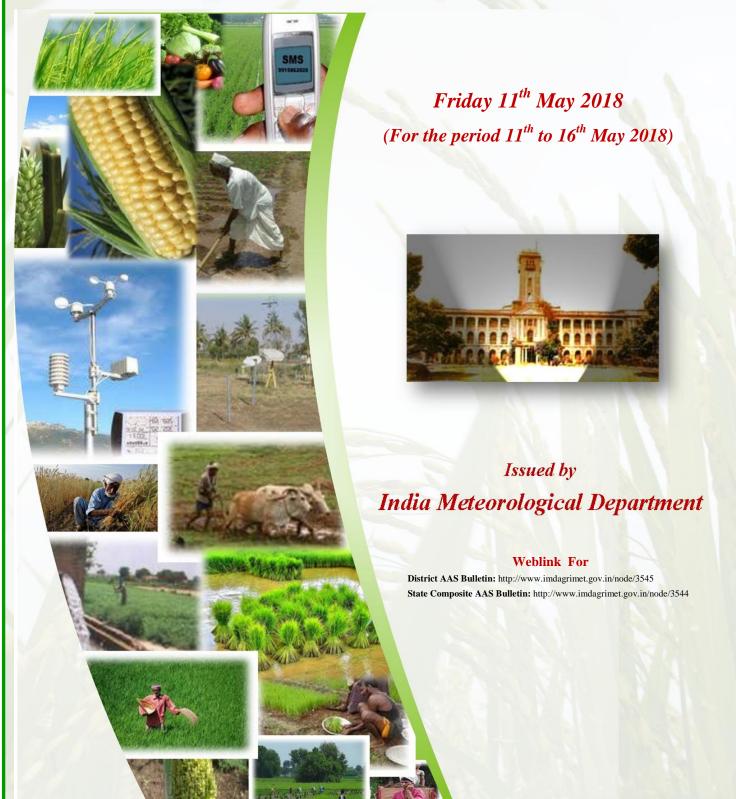
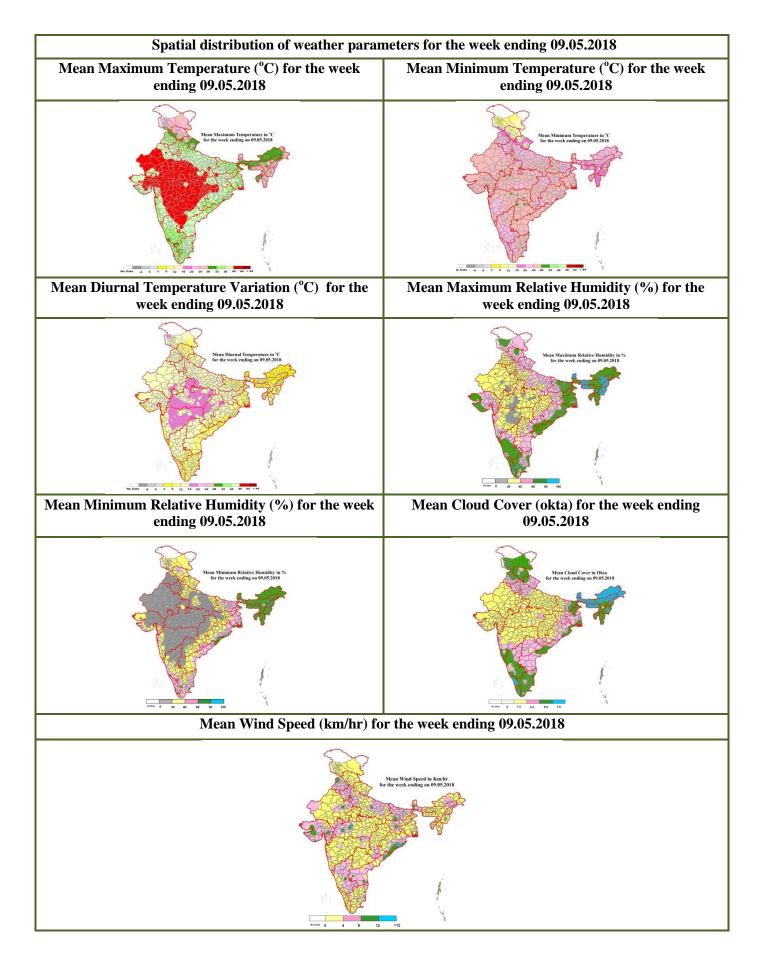


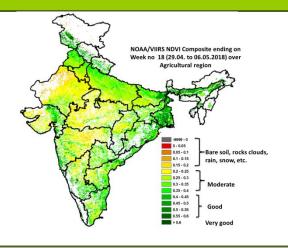
National Agromet Advisory Service Bulletin

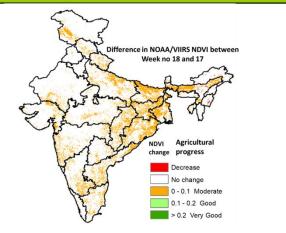




NOAA/VIIRS NDVI composite ending on 6th May 2018 over Agricultural regions of India

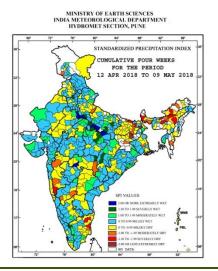
Difference in NOAA/VIIRS NDVI between 29thApril and 6th May 2018



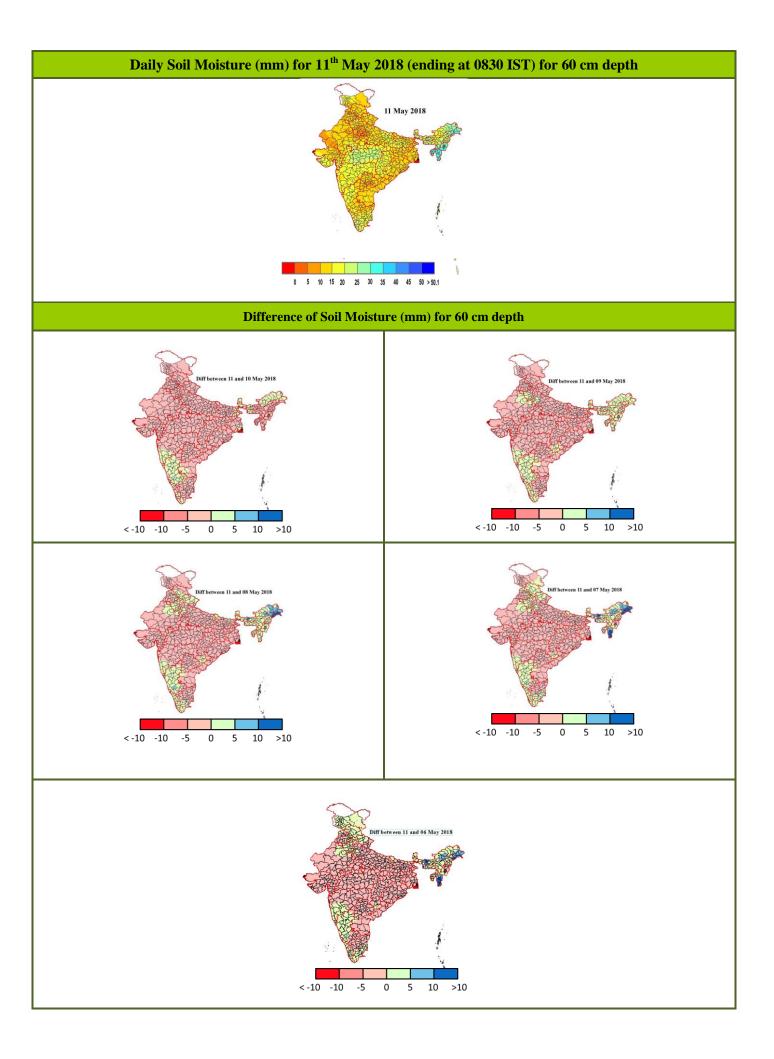


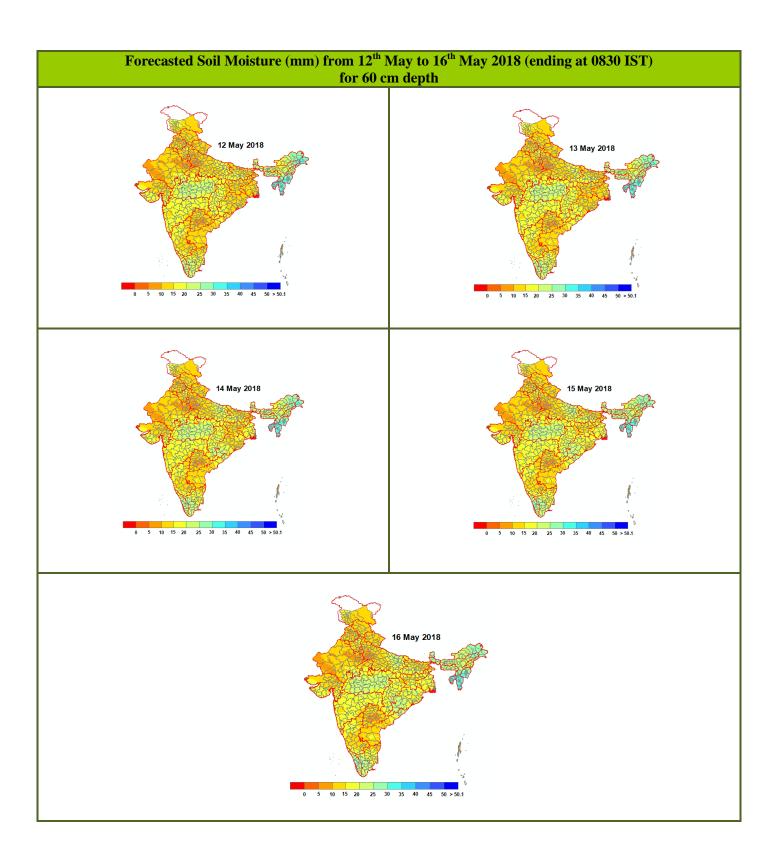
- Agricultiure vigour is good to moderate over Indo-gangetic plains, East coast and western coast of Maharashtra, some parts of Gujarat, interior parts of Tamil Nadu, Coastal part of Andhra Pradesh and Odisha and Telangana.
- Moderate progress of agricultural vigour was observed over many parts of the country, few patches in North-East shows decrease in NDVI.

Standardised Precipitation Index Cumulative 4 weeks for the period 12th April to 9th May 2018



- Extremely/severely wet conditions experienced in Allahabad, Azamgarh, Banda, Agra, Firozabad, Hamirpur, Jalaun, Mahoba districts of Uttar Pradesh; Kaithal district of Haryana; Bharatpur district of Rajasthan; Katni, Rewa, Satna districts of Madhya Pradesh; Gondia, Washim districts of Maharashtra; Durg district of Chhattisgarh; Nilgiri district of Tamil Nadu & Puducherry.
- Extremely/Severely dry conditions experienced in East Kameng district of Arunachal Pradesh; Kamrup, Karbi Anglong, Shonitpur, Baksa districts of Assam; Darjeeling district of West Bengal; Giridih district of Jharkhand; Katihar, Madhepura, Madhubani districts of Bihar; Kolhapur district of Maharashtra; Cuddalore, Tiruvannamalai districts of Tamil Nadu & Puducherry.
- Moderately dry conditions experienced in Upper Subansiri district of Arunachal Pradesh; Darrang,
 Udalguri districts of Assam; Lunglei district of Mizoram; Cooch Behar, Hooghly districts of West Bengal;
 Ranchi district of Jharkhand; Jamui, Khagaria, Monghyr, Saharsa, Sitamarhi districts of Bihar;
 Shahjahanpur district of Uttar Pradesh; Rajouri district of Jammu & Kashmir; Nashik, Satara, Gadchiroli
 districts of Maharashtra; Nagapattinam, Ariyalur districts of Tamil Nadu & Puducherry; Dharwad, Raichur
 districts of Karnataka.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.





Weather Forecast for next 5 days valid upto 0830 hours of 16th May 2018

- Meteorological subdivision wise detailed 5 days rainfall forecast is given in Table below.
- Maximum temperatures very likely to remain in the range of 40-44°C over most parts of Rajasthan, Gujarat, Madhya Pradesh, Interior Maharashtra and over some parts of Chhattisgarh, Telangana, interior Odisha and North Interior Karnataka during next 2-3 days.
- Maximum temperatures very likely to rise by 2-3°C over Northwest India and by 1-2°C over West India during next 2-3 days and no significant change in maximum temperatures over rest of the country during the same period.

5 Day Rainfall Forecast (Mid day) 11th May 2018

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

% Station Reporting Rainfall

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

Weather Warning during next 5 days

• 11 May (Day 1): Thunderstorm accompanied with squall (wind speed reaching 50-70 kmph) very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Gangetic West Bengal. Thunderstorm accompanied with gusty winds very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Odisha, Jharkhand, Bihar, north Coastal Andhra Pradesh, Telangana, Rayalaseema, Interior Karnataka,

- Tamilnadu & Puducherry, Lakshadweep and Kerala. Heavy rain very likely at isolated places over Assam & Meghalaya, Coastal & South Interior Karnataka, Lakshadweep, Kerala and Tamilnadu & Puducherry. Heat wave conditions very likely at one or two pockets over West Madhya Pradesh, Vidarbha and West Rajasthan.
- 12 May (Day 2): Thunderstorm accompanied with squall (wind speed reaching 50-70 kmph) very likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura. Thunderstorm accompanied with gusty winds very likely at isolated places over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Gangetic West Bengal, Vidharbha, Chhattisgarh, Telangana, north Coastal Andhra Pradesh, South Interior Karnataka, Tamilnadu & Puducherry, Lakshadweep and Kerala. Heavy rain very likely at isolated places over South Interior Karnataka and Tamilnadu & Puducherry. Heat wave conditions very likely at one or two pockets over Rajasthan, West Madhya Pradesh and Vidarbha.
- 13 May (Day 3): Thunderstorm accompanied with squall (wind speed reaching 50-70 kmph) and hail very likely at isolated places over Jammu & Kashmir, Himachal Pradesh and Uttarkhand. Thunderstorm accompanied with squall (wind speed reaching 50-70 kmph) very likely at isolated places over East Uttar Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal, Odisha and Jharkhand. Thunderstorm accompanied with gusty winds very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh, Vidarbha, Chhattisgarh, Bihar, Telangana, north Coastal Andhra Pradesh, South Interior Karnataka, Tamilnadu & Puducherry, Lakshadweep and Kerala. Duststorm very likely at isolated places over Rajasthan. Heat wave conditions very likely at one or two pockets over Rajasthan, West Madhya Pradesh and Vidarbha.
- 14 May(Day 4): Thunderstorm accompanied with squall (wind speed reaching 50-70 kmph) and hail likely at isolated places over Jammu & Kashmir, Himachal Pradesh and Uttarkhand. Thunderstorm accompanied with squall (wind speed reaching 50-70kmph) likely at isolated places over East Uttar Pradesh, West Bengal & Sikkim, Jharkhand and Odisha. Thunderstorm accompanied with gusty winds likely at isolated places over Haryana, Chandigarh & Delhi, West Uttar Pradesh, East Rajasthan, Vidharbha and Chhattisgarh. Duststorm likely at isolated places over West Rajasthan.
- 15 May (Day 5): Thunderstorm accompanied with squall (wind speed reaching 50-70 kmph) likely at isolated places over Sub-Himalayan West Bengal & Sikkim. Thunderstorm accompanied with gusty winds likely at isolated places over East Uttar Pradesh, Vidharbha and Chhattisgarh.

Weather Outlook for subsequent 2 days from 16th to 18th May 2018

- Scattered to fairly widespread rain/thundershowers likely over northeast India.
- Isolated to scattered rain/thundershowers likely over Western Himalayan region, East India, central and south peninsular India.
- Dry weather likely over remaining parts of the country.

Salient Advisories

- As thunderstorm accompanied with squall (wind speed reaching 50-70kmph) and hail very likely at isolated places over **Jammu & Kashmir**, **Himachal Pradesh** and **Uttarakhand** on 13th and 14th, it is advised to use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
- Also thunderstorm accompanied with squall (wind speed reaching 50- 70kmph) very likely at isolated places over East Uttar Pradesh on 13th and 14th, over Gangetic West Bengal on 11th, over West Bengal & Sikkim, Odisha and Jharkhand on 13th & 14th and over Sub-Himalayan West Bengal & Sikkim on 15th, over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 11th, 12th and 13th May; thunderstorm accompanied with gusty winds very likely at isolated places over Jammu & Kashmir, Himachal Pradesh, Uttarakhand on 12th, over East Uttar Pradesh on 12th and 15th, over Haryana, Chandigarh & Delhi and West Uttar Pradesh on 13th and 14th, over Punjab on 13th, over East Rajasthan on 14th, over Sub-Himalayan West Bengal & Sikkim, Bihar, Jharkhand and Odisha on 11th, over Gangetic West Bengal on 12th May, over Chhattisgarh from 12th to 15th May, over north Coastal Andhra Pradesh, Telangana, Rayalaseema, Tamilnadu & Puducherry and Kerala from 11th to 13th, over South

- **Interior Karnataka** on 12th and 13th, over **Interior Karnataka** on 11th May; duststorm very likely at isolated places over **Rajasthan** on 13th and over **West Rajasthan** on 14th May; it is advised to provide 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 rain/thundershowers very likely at most/many places over **Uttarakhand** and at many places over **Jammu & Kashmir** and **Himachal Pradesh** on 13th and 14th, at many places over **Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura** and **Andaman & Nicobar islands** during the period, over **Arunachal Pradesh** on 15th May, over **Sub-Himalayan West Bengal & Sikkim** on 11th, 14th & 15th, over **Gangetic West Bengal** on 13th, over **Kerala** on 11th, 12th and 14th, over **South Interior Karnataka** on 11th May, heavy rain at isolated places over **Assam & Meghalaya** on 11th, over **Coastal Karnataka** and **Kerala** on 11th, over **South Interior Karnataka** and **Tamilnadu & Puducherry** on 11th and 12th May; avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produces at safer places.
- As heat wave conditions very likely at one or two pockets over **West Rajasthan** and over **West Madhya Pradesh** from 11th to 13th May, apply light and frequent irrigation in vegetables, orchard crops, green gram, black gram, maize crops to cope up with the excess evaporative demand due to heat wave conditions, undertake mulching with straw/polythene to conserve soil moisture. In **Vidarbha**, in view of expected heat wave conditions during next 3 days, apply light and frequent irrigation to summer crops, vegetables and orchards. Also apply mulch to conserve soil moisture.
- In view of the prevailing heat wave conditions in **West Rajasthan** and **West Madhya Pradesh**, grazing /feeding of cattle/goats may be done during morning/ evening hours. Keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed & adopt vaccination schedule. Also provide mineral mixture and fresh and clean water to poultry birds. Make arrangement of curtains and proper ventilation in poultry house. Vaccinate the poultry birds to prevent Ranikhet disease.

Detailed Agromet Advisories

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

- Realised Rainfall: Rainfall occurred in all districts of Uttarakhand except Champawat, Haridwar, Nainital, Pauri Garwhal and Udham Singh Nagar, all districts of Himachal Pradesh except Bilaspur, Hamirpur and Una, all districts of Jamm & Kashmir except Badgam, Jammu, Kathua, Leh (Ladakh), Rajouri and Samba, in Allahabad, Banda, Shrawasti districts of East Uttar Pradesh, Mahoba district of West Uttar Pradesh, during the week. Weather remained mainly dry/dry over rest of the region.
- Advisories:
 - As thunderstorm accompanied with squall (wind speed reaching 50-70kmph) and hail very likely at isolated places over Jammu & Kashmir, Himachal Pradesh and Uttarkhand on 13th and 14th, thunderstorm accompanied with squall (wind speed reaching 50-70 kmph) very likely at isolated places over East Uttar Pradesh on 13th and 14th, advised to use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants 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 gusty winds very likely at isolated places over Jammu & Kashmir, Himachal Pradesh, Uttarakhand on 12th, over East Uttar Pradesh on 12th and 15th, over Haryana, Chandigarh & Delhi and West Uttar Pradesh on 13th and 14th, over Punjab on 13th, over East Rajasthan on 14th, duststorm very likely at isolated places over Rajasthan on 13th, over West Rajasthan on 14th May, provide support to

- young fruit plants and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
- As rain/thundershowers would occur at most/many places over Uttarakhand and at many places over Jammu & Kashmir and Himachal Pradesh on 13th and 14th May, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- As heat wave conditions very likely at one or two pockets over West Rajasthan from 11th to 13th May, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave conditions, undertake mulching with straw/polythene to conserve soil moisture.

Jammu & Kashmir:

- ➤ Undertake harvesting of matured wheat in clear weather and keep at safer places. Undertake weeding and hoeing in summer moong and mash in clear weather. Continue sowing of maize, okra, French bean, Continue nursery bed preparation for rice.
- ➤ Continue nursery sowing of vegetables in trenches and polyhouses in Cold Arid Zone. Continue sowing of cucurbit seeds in poly bags for early nursery raising inside polyhouses. Undertake land preparation for sowing of vegetables in open field.
- Apply Carbaryl @ 2g/litre or Cypermethrin @ 1ml/litre of water during clear weather against pumpkin beetle in cucurbits after current spells of rain.

Uttarakhand:

- Continue harvesting of matured wheat and pulses in clear weather. Undertake intercultural operations in spring sugarcane after forcasted spells of rain.
- > Continue transplanting of capsicum and brinjal in the polyhouse in mid and high hills and planting of turmeric, ginger and arbi.

Himachal Pradesh:

- > Continue harvesting of matured wheat in clear weather and continue sowing of bhindi, planting of arvi etc. Continue nursery preparation of summer vegetables, raising of seedlings of cucurbits in polythene bags in poly house. Continue transplanting of vegetables like tomato, capsicum, gourd, chilli etc. in the well prepared fields. Undertake field preparation for rice nursery.
- > Spray Mancozeb @ 600g/200 litres of water in apple orchards to control the apple scab diseases after current spells of rain.

Punjab, Haryana & Delhi:

- ➤ In Punjab, continue sowing of Bt. cotton and desi cotton, transplanting of chilli. Continue harvesting of matured vegetables. Procure the recommended varieties i.e. PR 126, PR 124, PR 123, PR 122, PR 121, PR 116, PR 114, PR 115, PR 113 etc. for *kharif* rice.
- In Haryana, continue sowing of cotton. Farmers are advised to prepare the land and sowing of green gram, Lobia, moth and Pigeon pea. Continue field preparation for rice nurseries.
- ➤ In Delhi, continue field preparation for sowing of pigenpea and cotton. Continue harvesting of matured vegetables. Apply light irrigation in vegetables and standing crops.
- ➤ In Delhi, to control shoot and fruit borer in brinjal and tomato crops, infested fruits and shoots should be collected and buried inside the soil. If pest population is high, spray Spinosad 48 EC @ 1 ml/4 litres of water.

Uttar Pradesh:

- ➤ Continue deep ploughing in vacant fields. Apply irrigation in vegetables. Continue filed preparation for rice nursery. Continue field preparation for sowing of pigenpea and cotton. Continue intercultural operations in cucurbit crops and sugarcane.
- > Continue harvesting of matured barley, wheat and vegetables. Undertake digging up of matured tubers of onion.

Rajasthan:

- ➤ Deep ploughing of fields after harvesting of rabi crops should be done as high temperature is prevailing, which is suitable for killing insect's eggs and pupae and weed seeds. Farmers are advised to procure good quality cotton seeds from certified source for sowing in coming week.
- ➤ Apply irrigation in summer groundnut, vegetables, orchards, sugarcane and moong. Continue sowing of cotton. Continue picking up of matured vegetables and cucurbits. Undertake digging up of matured tubers of onion.
- For control of stem and fruit borer in okra, spray Malathion 2 ml or Thioron 1 ml in one litre water.

• Animal Husbandry

- ➤ In Jammu & Kashmir, add calcium supplement in the diet of dairy animals and heifers especially feed rice straw these days to prevent calcium deficiency and intestinal blockage. Sheeps and goats need to be vaccinated against Sheep and Goat pox.
- In Punjab, keep the animals under sheds during noon time and provide fresh drinking water to save the animals from summer heat and stress.
- In Rajasthan, take care of domestic animals, keep them in shades during noon hours and make arrangement for

plenty of drinking water with minerals.

• Apiculture:

In Jammu & Kashmir, harvest honey from the bee colony. Migrate bee colonies to flora rich areas. Avoid antibiotics. For protection against ants, put the legs of apiary into water so that ants could not attack the apiary.

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

• Realised Rainfall: Rainfall occurred in all districts of Andaman and Nicobar Islands, Khurda, Mayrbhanj and Nayagarh districts of Odisha, Araria, Gopalganj and West Champaran districts of Bihar, Pakur, East Singbhum and Ramgarh districts of Jharkhand, all districts of Sub-Himalayan West Bengal except South Dinajpur, in Birbhum and Purulia districts of Gangetic West Bengal during the week. Weather remained mainly dry/dry over rest of the region.

• Advisories:

- As thunderstorm accompanied with squall (wind speed reaching 50-70kmph) very likely at isolated places over Gangetic West Bengal on 11th, over West Bengal & Sikkim, Odisha and Jharkhand on 13th & 14th and over Sub-Himalayan West Bengal & Sikkim on 15th, thunderstorm accompanied with gusty winds very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Bihar, Jharkhand and Odisha on 11th, over Gangetic West Bengal on 12th May, it is advised to provide 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 rain/thundershowers very likely at many places over Andaman & Nicobar islands during the period, over Sub-Himalayan West Bengal & Sikkim on 11th, 14th & 15th and over Gangetic West Bengal on 13th May, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produces at safer places.

Odisha:

- As scattered rainfall is expected during next 3 days, continue land preparation and sowing of summer pulses and planting of summer vegetables like cucurbits and lady's finger.
- Apply mulches to non paddy crops and fruit crops to maintain/conserve moisture in the soil.
- Continue harvesting of mustard and potato.
- ➤ Increased temperature may favour the egg laying of stemborer in rice in the main field. To attract the butterflies, place 4 Pheromon Traps/acre, collect the adults and destroy them by burning them under soil or by burying.
- Increased difference between daily maximum and minimum temperature favours the infestation of blast in main field. Spray 1 g Beam/litre water for control on a non rainy day.

Bihar:

- ➤ Continue sowing of summer maize varieties such as Suwan, Deoki, Ganga 11, Shaktiman-1, 2, 3, 4 and sowing of green gram and black gram utilizing the expected rainfall.
- > Undertake sowing of vegetables like lady's finger, pumpkin, cucumber, sponge gourd etc.
- ➤ Undertake land preparation for planting of turmeric and ginger. Application of 25-30 tones of cow dung per hectare is advised during land preparation.
- Monitoring is advised in cucurbitaceous crops for infestation of red pumpkin beetle. If population of red pumpkin beetle exceeds economic threshold level, spraying of Dichlorvos 76EC @1 ml/litre of water is advised under clear sky condition.

Jharkhand:

- Continue intercultural operations in summer moong. Maintain optimum water level in transplanted rice fields. Undertake planting of ginger and elephant foot yam.
- > Summer rice crop is at panicle emergence to grain formation stage in South Eastern Plateau Zone and Gundhi Bug infestation starts at his stage but more likely to be prone at milking stage hence, dusting of Quinalphos 1.5 per cent dust @ 10 kg per acre during evening time is recommended or establish pheromone trap @ 3-4 nos./acre. Prevailing temperature favours Blast disease occurrence hence, spraying of Tricyclazole @ 6 g per 10 liter of water is recommended.

West Bengal:

- ➤ In the Sub-Himalayan West Bengal, carry out land preparation/planting of ginger and turmeric. Continue transplanting of round chilli in the raised beds and provide proper drainage. Undertake land preparation for soybean cultivation.
- ➤ In Gangetic West Bengal, carry out harvesting of matured *Boro* rice during clear weather and keep at safer/covered places. To prevent shedding of new fruits in mango orchards due to high temperature, spray NAA@ 5ml/10 litres of water on a non rainy day.
- In Sub-Himalayan West Bengal, if brown colour spot or blast spot appears on the leaves of Boro paddy crop,

spray Tricyclazole @ 0.75g/litre of water. If aphid or white fly infestation is observed in green gram at preflowering stage, spray Imidacloprid @ 5ml per litre of water. Undertake plant protection methods after current spells of rain.

Andaman & Nicobar Islands:

➤ Undertake raising of vegetable seedlings (Brinjal and Chilli) in trays in protected areas, for planting in high lands. Clean the crown portion of coconut and garden before onset of monsoon.

• Animal Husbandry

- ➤ In Jharkhand, prevailing maximum temperature between 34 and 36 degree Celsius may cause death of fowl due to heat stroke, hence, special care should be taken as follows:
- Avoid overcrowding. Provide fresh and cold water for drinking purpose.
- Shelter house roof should be painted white in colour as well as rice straw should be kept on the roof for cooling and temperature regulation purpose. Sprinkle water on hanging khus sheets.
- To minimize the effect of heat it is advisable to supplement vitamin C and Dextrose with water. If signs and symptoms of heat stroke appears in fowl, take it out carefully, immediately and slowly, submerge it in water and place it in shade for drying.

• Fisheries

➤ In Odisha, fish farmers, in case have stocked fingerlings in the pond for fish culture, they should monitor the quality and level of water, so also temperature. In case of water temperature goes above 30° C or water level goes below 1 m. depth, farmers are advised to go for early harvest and discontinue fish seed production and culture activity.

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

• Realised Rainfall: Rainfall occurred in all districts of Arunachal Pradesh except Dibang Valley, East Kameng, Upper Siang and Upper Subansari, all districts of Assam except Darrang, Karbi Anglong, Morigaon, Nagaon, Sibsagar and Sonitpur, all districts of Meghalaya, in Aizawl, Lunglei and Serchip districts of Mizoram, Churachandpur, Imphal East, Imphal West, Senapati and Thoubal districts of Manipur, Dimapur, Kiphire, Kohima, Mon and Phek districts of Nagaland and in all districts of Tripura during the week. Weather remained mainly dry over rest of the region.

• Advisories:

- As rain/thundershowers would occur at many places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during the period, over Arunachal Pradesh on 15th May, along with heavy rain at isolated places over Assam & Meghalaya on 11th May, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- As thunderstorm accompanied with squall (wind speed reaching 50-70kmph) very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 11th, 12th and 13th May, 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.

Arunachal Pradesh:

➤ Continue transplanting of seedlings of summer vegetables like chilli and brinjal to main field from nursery. Continue transplanting Boro rice seedlings. Continue sowing of leguminous crops like cowpea, French bean, Continue sowing of seedlings of cucurbits and land preparation/sowing of maize.

Assam:

- ➤ Undertake harvesting of matured Boro rice, green gram and black gram in clear weather. Complete sowing of Bao rice. Continue planting of banana, cucumber and colocasia. Undertake nursery sowing of Sali rice. Due to continuous rainfall during last couple of days may result in complete wash out of seeds/seedlings of jute. Farmers are advised for re-sowing of Oiltorius varieties if already sown and emerged seedlings are washed away after the forecasted spells of heavy rain.
- ➤ Continue transplanting of tall traditional varieties of Normal Ahu rice. Continue direct sowing of vegetables and maize. Continue planting of banana varieties like Jahaji (dwarf variety) and Chenichampa, Malbhog, Barjahaji (medium tall variety). Continue sowing of pumpkin and cow pea after the forecasted spells of heavy rain.
- > To control the attack thrips in chilli crop, spray Rogor or Dimethoate @ 1.5 ml per litre of water. Gandhi bug attack may be seen in Boro rice at milky stage. For effective control of Gandhi bug, apply 5% Malathoin dust @ 20 kg per ha of land. Spray Carbendazim @ 1.0 gram per litre for incidences of powdery mildew disease in cucurbitaceous crops and late pea. Undertake plant protection methods after current spells of rain.

Meghalava:

Continue sowing of cucurbits like cucumber, pumpkin, bottle gourd, ash gourd, squash, French bean and cowpea. Continue land preparation and sowing of maize varieties Vijay Composite, DA 61A, RCM 75, 76, Vivek Hybrid 25, Vivek QPM-1, etc. Continue land preparation and sowing of French bean and cowpea.

Continue transplanting of chilli and brinjal crops.

Manipur:

➤ Continue land preparation for sowing of colocasia, soybean, groundnut, kharif maize, black gram and red gram. Maintain optimum water depth of 5-8cm in the rice field. Drain out excess water that is accumulated in paddy field due to rain. Continue sowing of bhindi. Continue harvesting of matured onion and tomato in clear weather.

Tripura:

- Avoid stagnation of water in jhum rice, maize, cowpea, urad and green gram fields. Weeding and thinning may be done in Jhum rice after current spells of rain.
- ➤ In Tripura, weather is conducive for fruit & shoot borer in summer brinjal and tomato. To manage the attack, spray Cypermethrin @ 1.5 ml or Flubendiamide @ 0.5 ml per liter of water after current spells of rain.

Nagaland:

➤ Continue sowing of summer vegetables. Undertake weeding and earthing up in maize after current spells of rain. Undertake transplanting of King chilli.

• Animal Husbandry

➤ Give 'Imferon' injection after consulting local veterinary doctor to control anemia in 4 to 14 days old piglets. Vaccinate pigs against FMD & swine fever and cattle/sheep/goat against FMD, Hemorrhagic Septicemia, Black Quarter. Vaccinate poultry birds against coccidiosis and Ranikhet diseases. Undertake de-worming calves in consultation with veterinary practitioner.

• Fishery

➤ Carry out release of new batches of fishes in ponds. Select healthy, diseases free breeds of fishes from good sources after consulting with fishery officials. Before releasing, the fingerlings should be treated with Potassium permanganate (@ 3-5%). Raise the height of embankment of the ponds and apply nets on all sides. This will prevent the fishes to escape from the ponds during flood.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

• **Realised Rainfall:** Weather remained dry over the region during the week.

Advisories:

Maharashtra:

- As heat wave conditions very likely at one or two pockets over Vidarbha from 11th to 13th May, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave conditions, undertake mulching with straw/polythene to conserve soil moisture.
- As thunderstorm accompanied with gusty winds very likely at isolated places over Vidarbha from 12th to 15th May, provide support to young fruit plants and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places
- ➤ In South Konkan, continue nursery bed preparation for *kharif* rice. Harvest the mature mango fruits before 10 hours in the morning and after 16 hours in the evening, harvest the fruits at 80 to 85 % maturity. Keep the harvested fruits in shade to prevent spongy tissue disease and from heat.
- > In Madhya Maharashtra, apply irrigation to summer crops, orchards and vegetables. Apply irrigation during evening hours. Also apply mulch to preserve soil moisture.
- In Marathwada, irrigate banana plantation, pomegranate and sapota during early morning or at evening hours. Apply irrigation to vegetables during early morning or evening hours. Also apply organic mulch to conserve the moisture. Use shade net around the field to protect the crop from high temperature. Continue harvesting of matured groundnut. Dry the harvested crop of groundnut in shade before storage. Keep harvested produce in safer place. Continue harvesting of mango during early morning or at evening hours. Keep harvested produce in safer place.
- ➤ In Vidarbha, in view of expected heat wave next 3 days, apply light and frequent irrigation to summer crops, vegetables and orchards. Also apply mulch to conserve soil moisture. Continue harvesting of matured summer crops like groundnut.
- ➤ In Konkan, if incidence of anthracnose observed in mature mango fruits, spray Carbendazim @ 0.5 g/litre of water.

Gujarat:

- In North Gujarat, undertake land preparation for sowing of kharif crops. Apply irrigation in groundnut (pegging stage), pearl millet (ear head stage), green gram, cowpea (pod formation stage) and vegetable, fruit, flower crops. Undertake harvesting of citrus, papaya, sapota, pomegranate etc. Construct the bund in advance to reduce soil erosion and plan for khet Talavadi (farm ponds) to collect runoff water.
- ➤ In South Gujarat, undertake nursery sowing for rice (NAUR-1, GNR-2 (Costal area) GNR-3, GNR-4, GNR-5, GNR-6 (Long duration), Jaya, Gurjari, GR-5, 7, 8, 9, IR-28, Purna and GAR-13)). Undertake sowing of cluster bean, cowpea, non Bt. cotton along with Bt. cotton as a refuse. Spread dry leaves of sugarcane in

- between two rows of sugarcane to control water evaporation from sugarcane fields. Continue deep ploughing in harvested crop fields.
- ➤ In Middle Gujarat, under high temperature condition, cover papaya fruits using gunny bags; decrease the interval between two irrigations in pearl millet and vegetable crops. Provide support to heavy fruiting plants. Apply irrigation in pomegranate, sapota, lemon and papaya orchards.
- In Saurashtra & Kutch, apply light and frequent irrigation by drip system to vegetable (flowering), groundnut (pegging) crops and mango, citrus and sapota orchards. Do not carry out intercultural operations at pegging stage in groundnut. Undertake harvesting of matured sesame (before seed shattering), green gram and black gram in time in South Saurashtra. Continue weeding in vegetable crops.

• Animal Husbandry

➤ In Gujarat, put curtains on south-west side of poultry house and sprinkle water on curtains during noon time. Keep animals under shade during noon hours and provide clean drinking water.

CENTRAL INDIA [M.P., CHHATTISGARH]

• **Realised Rainfall:** Rainfall occurred in Rewa district of East Madhya Pradesh, Baloda Bazar, Bemetara, Bijapur and Surguja districts of Chhattisgarh during the week. Weather remained mainly dry/dry over rest of the region.

• Advisories:

Madhya Pradesh:

- As heat wave conditions very likely at one or two pockets over West Madhya Pradesh from 11th to 13th May, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave conditions, undertake mulching with straw/polythene to conserve soil moisture.
- ➤ In West Madhya Pradesh, apply irrigation in vegetables, orchards, green gram, black gram, maize and groundnut. Continue seed bed preparation for sowing of *kharif* onion. Continue intercultural operations in vegetables. Continue harvesting of matured vegetables. In regions where moong and urad have reached maturity undertake harvesting.
- ➤ In East Madhya Pradesh, apply irrigation in maize, groundnut, sugarcane, summer moong, urad and cucurbits. Continue harvesting of matured vegetables.
- ➤ In West Madhya Pradesh, for control of sucking pest in moong & urad spray Thiamethoxam @ 0.3 gm/litre of water.

Chhattisgarh:

- As thunderstorm accompanied with gusty winds very likely at isolated places over Chhattisgarh from 12th to 15th May, provide support to young fruit plants and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
- Apply irrigation in summer moong, rice, sugarcane, vegetables and fruit (mango, Litchi) crops as per soil moisture condition. To conserve soil moisture farmers are advised for deep summer ploughing in their vacant fields. Keep inputs ready for *kharif* crops. Continue harvesting of matured vegetables.

• Animal Husbandry

- ➤ In West Madhya Pradesh, grazing /feeding of cattle/goats may be done during morning/ evening hours. Keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide mineral mixture and fresh and clean water to poultry birds. Vaccinate the poultry birds to prevent Ranikhet disease.
- ➤ In Chhattisgarh, poultry farmers are advised to cover their poultry house with mat and keep it wet so that inner temperature may be kept normal. Provide plenty of drinking water to cattle. Buffaloes should be kept in water-filled pond for at least half an hour every day.

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

• Realised Rainfall: Rainfall occurred in all districts of Kerala except Kollam, in Krishna, Vishakhapattanam and Vizianagaram districts of Andhra Pradesh, Nalgonda district of Telangana, Ananthapur, Chittoor and Cuddapah districts of Rayalaseema, Coimbatore, Dharampuri, Dindigul, Erode, Karur, Krishnagiri, Madurai, Namakkal, Nilgiri, Perambalur, Salem, Sivaganga, Theni, Tiruchirappalli, Tiruppur, Vellore and Virudhnagar districts of Tamilnadu, Dakshin Kannada, Udupi districts of Coastal Karnataka, all districts of South Internior Karnataka except Bangalore Rural, Bellary, Chitradurga and Tumkur during the week. Weather remained mainly dry/dry over rest of the region.

• Advisories:

- As thunderstorm accompanied with gusty winds very likely at isolated places over north Coastal Andhra Pradesh, Telangana, Rayalaseema, Tamilnadu & Puducherry and Kerala from 11th to 13th, over South Interior Karnataka on 12th and 13th, over Interior Karnataka on 11th May, provide support to banana, young fruit plants and vegetables to avoid lodging. Undertake propping in sugarcane.
- As rain/thundershowers would occur at many places over Kerala on 11th,12th and 14th, over South Interior

Karnataka on 11th May, along with heavy rain very likely at isolated places over Coastal Karnataka and Kerala on 11th, over South Interior Karnataka and Tamilnadu & Puducherry on 11th and 12th May, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.

Kerala:

- ➤ Utilizing the realized and expected rainfall, carry out land preparation for the nursery sowing of paddy crop. Continue planting of coconut seedlings and 3-4 months old banana suckers (varieties like Robusta, Poovan, Njalipoovan, Palayankodan, etc). Undertake planting of three budded setts of sugarcane in trenches at a spacing of 90 cm between rows. Undertake planting of vegetables like brinjal, chilli, bhindi, bitter gourd, Amaranthus, etc. Apply green leaf mulching in the ginger field. Provide shade to pepper and vegetable crops.
- Fix rain guard for rubber trees during the month. Remove weeds from rubber plantations before fertilizer application. Apply 10:10:10 mixture 450 g/ for tapping plants. Prepare land for new planting as well as replanting of young plants.
- ➤ Due to the increase in maximum temperature, there is a chance for infestation of *spodoptera* in banana. Destroy the affected leafs. Spray Flubendiamide (Fame) @ 2 ml/10 litre of water after current spells of rain.
- > Spray 2 g Pseudomonas in one litre of water at weekly intervals as a prophylactic measure to control blast and sheath rot diseases in rice at panicle initiation stage. For rice bug at milky stage in the paddy crop, apply neem based pesticides @ 3 ml per one liter of water either before 9 am or after 3 pm. For severe infestation of sucking pests like mites, jassids and white fly in Chilli and Brinjal, spray Thiamethoxam 25 WG @ 0.25g or Diafenthiuron 50 WP @ 1.2 g/litre of water. To control downy mildew in cucurbits, spray combination fungicide Cymoxanil + Mancozeb @ 2g/litre of water. Due to increase in temperarture, there is a chance of spodoptra disease in banana. In case of severe spodoptra attack, spray Fame 2 ml per 10 liters of water. Undertake plant protection methods after current spells of rain.

Andhra Pradesh:

- Maintain 5cm water from grain hardening to maturity stage in paddy crop. Undertake land preparation for prekharif crops like sesamum, bajra, mesta, etc. Carry out summer ploughing for rain-fed sugarcane.
- For the control of stem borer in paddy, spray Chlorpyriphos @ 2.5ml (or) Acephate 1.5 g (or) Cartap Hydrochloride 2.0g per litre of water. For the control of fruit fly in mango orchards, farmers are advised to hang plastic plates containing 2ml/litre of Methyl Uginol mixed with 3.0g of Carbofuran granules. For control of powdery mildew and fruit rot in chilli crop., spray Azoxystrobin 1 ml or Karathane 1ml+Mancozeb 2 g per litre of water. Spray Monocrotophos @ 320 ml or Dimethoate @ 400 ml/acre for sucking pests in green gram, black gram, groundnut and sesame crops. To control thrips in summer groundnut, spray Monocrotophos @ 1.6 ml or Imidachloprid @ 0.3 ml per litre of water.

Telangana:

- > Apply light irrigation to vegetable crops. Provide mulching in banana plantation.
- ➤ Prevailing dry weather conditions are favorable for the incidence of fruit fly in mango. To trap the flies in the container, hang the plastic containers with mixture of Methyl Eugenol @ 2 ml + Carbofuran 3G @ 3g per litre of water in the orchard. To control sucking pests in vegetables, spray Dimethoate @ 2 ml or Acephate @ 1.5 g per litre of water. Spray Dimethoate @ 2ml/litre of water to control the vectors like Aphids and whiteflies in papaya.

■ Tamil Nadu:

- ➤ Undertake harvesting of rice when about 80% panicles have 80% ripened spikelets and their upper portion is straw coloured. Carry out weeding and earthing up @ 45 DAS in rice fallow cotton. Prevailing high wind speed may damage banana crop. Provide support to five months or older banana plants and propping in sugarcane. Undertake sowing of cumbu under irrigated dry conditions. Carry out land preparation for planting turmeric. Carry out grafting and cutting of horticultural crops.
- ➤ In Western Zone, make suitable arrangement to facilitate air movement in the lodged sesame to avoid seed deterioration. After getting good sunlight, crop may be harvested.
- > To control the incidence of sucking pest in the vegetable crops, spray 5 % Neem seed kernel extract.

Karnataka:

- ➤ In South Interior Karnataka, continue land preparation and strengthen the bund with fodder grass which will facilitate conservation of rainwater due to pre-monsoon showers. Undertake pre-monsoon sowing of short duration crops like cowpea (TVX-944, KBC-1), sesame (Navile-1, T-7), green gram (PS-16, PDM-84,178), black gram (Karagao-3, T-9, Rashmi (LBG-625)), horse gram, field bean, groundnut (TMV-2, JL-24, KCG-6) and ragi (Indof-9, GPU-48) crops where sufficient rainfall is received. Undertake sowing of ginger and turmeric.
- In North Interior Karnataka, continue deep ploughing in harvested fields and earthing up in sugarcane crop. Due to increase in day and night temperature sugarcane plants are suffering from moisture stress; provide irrigation in ratoon sugarcane. Continue harvesting of fully matured fruits of sapota, chikku and matured chili.
- ➤ In Coastal Karnataka, apply irrigation in arecanut, coconut and black pepper gardens either in furrow or by drip irrigation as per need; each coconut tree requires 60-70 liters of water per day. Undertake harvesting of

- ripened cashew.
- In South Karnataka, due to heavy downpour of rain /thunderstorm fruit dropping have been observed in mango consequently fruit fly damage is noticed; spray Carbaryl @4 g/litre of water in clear weather.
- Agro forestry on the bund involving Melia dubia (Hebbevu), Silver oak and Causurina is recommended for sustainable income under abnormal extreme rainfall events.
- ➤ In North Karnataka, for control of fruit borer in tomato, spray Quinolphos or Malathion @ 2 ml per liter of water.

• Animal Husbandry

- In Tamil Nadu, vaccine for foot and mouth disease to the cattle is advised as prophylactic measure by utilizing the facility from nearby veterinary hospital. To avoid heat stress due to high temperature on animals, provide adequate drinking water and green fodder and spray water on gunny bags surrounding the cattle shed.
- ➤ In Telangana, prevailing weather conditions are congenial for the occurrence of Sheep pox in sheep and goat, Foot and mouth disease in cattle and Buffaloes. To prevent the diseases, vaccinate the animals. In poultry, prevailing weather conditions are congenial for the occurrence of Ranikhet disease in poultry. To prevent the diseases, vaccinate the birds. To protect the poultry birds from high temperature, arrange fans and foggers in sheds, cover the sheds with paddy straw and arrange sprinklers. Feed with wet mash to increase the feed intake and provide cool water for drinking.
- In Karnataka, maintain optimum room temperature in silkworm and poultry rearing house. Use silage, hay and crop residues for cattle feed when shortage of green fodder. Leave the buffaloes in ponds during afternoon hours or sprinkle the cold water 2-3 times a day on the body of the animal to overcome the heat. Undertake harvesting of green fodder crops such as maize, bajra and jowar.

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