transplanting of brinjal, chilli and capsicum in valley.
 - Continue sowing of French bean and okra in Hill Zone. Undertake transplanting of brinjal, tomato, capsicum etc.
 - In Bhabar and Tarai Zone, there are chances of leaf spot disease in cole crops, spray Mancozeb @ 2.5 g/litre of water.
- **Himachal Pradesh:**
 - In Sub-Montane and Low Hill Sub Tropical Zone, continue sowing of sunflower in low and mid-hill areas. Continue sowing of green gram and black gram. Continue sowing of spinach, coriander and fenugreek. Continue nursery preparation of summer vegetables, raising of seedlings of cucurbits in polythene bags in poly house.
 - Continue nursery sowing of vegetables like chilli, tomato, capsicum and sowing of bhindi, gourd etc. in Mid Hills Sub Humid Zone. Undertake transplanting of coloured capsicum, tomato, khira etc. in the green houses.
 - In High Hill Temperate Dry Zone, clean the polyhouse and prepare beds for nursery of vegetables. Complete the grafting work in apple nursery.
 - For control of downy mildew in garlic, spray Diathane M 45 2.5 g or Bavistine 1 g per litre of water in Sub-Montane and Low Hill Tropical Zone.
- **Punjab, Haryana & Delhi:**
 - Apply light irrigation in wheat at dough stage in Western Zone of Punjab. Continue sowing of okra and cucurbits. Continue transplanting of chilli. Continue harvesting of late sown mustard.
 - In Western Plain Zone of Punjab, apply light irrigation in wheat at dough stage. Continue sowing of summer moong and mash. Continue harvesting of matured mustard.
 - In Undulating Plain Zone of Punjab, continue planting of sugarcane. Continue transplanting of cucurbits. Continue sowing of summer Mash and moong. As temperature is rising, apply light irrigation in wheat and vegetables.
 - In Central Plain Zone of Punjab, continue sowing of cucurbits, okra and cowpea and transplanting of brinjal, chilli and tomato. Apply irrigation in wheat at grain filling stage.
 - In Western Zone of Haryana, continue harvesting of late sown mustard. Continue sowing of green gram, black gram and planting of sugarcane. Continue sowing of lady's finger, bottle gourd, cucumber, ridge gourd and summer radish.
 - In Eastern Zone of Haryana, apply light irrigation in wheat at milk stage. Continue planting of spring sugarcane.
 - In Delhi, continue sowing of French bean, cluster bean, summer radish. Continue sowing of green gram and black gram. Apply light irrigation in wheat at grain filling stage. Undertake transplanting of young seedlings of brinjal, chilli in flat beds and direct sowing of cucurbits in Hill channel method.
 - Constant monitoring of timely sown onion crop against attack of thrips should be done in Delhi. Spray Imidacloprid @ 0.5 ml per litre of water with sticky material (Tipol 1.0 g/litre) for effective control.
- **Uttar Pradesh:**
 - In Allahabad district of Central Plain Zone, continue harvesting of matured mustard. Continue sowing of green

gram and black gram. Apply irrigation in okra, Lobia and Rajma according to the need and apply 50 kg urea/ha in standing crops.

- Continue sowing of okra and cucurbits in Eastern Plain Zone. Complete harvesting of matured mustard and pea. Continue sowing of green gram and black gram. Undertake harvesting of matured gram and redgram.
- In Varanasi district of Central Plain Zone, continue intercultural operations in cucurbit crops. Continue harvesting of matured barley. Continue planting of spring sugarcane. Continue sowing of okra. In Kanpur district, undertake sowing of green gram. Continue transplanting of vegetables like tomato and chilli. Complete sowing of maize and black gram. Apply irrigation in wheat at milk stage. Undertake harvesting of matured gram.
- **Rajasthan:**
 - Continue harvesting of matured mustard and cumin in Jodhpur district of Arid Western Plain Zone. Apply irrigation in vegetables. Undertake harvesting of wheat and gram.
 - In Sub Humid Southern Plain and Aravalli Hill Zone, continue harvesting of matured wheat. Continue sowing of guar and cowpea. Apply irrigation in summer groundnut at flowering stage.
 - In Irrigated North Western Plain Zone, continue planting of sugarcane. Apply irrigation in wheat at milk stage and in gram at pod formation stage.
 - In Bikaner district of Arid Western Plain Zone, apply irrigation in wheat and in orchards. Apply recommended dose of fertilizers and manures along with irrigation water in orchards. Continue direct sowing of cucurbits.
 - Continue sowing cucurbitaceous vegetables like melon, bottle gourd, ridge gourd, bitter gourd, pumpkin and smooth gourd etc. and nursery raising of brinjal and chilli in Flood Prone Eastern Plain Zone. Undertake harvesting of matured wheat.
 - In Semi Arid Eastern Plain Zone, continue harvesting of wheat and barley.
 - In Sub Humid Southern Plain and Aravalli Hill Zone, in cucurbitaceous crops, if attack of red pumpkin beetle is found, spray Diclorvos 76 EC (DDVP) @ 1 g per litre of water.
- **Animal Husbandry**
 - In Jammu & Kashmir, maintain proper hygienic conditions within the sheds. Avoid excessive milk feeding to new born calves.
 - In Western Zone of Punjab, give special care to new born calves as day temperature is rising. Deworming should be done in calves regularly. Vaccinate animals against FMD.
 - In Rajasthan, infection like TPR and Pox in sheep and goats and CRD and Ranikhet in poultry birds may occur due to present weather conditions, undertake proper vaccination of livestock and poultry.
- **Apiculture:**
 - In Jammu & Kashmir, shift the bee colonies near the late sown mustard crop.

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

- **Advisories:**
 - As rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim on 30th, over Gangetic West Bengal and Jharkhand on 31st March, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - As thunderstorm accompanied with hail and gusty winds very likely at isolated places over Sikkim on 29th and 30th and over Jharkhand on 30th March, advised to use hail net for orchard crops to protect from mechanical damage. Arrange mechanical support to young fruit plants, banana and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
 - As thunderstorm accompanied with squall very likely at isolated places over West Bengal on 30th and 31st, over Sikkim, Bihar and Jharkhand on 31st, thunderstorm accompanied with gusty winds very likely at isolated places over West Bengal on 29th, over Bihar on 30th and over Odisha on 31st March, provide support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
- **Odisha:**
 - In Mid Central Table Land Zone, apply irrigation in maize at tasselling stage. Undertake harvesting of matured crops of green gram and black gram.
 - In North Eastern Ghat Zone, continue sowing of summer cowpea. In North Central Plateau Zone, complete transplanting of rice.
 - Continue harvesting of matured groundnut in Western Undulating Zone. The rice crop is at (five to eight week) active tillering to PI stage in main field. Alternate wetting and drying of land is advisable during tillering phase and keep standing water upto 5cm during PI satge.
 - In Northeastern Coastal Plain Zone, in rice maintain water depth upto the base of the crop followed by weeding when the crop is around 3-4 leaf stage. Continue harvesting of late sown mustard and rapeseed.
 - In West Central Table Land Zone, early sown summer sunflower is at 25 days. Go for hoeing and weeding. Complete sowing of summer pulses.

- In Eastern Ghat High Land Zone, it is optimum time for sowing of summer cow pea. Grow the following improved varieties of cowpea such as bush type- PusaPhalguni, PusaKomal and runner type- American long, and Banarasi long. Continue planting of sugarcane. Undertake harvesting onion, cabbage and cauliflower.
- In Northeastern Coastal Plain Zone, due to rise in temperature, fruit & shoot borer attack in brinjal will aggravate. To control it spray Neem oil 300 ppm @ 5ml/litre of water at initial stages. At later stages spray Thiodicard @ 300g/acre.
- **Bihar:**
 - In South Bihar Alluvial Zone, continue sowing of green gram and black gram. Provide irrigation and nitrogenous fertilizers (108 kg urea/ha) in *rabi* maize, at tassel/silking stage. Apply last irrigation in late sown wheat at milk stage and in vegetables.
 - In North West Alluvial Plain Zone, continue the sowing of summer maize varieties such as Suwan, Deoki, Ganga 11, Shaktiman-1, 2, 3, 4 & 5. Farmers are advised to harvest early sown mustard, which is in maturity stage. Undertake sowing of elephant foot yam, green gram and black gram. Undertake sowing of vegetables like lady's finger, pumpkin, cucumber, sponge gourd *etc.*
 - In North East Alluvial Zone, continue sowing of summer vegetables such as okra, pumpkin, cucumber, sponge gourd ridge gourd and bitter gourd. Keeping in view of increasing temperature, farmers are advised to provide irrigation in vegetables such as brinjal, tomato, chilli, pea and cabbage.
- **Jharkhand:**
 - In South Eastern Plateau Zone, continue harvesting of matured chickpea, lentil, pigeonpea and mustard. Apply irrigation in wheat at dough stage. Continue intercultural operations in summer rice.
 - In Central and North eastern Plateau Zone, apply irrigation in gram at pod filling stage. Continue sowing of okra. Undertake weeding in green gram.
 - In Western Plateau Zone, apply irrigation in summer moong. Maintain the water level in transplanted rice and broadcast urea after 25-30 days of transplanting. Apply irrigation in wheat at milk to grain filling stage.
- **West Bengal:**
 - In Coastal Saline Zone, continue sowing of green gram. Start harvesting mustard if siliqua is found dry and mature in clear weather.
 - In the New Alluvial Zone, undertake sowing of green gram and black gram. Continue sowing of French bean, cluster bean and summer radish.
 - In the Hill Zone, continue planting of healthy rhizomes of ginger and turmeric. Ensure proper drainage in the field. Harvest mature crop of mustard in clear weather. Avoid irrigation to potato crop as rainfall is expected.
 - In the Terai Zone, keep 3-5 cm of water level in Boro paddy field.
 - In the Laterite and Red Soil Zone, carry out hand weeding in rice crop and keep 2 cm water level.
 - In the Old Alluvial Zone, continue sowing of summer green gram in a land with good drainage facility. Carry out harvesting of lentil in clear weather.
 - In the Terai Zone apply Imidachloropid @ 1ml/5lit. of water or thiomethoxam @ 1g/3 litres of water for white fly in chilli crop at vegetative stage. Install pheromone traps @ 2 per bigha for management of fruit fly in cucurbits on a non rainy day.
 - In Old Alluvial Zone, spray Acetamiprid @ 1 gram / 5 litres of water or apply Forate 10G @ 4 kg/bigha to control rice gall midge in Boro paddy at tillering stage. Spray Chloropyrifos @ 2ml/liter of water at 10 days interval for management of cutworms in cucurbit and vegetable crops at vegetative stage on a non rainy day.
 - In the Coastal Saline Zone, spray Triazophos @ 1.2ml/liter of water or Propenophos @ 1.5ml/liter of water for stem borer in Boro paddy at panicle initiation stage. Spray Endosulfan @ 1.5 ml per liter of water for caterpillar attack in Mung bean crop at vegetative stage on a non rainy day.
 - In the Laterite and Red Soil Zone, apply Melathion 50 EC @ 1 ml per litre of water for fruit fly at vegetative stage in pointed gourd. Spray Chlorpyrifos 20% EC @ 1.5 ml per litre of water at clear weather conditions for aphid attack in groundnut crop at vegetative stage on a non rainy day.
- **Andaman & Nicobar Islands:**
 - In Andaman Islands, transplant late season vegetables on raised beds with grass mulching.
 - In the Nicobar Islands, make basin around the coconut tree to harvest rain water.
 - In Andaman Islands, spray neem seed kernel extract @ 5 % to control white fly for the management of yellow vein mosaic disease in bhendi and repeat after 15 to 20 days interval.
- **Animal Husbandry**
 - Keeping in view of increasing temperature, in South Bihar Alluvial Zone, farmers are advised to vaccinate the animals to protect from foot and mouth disease, bovine ephemeral fever (aadhaya). Give clean drinking water and keep them in shed and airy places. Vaccinate the poultry to protect from ranikhet, gambora (IBD) and fowl pox diseases.
 - In Andaman & Nicobar Islands, provide vitamin-C and electrolyte along with cool drinking water to the poultry birds to prevent heat stress.
 - In Odisha, as the temperature is increasing. Provide sufficient clean drinking water to animals. Provide gunny bag

covering outside the cowshed and sprinkle water. Avoid grazing of animals during the peak period of the day i.e. 11.00 AM to 3.00 PM.

- **Fisheries**

- In the Coastal Saline Zone, apply Potassium Permanganate Solution and Lime in pond water if death of carp takes place due to red wound at the tail.

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

- **Advisories:**

- As rain/thundershowers would occur at many places over Arunachal Pradesh on 29th and 30th, over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 30th and 31st March, along with Heavy to very heavy/heavy rain likely at isolated places over Assam & Meghalaya on 30th and 31st March, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.

- As thunderstorm accompanied with squall very likely at isolated places over Mizoram & Tripura on 28th, 29th and 30th, over Assam & Meghalaya on 29th and 30th, thunderstorm accompanied with gusty winds very likely at isolated places over Assam & Meghalaya on 27th and 28th, over Mizoram & Tripura on 27th March, provide support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.

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

- In Arunachal Pradesh, continue harvesting of cabbage, cauliflower, ginger, turmeric, potato, toria, mustard and pineapple after current spells of rain. Avoid sowing of summer vegetables. Carry out land preparation for Jhum rice. Undertake sowing in clear weather.

- In Meghalaya, continue sowing of cucurbits like cucumber, pumpkin, bottle gourd, ash gourd, squash, etc. Continue nursery raising of chilli and brinjal crops after current spells of rain.

- In Lower Brahmaputra Valley Zone of Assam, continue land preparation for summer sesamum crop. Avoid a irrigation to Boro rice at active tillering stage as rainfall is expected during next 5 days. Continue sowing of okra and summer gourd vegetables after current spells of rain.

- In Upper Brahmaputra Valley Zone, repair the bund in the crop field in order to conserve the anticipated rainfall. Select areas having higher land submergence for bao rice cultivation. Collect varieties like Maguri, Panikekua, Amona, Negheri etc. Continue sowing of maize after current spells of rain.

- In the Hill Zone of Assam, continue sowing of okra and hybrid varieties such as Ganga 5, Hi starch and composite variety like NLD, Dhawal, Naviot, Diara etc. of maize. Continue sowing of Early Ahu rice (direct seeded) with dwarf varieties such as Luit, Kapilee, IR-36, Kalinga 3 etc. and tall varieties such as Baghlami, Rangadoria, Ahujaha, Kolamanik *etc* after current spells of rain.

- In the Barak Valley Zone, continue land preparation/sowing of okra, ridge gourd and sponge gourd. Continue sowing of Ahu rice (direct seeded) after current spells of rain.

- In the North Bank Plain Zone, continue land preparation/sowing of Bau rice (varieties Maguri, Panikekua, Amona, Negheri etc.). Continue sowing of okra (varieties PusaSawani, ArkaAnamika, ParbhdaniKranti etc.). Continue land preparation/sowing of direct seeded Ahu rice (varieties Banglami, Rangadoria, Ahu joha, Rasi etc.). Continue sowing of Varieties of Ridge gourd like PusaNasdar, AAUJ-1, AAUJ-2, AAUC-3 and sponge gourd like Pusa Chikni after current spells of rain.

- In Meghalaya, spray Nimbicedine @ 5ml/litre of water to control pests in tomato & capsicum at vegetative stage after current spells of rain.

- In the Barak Valley Zone, to control the attack thrips in chilli crop, spray Rogor or Dimethoate @ 1.5 ml per litre of water after current spells of rain.

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

- In Manipur, carry out harvesting of pea, chickpea lentil, mustard and rapeseed in clear weather. Harvest potato crop after 10-15 days after haulm cutting in clear weather. Undertake land preparation for planting tree bean, lime, lemon and banana. Undertake land preparation and sowing of French bean and bhindi. Undertake planting of ginger, turmeric and cucurbits.

- In Nagaland, prepare nursery bed for brinjal. Undertake land preparation for ginger and turmeric.

- In Manipur, in chilli and capsicum nursery, spray Carbendazim + Mancozeb (Sixer) @ 2 g per litre of water to control the fungal attack after current spells of rain.

- In Mizoram, continue harvesting of ginger, turmeric, early cole crops, brinjal, tomato and chilli. Harvest mature cobs of maize and potato in clear weather.

- In Tripura, continue transplanting of the young seedlings of summer brinjal and tomato to the main field.

- **Animal Husbandry**

- In the Hill Zone and Lower Brahmaputra Valley Zone of Assam, vaccinate cattle against FMD, HS and BQ.

- In Manipur and Meghalaya, vaccinate poultry birds against coccidiosis and Ranikhet diseases. Vaccinate pigs against FMD & swine fever and cattle against FMD, Hemorrhagic Septicemia, Black Quarter.

- In the North Bank Plain Zone, vaccinate poultry birds against Ranikhet disease.

- In the Lower Brahmaputra Valley Zone, to control anemia in 4 and 14 days piglet, give 'Imferon' injection after consulting local veterinary doctor. Vaccinate domestic live stocks like cattle, goat & pigs against the Foot and mouth disease.
- **Fishery**
- In the Hill Zone of Assam, drain the water from the pond; dry up for 15-20 days and remove the upper layer of the bottom soil, then plough it and add lime. After 7-15 days of application of lime, add cow-dung and mix it properly. Add fertilizer 7-15 days after addition of cow-dung.
- In the Barak Valley Zone, for better profitability from the fish pond it is advisable to fish rearing culture silver barb (China Puthi) @ 15 % with Silver Carp 20%, Catla 15% , Rohu 15%, Grass Carp 10%, Mrigal 20% and common Carp 5%.
- In Meghalaya, feed common carp brooders with protein rich diet for proper maturation of eggs.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Advisories:**

- As heat wave conditions very likely over some parts of Saurashtra & Kutch on 27th, 30th and 31st and some pockets over Gujarat region on 27th March, over some parts of East Vidarbha on 30th and 31st March, apply light and frequent irrigation to the standing crops. Undertake mulching with straw/polythene to conserve soil moisture.
- **Maharashtra:**
- In South Konkan, some varieties of rice are in harvesting stage. Remove water from the field at least 8-10 days before harvesting. At the time of harvesting grains should be 90 % mature. Continue the harvesting of 80 to 85% matured mangoes in morning and evening hours. Keep the harvested fruits in shade to prevent spongy tissue disease and to protect from heat. Transport of harvested fruits should be done preferably during night hours. Do not apply any insecticides/fungicides 8 days before harvesting of mango fruits. Apply of 80-100 litres of water per tree at 7 days interval as per the availability of water. Also undertake mulching with grass in mango orchards to avoid the water loss in lateritic soil. In North Konkan, maintain water level in rice field upto level 5 cm. Apply 1st dose of urea @ 55 kg/ha, before application of urea weeding should be carried out. Due to temperature variation, if immature fruit drop of mango is observed, apply irrigation to alphonso mango @ 150 to 200 litre of water at fortnight interval.
- In Madhya Maharashtra, apply irrigation to groundnut crop. Due to the changing weather conditions immature fruit drop of mango may occur, to control it irrigate mango trees once in interval of 10 to 15 days. In view of increasing temperature apply light and frequent irrigation to vegetables and orchards. Also apply mulch for soil moisture conservation. To reduce evaporation spray 8% Kaolin.
- In Marathwada, apply irrigation to groundnut, vegetables and orchards. Undertake top dressing of Nitrogen i.e. 100 kg Urea /Acre in late sown sugarcane crop. Also irrigate the crop. Undertake irrigation and mulching in mango orchard. Apply irrigation during night time to control flower drop in vegetables. Also undertake intercultural operations like light hoeing and weeding in vegetables.
- In Vidarbha, maintain 2-3 cm water level in transplanted rice fields. Apply light and frequent irrigation to vegetables crops and orchards.
- **Gujarat:**
- In South Gujarat Heavy Rainfall Zone, maintain water level of 2-3 cm in transplanted rice field. Carry out intercultural operations in groundnut and pulse crops. Undertake new plantation of sapota fruit crop.
- In North Gujarat Zone, carry out intercultural operations in groundnut, pearl millet, sesame, green gram, cowpea and vegetable crops. Undertake harvesting of matured fennel and papaya fruits.
- In North Saurashtra Zone, apply irrigation in groundnut (flowering stage) and mango orchard.
- In South Saurashtra Zone, carry out weeding and intercultural operations in timely sown groundnut, green gram, black gram and sesame. Apply irrigation in sesame, green gram, black gram and groundnut at regular interval.
- In Middle Gujarat Zone, complete sowing of pearl millet and green gram. Carry out intercultural operations in timely sown groundnut and vegetable crops. Undertake harvesting of matured capsules of castor. Decrease interval between two irrigations in the standing crops.
- In North West Zone of Gujarat, carry out weeding and intercultural operations in timely sown groundnut. Apply irrigation in groundnut and pearl millet crops. Complete sowing of green gram and vegetable crops and transplanting of brinjal seedlings. Undertake spraying of solution of 200 mg NAA + 200 g Urea in 10 litres of water to enhance the fruit size and to reduce fruit dropping in mango.
- In South Gujarat Zone, apply mulch in mango orchard to maintain moisture condition.
- In Bhal and Coastal Zone, complete sowing of green gram, cow pea, pearl millet and vegetables crops (lady's finger, cluster bean, cow pea, bitter gourd, bottle gourd, small gourd etc.) in time.
- In South Gujarat Zone, spray the Imidacloprid @ 3 to 5 ml /10 litres of water in vegetable crops for the control of aphid infestation.
- In North Saurashtra Zone, thrips infestation above ETL is observed in all vegetable crops; for control, spray 500

ml of 5 % neem seed extract or neem seed oil 50 ml with Profenofos @ 20 ml or Imidacloprid 30.5 SC @3 ml or Lamda Cyheloثرin @10 ml 10 litres of water.

- **Animal Husbandry**

- In Gujarat, keep animals under shade during noon hours and avoid feeding between 11 to 15 hrs. Make arrangement of curtains for poultry house.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Advisories:**

- **Madhya Pradesh:**

- Apply irrigation in green gram and black gram in Nimar Valley Zone. In Grid Zone, continue sowing of green gram.
- In Vindhya Plateau Zone, continue sowing of green gram and black gram. Continue harvesting of matured wheat and gram.
- Apply light irrigation in wheat at milk stage in Kymore Plateau and Satpura Hill Zone. Continue harvesting of matured lentil, alsin and sunflower. Continue sowing of cucurbits and land preparation for sowing of summer moong and urad.
- Continue intercultural operations in vegetables followed by irrigation in Bundelkhand Zone. Continue sowing of summer moong.
- In Satpura Plateau Zone, undertake mulching in summer groundnut and maize to reduce evapotranspiration rate. Apply irrigation in vegetables.
- Apply light irrigation in wheat at dough stage. Continue intercultural operations in vegetables in Central Narmada Valley Zone.
- In Malwa Plateau Zone, apply light irrigation in wheat. Continue sowing of cucurbits, chilli, tomato and brinjal crops in the nursery. Continue sowing of green gram and black gram. Continue transplanting of young seedlings of tomato, chilli and cole crops.
- In Jhabua Hill Zone, continue harvesting of matured wheat and gram. Apply irrigation and recommended dose of fertilizers in summer vegetables. Continue sowing of green gram and black gram.
- In Satpura Plateau Zone, there are chances of powdery mildew attack in mango at flowering/fruit setting stage, which causes poor fruit setting and later on fruit dropping. Spray Carbendizim (Bavistin) @ 1.5g or Sulphex @ 3.0g per litre of water.

- **Chhattisgarh:**

- In North Hill Zone, continue harvesting of matured potato, gram and lentil crops. Apply irrigation in summer rice, sugarcane and summer vegetable crops as per soil moisture condition. Continue sowing of pumpkin, cucumber, sponge gourd etc. Undertake harvesting of matured wheat.
- Continue sowing of green gram and groundnut in Chhattisgarh Plain Zone. Undertake harvesting of matured wheat and gram.
- In Bastar Plateau Zone, continue planting of summer arvi and bunda. Continue intercultural operations in vegetables. Continue sowing of coriander crop in sunken bed.
- In Chhattisgarh Plain Zone, if cucurbitaceous vegetables are affected by red pumpkin beetle, spray Savin @ 2 gram/litre of water at root zone in morning time.

- **Animal Husbandry**

- In Madhya Pradesh, provide mineral mixture and fresh and clean water to birds. Vaccinate the poultry birds to prevent Ranikhet disease. Cattle should be kept in shade and provide clean and fresh water two times a day.
- In Chhattisgarh, feed the cattle with dried fodder chaff cutting mixed with legume fodder such as Berseem, Lucerne etc.

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

- **Advisories:**

- As thunderstorm accompanied with gusty winds very likely at isolated places over North Coastal Andhra Pradesh on 31st March, provide support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
- As heat wave conditions very likely over some parts of Telangana on 30th and 31st March, apply light and frequent irrigation to the standing crops. Undertake mulching with straw/polythene to conserve soil moisture.

- **Kerala:**

- In the Problem Area Zone, continue harvesting of mature nutmeg fruits. Continue preparation for planting of new cuttings of pepper. Provide shade to vegetables seedlings.
- In the Northern Zone, provide mulching in coconut basins. Harvest mature mangoes before ripening.
- In the Central Zone, carry out land preparation for ginger.
- In the Southern Zone, continue land preparation/planting of ginger after the receipt of showers. Apply lime on

the trunks in young rubber trees.

- In the Central Zone, for leaf folder attack in rice crop at tillering stage use Trichogramma cards (2CC per one acre). Cut the cards in to small pieces and fix in different regions of the field. If the attack is severe, spray Quinalphos @ 2ml per one liter of water. For management of fruit fly in vegetables like snake gourd and bitter gourd, remove and destroy affected and decayed fruits. Use special pheromone traps like luce lure (60 nos/Acre) or Thulasi/fruit traps. If the attack is not reduced, spray mixture of Malathion 2 ml per one litre of water + jaggery 10 g at flowering and fruit initiation stage.
- In the Northern Zone, spray Flubendiamide @ 1.5 ml in 10 litres of water for 2-3 times at weekly interval for fruit and shoot borer in okra at flowering and fruit setting stage.
- In the Southern Zone, cut and burn all severely affected banana leaves and spray Tilt @ 1 ml per litre of water for Sigatoka disease in banana. To control powdery mildew in bittergourd, spray Dinocap @ 1 ml or Trichoderma Viridae @ 2 g per litre of water. To control viral disease in rice crop at tillering stage, remove the affected plants. Spray Rogor 1.5ml or Imidachlorpid @ 3ml per litre of water.
- In the Problem Area Zone, for sucking pests, apply Neem oil emulsion @ 65 ml/litre of water in cow pea and @ 25ml/ litre of water in cucurbits.
- **Andhra Pradesh:**
 - In the North Coastal Zone, continue planting of sugarcane after sett treatment with Propiconazol @ 1.0 ml/litre for 15 minutes before planting.
 - In the Krishna Godavari Zone, maintain 5cm water from PI to grain hardening stage in paddy crop. Crop should not face water stress at panicle initiation, flowering and milk stages. Carry out harvesting of rice fallow pulses when pods turn black and hard. Harvesting should be done during morning hours to avoid shattering of pods.
 - In the Scarce Rainfall Zone, for the control of leaf folder/stem borer in paddy, farmers are advised to spray Chloropyrifos @ 2 ml/litre for control. For control of sucking pest like thrips in castor, spray Acepahte @ 1.5 g per litre of water.
 - In the Krishna Godavari Zone, spray Tricyclozole @ 120 g or Isoprothiolin @ 300 ml or Kasugamycin @ 400 ml per acre for neck blast in rice at PI - flowering stage. Spray Monocrotophos @ 320 ml or Dimethoate @ 400 ml/acre for sucking pests in green/black gram (at vegetative stage) and groundnut crop (at vegetative peg formation stage).
 - In the Southern Zone, to control tikka leaf spot at pod maturity stage in Rabi groundnut, spray Hexaconazole @ 2 ml per litre of water. The present weather conditions are favourable for stem rot in paddy at flowering and milking stage. To control, drain out the water from the field; dry the field for 1 to 2 days and spray Hexaconazole @ 400 ml. or Propiconazole @ 200 ml./acre per litre of water.
 - In the North Coastal Zone, spray Chlorpyrifos @ 2.5 ml/litre of water for stem borer in Rabi paddy at panicle initiation stage. Spray Carbendazim @ 1 g/litre of water for blast disease in ragi crop at grain development stage. Spray Dimethoate @ 2 ml per litre of water for sucking pest in maize at cob development stage.
- **Telangana:**
 - In North Telangana Zone, give irrigation to maize crop at before flowering, flowering & milk stages; to sesamum crop immediately after sowing and during flowering stage.
 - In South Telangana Zone, prevailing dry weather conditions are favorable for incidence of aphids in maize. To control, spray Dimethoate @ 2 ml or MithylDemetan @ 2 ml or Acephate @ 1.5 g per litre of water. For Incidence of Blast in rice, spray Tricyclazole @ 0.6 g or Isoprothiolane @ 1.5 ml or Kasugamycin @ 2.5 ml per litre of water twice in 10-15 days interval. For Panicle mite in rice, spray Spiromesifen @ 1.0 ml and Propiconazole @ 1.0 ml per liter of water.
 - In North Telangana Zone, spray Monocrotophos @ 1.6 ml/litre of water for whorl maggot in paddy at tillering to maximum tillering stage. Spray Chlorothalonil @ 2 g or Pyraclostrobin @ 1g/litre of water for early blight in tomato crop. Spray Flubendamide @ 0.3 ml/litre of water at 28 and 35 days for fruit borer in tomato crop. Spray Myclobutanil @ 1 ml/litre of water for powdery mildew in bhindi crop.
- **Tamil Nadu:**
 - In the Cauvery Delta Zone, carry out harvesting of Thaladi paddy as dry weather is expected.
 - In the North Eastern Zone, spray 2 g Carbendazim + Thiram + Mancozeb (1:1:1) mixture in one litre of water or spray NSKE 5% at 50% flowering stage to prevent grain discolouration in rice. To control gall midge in rice, spray Chlorpyrifos 20% EC 1250 ml/ha or Fipronil 5% EC 1000-1500 g/ha or Thiamethoxam 25% WG 100 g/ha.
 - In the Western Zone, utilizing expected rainfall, prepare irrigated fallow land for sowing cumbu during first week of April.
 - In the Southern Zone, due to prevailing weather conditions, incidence of Inflorescence midge occurs in Mango. Remove and destroy affected flowers and tender shoots and spray Dimethoate 30 EC 6 g or Methyl Demeton 25 EC 5 g per litre of water.
 - In the Cauvery Delta Zone, spray Wettable sulphur @ 600g/acre in 200 litres of water for powdery mildew incidence and Indoxacarb 15.8% SC 133 ml/acre in 200 litres of water for Spotted pod borer incidence in the

rice fallow pulses fields.

- In the High Rainfall Zone, to control sigatoka leaf spot in banana, spray Propiconazole 1 ml + Teepol 0.5 ml per litre of water.
- In the South Zone, to control fruit rot and die back incidence in chilli, spray Copper Oxychloride 0.25% and Zineb 0.15%. For cut worms (*Helicoverpa armigera*) incidence in chilli crop, spray Indoxacarb 14.5 % SC @ 6.5 ml/10 litres. Prevailing weather condition is favorable for rice earhead bug at tillering to harvesting stage. To control spray Malathion 50 EC @ 500 ml/ha twice.
- In the North Western Zone, to alleviate zinc and iron deficiency in the existing tapioca crop, apply three foliar sprays of Zinc Sulfate 0.5% (5g/litres of water) and Iron Sulfate 1% (10g/litres of water) solution.
- **Karnataka:**
 - In North Transition Zone, complete harvesting of late sown sorghum, wheat and Bengal gram crops and undertake ploughing. Growing of one line of radish in every two lines of tomato crop is advised to reduce the infestation of fruit rot disease in tomato crop.
 - In Eastern Dry Zone, for soil moisture conservation in mango orchard, weeding and crop residues mulching is recommended.
 - In Coastal Zone, apply protective irrigation in horticultural crops. Install 12 Pheromone traps/hectare to monitor shoot and fruit borer in brinjal crop field.
 - In North East Transition Zone, undertake earthing up in one month old sugarcane crop.
 - In Southern Dry Zone, apply irrigation in coffee plantation through well/borewell/tanks or irrigate through rainguns or sprinkler irrigation as blossom shower to get good berry setting. Undertake growing of green manure crop insitu and incorporate in the soil, wherever the farmers are intending to take up rice and sugarcane in *kharif* season.
 - In Central Dry Zone, apply irrigation in horticulture crops as per need.
 - In North Dry Zone, undertake ploughing of land and incorporate the crop residue in the soil to facilitate insitu conservation of water during the pre-monsoon rains and to conserve the soil.
 - In Hill Zone, undertake harvesting of completely ripened bunch of pepper. Undertake deep ploughing in harvested rice field, so that the soil pathogens will die and in turn it will help to reduce pest incidence for the next rice crop.
 - In North Transition Zone, mango is in flowering and fruit setting stage; for control of powdery mildew and sucking pest, spray Carbaryl @4 g + Bavistin @1g/litre of water.
 - In Central Dry Zone, to control sucking pests, thrips and powdery mildew in mango, spray the crop with Carbaryl @ 4 g + Bavistin @ 1g /litre of water.
 - In North East Dry Zone, due to increase in day temperature incidence of leaf spot was noticed in groundnut; for control, spray Hexaconazole @ 1ml/litre or Carbendazim @1g/litre of water.
 - In Hill Zone, there is chance of incidence of button dropping, inflorescence dieback in arecanut; for control, spray Carbendazim @ 1 g/litre or Mancozeb @ 2 g/litre of water.
 - In Southern Transition Zone, spray Tricyclazole @ 0.6 g/litre or Carbendazim 1g/litre of water against blast disease in rice crop.
- **Animal Husbandry**
 - In the South Telangana Zone, vaccinate sheep against ET and cattle against FMD and Hemorrhagic Septicemia diseases.
 - In the Southern Zone of Tamil Nadu, provide half quantity of greens and straw in the morning and half in the evening after milking. Feed cow with mixture of young foliage and dry grass with hay. Give silage after the end of milking. Give concentrate feed in the morning and evening with equal distribution.
 - In North Dry Zone of Karnataka, apply 4-6 inch thick hay thatch as a roofing material. Water can be used for spraying the floor and roof of shelter periodically during hot hours. Allow animals for grazing early in morning or late in the evening. Leave the buffaloes in ponds during afternoon hours or sprinkle the cold water 2-3 times a day on the body of the animals to overcome the heat.

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