

# National Agromet Advisory Service Bulletin

**Tuesday 26<sup>th</sup> August 2014**

**(For the period 26<sup>th</sup> to 29<sup>th</sup> August 2014)**



**Issued by**

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



## Monsoon Watch

- The southwest monsoon was vigorous over Rayalaseema and active over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Madhya Maharashtra and North Interior Karnataka.

### Realised Weather on 26<sup>th</sup> August 2014

- **Rainfall:** (From 0830 to 1730 hours IST of yesterday): Rain/thundershowers occurred at many places over Assam & Meghalaya and Arunachal Pradesh; at a few places over coastal Karnataka and at isolated places over Konkan & Goa, Bihar, Odisha, Chhattisgarh and Sub-Himalayan West Bengal & Sikkim and weather remained mainly dry/dry over rest parts of the country. The amounts of rainfall (1 cm or more) recorded at 1730 IST of yesterday were: Cuttack and Surat 6 each; Khandwa 5, Gadag and Valsad 4 each; Kailashahar, Buldana, North Lakhimpur, Cherrapunji and Amreli 3 each; Malda, Berhampore, Udgir, Pasighat and Majbat 2 each; Basirhat, Kakinada, Tuni, Mangalore, Ahmadnagar, Dibrugarh, Long Islands and Itanagar 1 each.
- **Temperature:** Maximum temperatures were above normal by 2-6°C at most places over Punjab, Haryana & Delhi; at many places over Uttarakhand, Himachal Pradesh, Rajasthan, Uttar Pradesh, Madhya Pradesh, Bihar, Jharkhand, Chhattisgarh, Maharashtra, Gangetic West Bengal, Odisha, Saurashtra & Kutch, Telangana and coastal Andhra Pradesh; at a few places over Kerala and at isolated places over Tamilnadu and Andaman & Nicobar Islands. They were below normal by 2-4°C at many places over Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya and at isolated places over Arunachal Pradesh and near normal over rest of the country. The maximum temperatures (> 40.0°C) were recorded at: Churu 41.8; Ganganagar 41.2; Bikaner 41.1; Hissar 40.8; Delhi(Palam) 40.7; Hamirpur(UP) 40.2 and Pilani 40.1.

### Weather Forecast

#### Weather Forecast for next 3 days (upto 0830 hours IST of 29<sup>th</sup> August, 2014)

- Rain/thundershowers would occur at many places over Andaman & Nicobar Islands during the period.
- Rain/thundershowers would occur at many places over Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Sub-Himalayan West Bengal & Sikkim during the period.
- Rain/thundershowers would occur at most places over Assam & Meghalaya during the period.
- Rain/thundershowers would occur at most places over Konkan & Goa during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at many places over Coastal Karnataka during next 48 hours and at most places thereafter.
- Rain/thundershowers would occur at many places over Gujarat Region during next 24 hours and at a few places thereafter.
- Rain/thundershowers would occur at many places over Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh, North Interior Karnataka and Kerala during the period.
- Rain/thundershowers would occur at a few places over Vidarbha, Telangana, Rayalaseema, South Interior Karnataka and Lakshadweep during the period.
- Rain/thundershowers would occur at a few places over Jammu & Kashmir during next 48 hours and at isolated places thereafter.
- Rain/thundershowers would occur at isolated places over Odisha and Bihar during next 48 hours and at a few places thereafter.
- Mainly dry weather would prevail over Haryana, Delhi, Punjab during next 24 hours; over West Uttar

#### Weather Warning during next 3 days

- **26 August (Day 1):** Heavy to very heavy rainfall would occur at isolated places over Assam & Meghalaya.  
Heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Coastal & interior Karnataka, Konkan & Goa and Madhya Maharashtra.
- **27 August (Day 2):** Heavy to very heavy rainfall would occur at isolated places over Assam & Meghalaya and North interior Karnataka.  
Heavy rainfall would occur at isolated places over Arunachal Pradesh, Coastal & South interior Karnataka, Konkan & Goa, Madhya Maharashtra and Marathwada.
- **28 August (Day 3):** Heavy rainfall would occur at isolated places over Konkan & Goa, Madhya Maharashtra, Coastal Karnataka and Assam & Meghalaya.

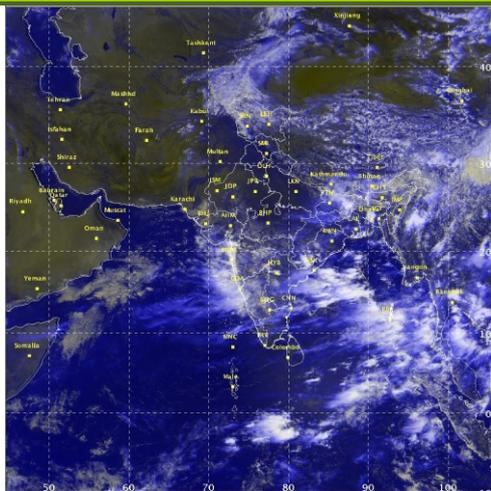
#### Weather Outlook for subsequent 4 days from 29<sup>th</sup> August to 02<sup>nd</sup> September 2014

- A low pressure area is likely to form over west central and adjoining northwest Bay of Bengal around 28<sup>th</sup> August.
- Increase in rainfall activity over central and adjoining Peninsular India.
- Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim, northeastern states and along west coast and Interior Maharashtra.
- Rain/thundershowers would occur at a few places over western Himalayan region and east India and at isolated places over plains of northwest India.

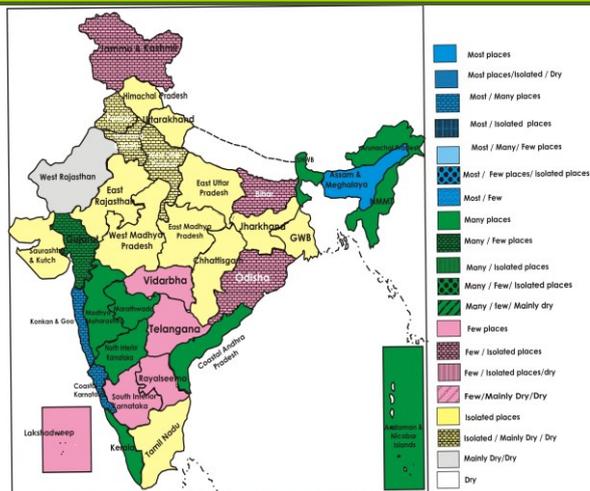
Pradesh during next 48 hours and rain/thundershowers would occur at isolated places thereafter.

- Rain/thundershowers would occur at isolated places over Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Gangetic West Bengal, Jharkhand, East Rajasthan, Madhya Pradesh, Chhattisgarh, Saurashtra & Kutch and Tamil Nadu & Puducherry during the period.
- Mainly dry weather would prevail over West Rajasthan during the period.

**Satellite image dated, 26.08.2014, 0600 UTC**



**Weather Forecast Map (Valid upto 0830 hours of 29<sup>th</sup> August 2014)**



### Salient Advisories

- As rainfall deficit is 61% so far in **Punjab** and also mainly dry weather would prevail for next three days the following advisories are suggested:
  - Sowing of short duration early maturing and drought tolerant varieties of crops including maize (PMH2) and moong (PAU 911, ML 818).
  - Moong variety ML13 can be sown in rainfed areas in Gurdaspur, Hoshiarpur and Ropar. Moong PAU- 911 variety has been recommended for the whole state except Bathinda, Mansa, Faridkot, Muktsar and Ferozepur districts.
  - Adopt moisture conservation practices like hoeing, weeding, mulching in crops like sugarcane, maize, cotton to reduce the evapotranspiration losses and to conserve moisture for *rabi* crops.
  - De-tasselling in maize is advised to reduce transpiration losses.
  - Apply life-saving irrigation to standing crops.
- In **Haryana**, as mainly dry weather would prevail, apply irrigation in rice and sugarcane. Alternate wetting and drying in rice fields and irrigation is advised in alternate rows in sugarcane in case of shortage of water for irrigation.
- In **Delhi**, in view of persisting subdued rainfall activity, farmers are advised to apply irrigation to the standing crops.
- In West **Vidarbha** region, it is advised to plan for early *rabi* red gram ( C-11, ICPL-87119) and Early *rabi* sesame (N-8) after receipt of sufficient rain.
- In view of scanty/deficit rainfall situation in **Telangana**, (scanty over Nizamabad, Rangareddy, Medak, Nalgonda districts and deficit over Hyderabad, Adilabad, Karimnagar, Warangal, Khammam, Mehabubnagar districts) following measures are suggested in standing crops.
  - Foliar spray of 2% KNO<sub>3</sub> or 2% urea solution to supplement nutrition during dry spells.
  - Supplementary irrigation by using micro-irrigation (sprinklers).
  - Avoid top dressing of fertilizers until receipt of rains.
- In flood affected areas of Lower Brahmaputra Valley Zone of **Assam**, the following contingency measures

may be adopted for *sali* rice:

- Raising of community nursery for late planting with old seedlings of the varieties like Profulla and Gitesh (If more than 50% damaged).
  - Nursery raising of the photo insensitive short duration variety like Luit for replanting (in case of total damage)
  - Wet seeding of sprouted seeds (@75-80 kg/ha) of short to medium duration varieties like Disang, Luit, (100 days) Kapili and Kalong (120 days)
  - Direct seeding with the photo insensitive short duration variety like Luit.
  - Adoption of submergence tolerance varieties like Jalashree and Jalkuwari for repeat flood prone areas.
  - In partially affected fields, drain out excess water and apply 1/2 N + 50% K<sub>2</sub>O as top dressing during the tillering stage.
- In Upper Brahmaputra Valley Zone and North Bank Plain Zone of **Assam**, farmers in the flood affected areas should select short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. 20-25 days old seedling of these cultivars can be transplanted in the main field upto mid September. Late and staggered planting may be undertaken after receding of flood with 60 to 80 days old seedlings of the varieties like Prafulla (80 days) and Gitesh (60 days) up to mid September. The old seedlings of other improved long duration variety like Monohar Sali, Salpona, Prasadbhog, Gobin bhog etc can also be transplanted up to mid September.
- In East and South Eastern Coastal Plain Zone of **Odisha**, in case of complete failure of crops due to flood, undertake sowing of pre-*rabi* green gram, black gram, horse gram, sesame and castor in medium uplands.

### Detailed Zonewise Agromet Advisories

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



*Transplanting of Rice*



*Sugarcane*



*Okra*



*Soybean*

- **Realised Weather:** Rain/thundershowers occurred at a few places over Coastal Karnataka. Weather remained mainly dry/dry over rest parts of the region. Maximum temperatures were above normal by 2-6°C at many places over Telangana and coastal Andhra Pradesh; at a few places over Kerala and at isolated places over Tamilnadu and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Coastal Karnataka during next 48 hours and at most places thereafter. Rain/thundershowers would occur at many places over Coastal Andhra Pradesh, North Interior Karnataka and Kerala; at a few places over Telangana, Rayalaseema and South Interior Karnataka; at isolated places over Tamil Nadu & Puducherry during the period.
- **Weather Warning:** Heavy rainfall would occur at isolated places over Coastal Karnataka during the period; over interior Karnataka on 26<sup>th</sup> and over South Interior Karnataka on 27<sup>th</sup> August. Heavy to very heavy rainfall would occur at isolated places over North interior Karnataka on 27<sup>th</sup> August.
- **Weather Outlook:** Increase in rainfall activity over peninsular India.
- **Advisories:**
  - **Karnataka:**
    - As rain/thundershowers would occur at most/many places over Coastal Karnataka and North Interior Karnataka during the period, along with heavy rainfall at isolated places over Coastal Karnataka during the period and over Interior Karnataka on 26<sup>th</sup> and 27<sup>th</sup> August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
    - Continue transplanting of tomato, chilli and brinjal in the Southern Dry Zone of Karnataka utilizing the expected

rainfall.

- Continue transplanting of rice in the Southern Transition Zone of Karnataka.
- Continue sowing of short duration varieties of ragi and sunflower after proper seed treatment in the Central Dry Zone of Karnataka.
- Continue sowing of horse gram, sunflower and fodder crops like cow pea, moth bean utilising the realized and expected rainfall in the North Dry Zone of Karnataka.
- In Eastern Dry Zone of Karnataka, continue sowing of ragi and planting of coconut, sapota, guava and mango.
- Due to the prevailing humid weather, green leaf eating caterpillar is noticed in soybean and likely to persist in North East Transition Zone of Karnataka. Spray Quinolphos @ 2 ml per liter of water to manage green leaf eating caterpillar after current spells of rain.
- Due to cloudy weather, sucking pest is noticed in one month old cotton and likely to continue in the Central Dry Zone of Karnataka, spray Dimethoate 30 EC @1.7 ml in one liter of water after current spells of rain for controlling sucking pests.

▪ **Kerala:**

- As rain/thundershowers would occur at many places over Kerala during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops
- High humid condition is conducive for sheath blight on rice in the Central Zone of Kerala. Apply Propiconazole 25 EC @ 500 ml per ha after current spells of rain to manage the incidence.
- Present cloudy weather with high humidity condition is congenial for incidences of bacterial leaf blight & sheath blight on rice in the Problem Area Zone of Kerala. Monitor the crop and spray cow dung slurry 200g/litre of water after current spells of rain.
- High humidity is congenial for neck blast disease on rice in the Southern Zone of Kerala. Apply Carbendazim (Bavistin) 1gm/litre or Iprophenphos (Kitazin EC) 1ml/ litre after current spells of rain.

▪ **Telangana and Andhra Pradesh:**

- As rain/thundershowers would occur at many places over Coastal Andhra Pradesh during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops
- Continue transplanting of rice and ragi in the High Altitude Tribal Zone of Andhra Pradesh.
- In the Krishna Godavari Zone of Andhra Pradesh, continue sowing of maize, cotton, red gram and green gram.
- In view of scanty/deficit rainfall situation in Telangana, (scanty over Nizamabad, Rangareddy, Medak, Nalgonda districts and deficit over Hyderabad, Adilabad, Karimnagar, Warangal, Khammam, Mehbubnagar districts) following measures are suggested in standing crops.

- Foliar spray of 2% KNO<sub>3</sub> or 2% urea solution to supplement nutrition during dry spells.
- Supplementary irrigation by using micro-irrigation (sprinklers).
- Avoid top dressing of fertilizers until receipt of rains.

- In the Southern Telangana Zone of Andhra Pradesh, complete sowing of cotton, maize, groundnut, pulses, castor etc. utilising the realised rainfall.
- In Scarce Rainfall Zone of Rayalaseema, continue sowing contingency crops like sorghum, bajra, foxtail millet, cowpea, sunflower, green gram, field bean, castor and horse gram utilizing the realised rainfall.
- Due to partly cloudy and humid condition, helicoverpa and leaf minor damage was noticed and likely to persist in groundnut in Anantpur district in the Scarce Rainfall Zone of Rayalaseema. Spray Larvin@ 1.5 g/litre of water to manage helicoverpa and Chloropyriphos 2ml/lit + Dichlorovas 1ml/lit to manage leaf minor damage on a non rainy day.

▪ **Tamil Nadu:**

- Continue land preparation and sowing of *samba* rice in the Cauvery Delta Zone of Tamil Nadu.
- Undertake sowing of maize in irrigated as well as rainfed condition and winter irrigated cotton by utilizing realized rainfall in the Western Zone of Tamil Nadu.
- Prevailing humid weather condition is congenial for leaf spot disease in turmeric in the Western Zone of Tamil Nadu. Spray Mancozeb @ 2.5 g/ litre of water.
- Undertake cultivation of castor with intercropping of black gram and green gram (VBN 5, 6) utilizing the realized rainfall in the North Western Zone.

• **Animal Husbandry**

- Prevailing weather conditions are congenial for Anthrax and Enterotoxaemia in livestock in the Scarce Rainfall Zone of Andhra Pradesh. Vaccinate the animals to prevent the diseases.
- Provide clean and hygienic water to animals in the Problem Area Zone of Kerala.

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



*Transplanting of Rice*

*Okra*

*Jute*

*Green Gram*

- **Realised Weather:** Rain/thundershowers occurred at many places over Assam & Meghalaya and Arunachal Pradesh. Weather remained mainly dry/dry over rest parts of the region. Maximum temperatures were below normal by 2-4°C at many places over Assam & Meghalaya and at isolated places over Arunachal Pradesh and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Assam & Meghalaya and at many places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during the period.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over Assam & Meghalaya on 26<sup>th</sup> and 27<sup>th</sup> August. Heavy rainfall would occur at isolated places over Arunachal Pradesh on 26<sup>th</sup> and 27<sup>th</sup> August and over Assam & Meghalaya 28<sup>th</sup> August.
- **Weather Outlook:** Rain/thundershowers would occur at many places over northeastern states.
- **Advisories:**
  - **Assam & Meghalaya, Arunachal Pradesh:**
    - As rain/thundershowers would occur at most places over Assam, Meghalaya and many places over Arunachal Pradesh, along with heavy to very heavy rainfall at isolated places over Assam, Meghalaya during the period and heavy rainfall at isolated places Arunachal Pradesh on 26<sup>th</sup> and 27<sup>th</sup> August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
    - In Central Brahmaputra Valley Zone of Assam, continue transplanting of *sali* rice. Continue sowing of green gram, black gram, sesame and nursery sowing of cole crops after current spells of heavy rain.
    - In flood affected areas of Lower Brahmaputra Valley Zone of Assam, the following contingency measures may be adopted for *sali* rice:
      - Raising of community nursery for late planting with old seedlings of the varieties like Profulla and Gitesh (If more than 50% damaged).
      - Nursery raising of the photo insensitive short duration variety like Luit for replanting (in case of total damage)
      - Wet seeding of sprouted seeds (@75-80 kg/ha) of short to medium duration varieties like Disang, Luit, (100 days) Kapili and Kalong (120 days)
      - Direct seeding with the photo insensitive short duration variety like Luit.
      - Adoption of submergence tolerance varieties like Jalashree and Jalkuwari for repeat flood prone areas.
      - In partially affected fields, drain out excess water and apply 1/2 N + 50% K<sub>2</sub>O as top dressing during the tillering stage.
    - In Upper Brahmaputra Valley Zone and North Bank Plain Zone of Assam, farmers in the flood affected areas should select short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. 20-25 days old seedling of these cultivars can be transplanted in the main field upto mid of September. Late and staggered planting after receding flood with 60 to 80 days old seedlings of the varieties like Prafulla (80 days) and Gitesh (60 days) is also suggested up to mid of September. The old seedlings of other improved long duration variety like Monohar Sali, Salpona, Prasadbhog, Gobin bhog etc can be transplanted up to mid September.
    - In Hill zone of Assam, replanting of dead hills or gap filling with seedlings of *sali* rice of similar age should be done within 7-10 days of transplanting.
    - In Meghalaya, maintain water level of 2-5 cm in transplanted *sali* rice. 1<sup>st</sup> top dressing of 1/4<sup>th</sup> Urea (44Kg/ha) should be done after 1<sup>st</sup> hand weeding at 25-30 DAT. In high upland fields, continue planting of tuber crops like sweet potato, colocassia, tapioca, etc. after current spells of heavy rain.
    - Cloudy and humid weather is favourable for attack of leaf folder and rice hispa in *sali* rice at tillering stage in North Bank Plain Zone and Central Brahmaputra Valley of Assam. Monitor the crop and when there is one damaged leaf per hill due to attack of leaf folder or appearance of one adult hispa per hill is observed, spray Chloropyriphos 20EC or Monocrotophos 40EC @ 1.5ml per litre of water after current spells of rain.
    - Due to cloudy and humid weather, there is chance of attack of rice hispa in *sali* rice at tillering stage in Hill Zone of Assam, spray with Quinolphos @ 10 ml /5 litre of water. Also in cloudy weather, there is chance of attack of stem

borer in maize, spray Fenitrothion @ 1 litre in 200-250 litre of water per ha. Apply the chemicals after current spells of rain.

➤ Due to prevailing humid weather conditions, there is chance of attack of gundhi bug in early transplanted rice in Arunachal Pradesh. Dust with Malathion 5D @ 20 kg/ha after current spells of rain. Repeat after one week. Also in the present weather, there is chance of collar rot/wilting in green gram. Spray Carbandazim @ 1g per litre of water or Endofil M45 @ 2.5g per litre of water after current spells of rain.

➤ In Meghalaya, due to cloudy weather & high humidity, there is chance of incidence of blast in direct seeded *ahu* rice. Spray Mencozeb @ 2g/litre or Carbendazim @ 1g/litre after the current spells of rain.

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

➤ As rain/thundershowers would occur at many places over Nagaland, Manipur, Mizoram and Tripura during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.

➤ In Mizoram, drain out excess water from cucurbit and pineapple fields.

➤ In Nagaland, provide good drainage in ginger fields to avoid rhizome rot.

➤ In Mild Tropical Plain Zone of Tripura, provide adequate drainage in groundnut at pod filling stage particularly in low and medium lands and where there is a chance of water stagnation due to rain.

➤ In Mizoram, due to continuous wet condition, there is chance of leaf spot on ginger & turmeric, spray Dithane M-45 @ 2.5g/litre of water or Bavistin @ 1g/litre of water or Blitox @ 3 g/litre of water.

➤ In Mild Tropical Plain Zone of Tripura, there is chance of attack of yellow stem borer in *aman* rice due to cloudy weather. To manage the attack, spray Cartap Hydrochloride @ 1g/litre or Chloropyrifos @ 2.5 ml/litre of water. Also, in the present weather, there may be attack of fruit borer in Brinjal. To manage the attack, apply Imidachloprid @ 2ml per litre of water. Apply the chemicals after current spells of rain.

• **Animal Husbandry**

➤ In Assam, cattle should not be fed with water submerged rotten grass and give anti-worm drugs.

➤ In Arunachal Pradesh, provide artificial heating through lighting of electric bulb during night time to protect the poultry birds (day old to 25 days old) from low temperature. Pig shed/stay should keep dry and avoid dampness during rainy days.

➤ In Meghalaya, due to prevailing high relative humidity & warm temperature, there is chance for growth of moulds (especially *Aspergillus* spp.) in animal feeds. So always keep animal feeds in dry and clean place and avoid direct contact with ground/soil.

• **Fisheries**

➤ In flood affected areas of Lower Brahmaputra Valley Zone of Assam, protect the fish ponds by putting nylon net or bamboo net around the ponds. Due to heavy rainfall & muddy water influx from the surrounding areas, the ponds may result reduction of dissolved oxygen. Stirring the water with a bamboo pole will help in increasing the oxygen and protect the fishes from suffocation.

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



*Sugarcane*



*Jute*



*Onion*



*Transplanting of Rice*

• **Realised Weather:** Rain/thundershowers occurred at isolated places over Bihar, Odisha, Sub-Himalayan West Bengal & Sikkim and weather remained mainly dry/dry over rest parts of the region. Maximum temperatures were above normal by 2-6°C at many places over Bihar, Jharkhand, Gangetic West Bengal, Odisha and at isolated places over Andaman & Nicobar Islands. They were below normal by 2-4°C at many places over Sub-Himalayan West Bengal & Sikkim.

• **Weather Forecast:** Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar Islands during the period. Rain/thundershowers would occur at isolated places over Odisha and Bihar during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at isolated places over Gangetic West Bengal, Jharkhand during the period.

• **Weather Warning:** Heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim during on 26<sup>th</sup> August.

• **Weather Outlook:** Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim.

Rain/thundershowers would occur at a few places over east India.

- **Advisories:**

- **West Bengal:**

- As rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim during the period along with heavy rainfall at isolated places over Sub-Himalayan West Bengal & Sikkim on 26<sup>th</sup> August, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops. Provide adequate drainage in standing crop fields in Sub-Himalayan West Bengal & Sikkim to avoid water stagnation.
- In Laterite and Red Soil Zone, complete transplanting of *aman* rice (for SRI method, use 1 plant per hill). Also prepare main field by making ridge for transplanting of tomato.
- In Old Alluvial Zone, avoid water stagnation in turmeric and ginger, to prevent rhizome rot.
- Due to cloudy and high humid weather conditions, fungal collar-rot is prevalent in yam in New Alluvial Zone of West Bengal. Keep the field weed-free and clean. Apply Carbendazim @ 2 g and Thiram @ 2 g together per litre of water.
- In Laterite and Red Soil Zone of West Bengal, due to cloudy weather conditions, there is chance of attack of fungal or bacterial diseases in maize. To protect the crop from fungal attack, spray Mancozeb @ 0.25 g per litre water and for bacterial diseases, spray Streptocycline @ 0.1 g per litre of water

- **Andaman and Nicobar Island**

- In North and Middle Andaman, prepare seed beds for nursery for early brinjal and chilli.
- In North and Middle Andaman, to minimize the sheath blight disease in rice, apply *Pseudomonas Fluorescens* @ 2.5 kg/ha 30 days after transplanting and for control of leaf folder apply Chlorpyrifos 20 EC @ 2-3 ml/lit or Dimethoate 1.5 ml/litre after current spells of rain.

- **Odisha:**

- Due to heavy rains during past weeks, there was flood in some districts of East, South Eastern and North Eastern Coastal Plain Zone of Odisha. In the flood affected low land areas, the following contingent measures may be taken up;
  - In direct seeded rice, if the entire crop is damaged, wet seeding with sprouted seeds should be done by taking 120-130 days duration varieties.
  - Apply 50% N & K<sub>2</sub>O and full dose of P<sub>2</sub>O<sub>5</sub> at the time of sowing and rest dose at tillering stage.
  - If loss in seedlings is less than 50%, go for distribution of clonal tillers with application of 50 % N and 50 % K<sub>2</sub>O.
  - In transplanted rice, in case of silt deposit, go for water spray in nursery areas.
  - Avoid application of urea and go for spraying of 1% K<sub>2</sub>SO<sub>4</sub>.
  - Go for clonal propagation if the loss in plant stand is less than 50%.
- In East and South Eastern Coastal Plain Zone of Odisha, in case of complete failure of crops due to flood in medium uplands, undertake sowing of pre-rabi green gram, black gram, horse gram, sesame and castor.
- In Western Undulating Zone of Odisha, waterlogged conditions with high humidity (75-80%) favours buildup of scale insect, whitefly and *Pyrilla* in sugarcane. Spray Imidacloprid @ 1ml/4lit water on a non rainy day.
- In East and South Eastern Coastal Plain Zone and North Central Plateau Zone of Odisha, prevailing temperature may favour egg laying of stem borer in rice. To attract the borer butterflies, place 4 Pheromone Traps/acre, collect the adults and destroy them by burying them under soil or by burning and spray Prophenophos @ 2 ml per litre water on a non rainy day.

- **Bihar:**

- In North West Alluvial Plain Zone of Bihar, continue sowing of radish, pointed guard. Continue sowing of yam bean, pigeon pea, sunflower, maize and vegetable crops in the upland areas. Continue planting of onion.
- In North East Alluvial Plain Zone of Bihar, in transplanted rice crop do top dressing of 1/3<sup>rd</sup> urea (44 kg/ha) after 1<sup>st</sup> hand weeding at 25-30 days after transplanting and apply remaining 1/3<sup>rd</sup> urea (44 kg/ha) after 2<sup>nd</sup> hand weeding on a non-rainy day at 40-45 days after transplanting. Raise nursery of early autumn vegetables.
- In South Bihar Alluvial Zone, apply urea as 1<sup>st</sup> top dressing in 20-25 days old transplanted rice and 2<sup>nd</sup> top dressing after 40-45 days of transplanting of rice. Continue planting of Mango, Litchi, Guava and Papaya.

- **Jharkhand:**

- In Western Plateau Zone of Jharkhand, in upland areas, continue sowing of kulthi and niger by selecting improved varieties. In rice crop, apply urea after 20-25 days of transplanting. Prepare field for sowing of early potato and pea.
- In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of urad, horse gram and sweet potato. Undertake sowing of tomato, cabbage and cauliflower in raised seed bed.
- In South Eastern Plateau Zone of Jharkhand, due to high humidity and extended leaf wetness, there are chances of Blast in rice crop, spray Tricyclazole @ 6 g per litre of water on a non rainy day. Also due to cloudy weather and intermittent rain, there are chances of leaf blight in pulse crop, spray Indofil M 45 @ 2 g per litre of water.
- Due to hot and humid weather, attack of stem borer in rice crop is noticed and likely to continue in Western Plateau Zone of Jharkhand. To control the stem borer, spray insecticide Monocrotophos 36 E.C. @ 1-2 ml per litre of water and mix Tipol in the solution or prepare the solution in soap water. In case of heavy infestation, apply granular insecticide like Carbofuran 3 G @ 12 kg per acre or Forate 10 G (@ 4 kg per acre. However, at the time of

broadcasting of granular insecticide, keep stagnated water in the field.

- **Animal Husbandry**

- Keep cattle indoors during heavy rainfall periods in Sub-Himalayan West Bengal.
- In North Eastern Coastal Zone of Odisha in flood affected areas, after receding of flood,
  - Animal sheds should be disinfected with 2% Formaldehyde or 4% Caustic soda.
  - Provide clean drinking water to animals to prevent water borne diseases which are common after flood.
  - Animals should not be fed with water submerged rotten grasses.
  - Domestic animals like cattle, goats, pigs etc. which are not vaccinated should be vaccinated immediately against Hind Quarter, Black Quarter and Foot and Mouth disease.

- **Fishery**

- In Old Alluvial Zone West Bengal, due to incursion of muddy water, there may be lack of oxygen in water in fish ponds. Apply Potassium per manganate @250-500g/bigha/meter in pond water.

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



*Sugarcane*



*Transplanting of Rice*



*Okra*



*Green Gram*

- **Realised Weather:** Rain/thundershowers occurred at isolated places over Chhattisgarh and weather remained mainly dry/dry over rest parts of the region. Maximum temperatures were above normal by 2-6°C at many places over Madhya Pradesh and Chhattisgarh.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Madhya Pradesh and Chhattisgarh during the period.
- **Weather Warning:** Nil.
- **Weather Outlook:** Increase in rainfall activity over central India.
- **Advisories:**
  - **Madhya Pradesh:**
    - As mainly dry weather would prevail, continue weed control and intercultural operations in soybean, urad and moong in Jhabua Hill Zone of Madhya Pradesh. Spray Emizatar @ 750 ml per hectare with 600-700 litre of water.
    - As mainly dry weather would prevail, continue intercultural operations and weed control in rice in Bundelkhand Zone and in soybean, moong and urad in Grid Zone of Madhya Pradesh and apply nitrogen fertilizer.
    - Undertake weeding and top dressing of urea in moong, urad, maize and soybean in Satpura Plateau Zone of Madhya Pradesh.
    - Due to humid weather there are chances of attack of sucking pest in cotton in Jhabua Hill Zone of Madhya Pradesh, spray Thiomithaxam @ 0.35 g per litre of water.
    - Due to cloudy weather, there are chances of incidence of leaf spot in urad crop in Gird Zone of Madhya Pradesh, spray Mancozeb @ 2.5 g per litre of water.
    - Due to humid weather, there is possibility of attack of gradle beetle in soybean in Bundelkhand Zone of Madhya Pradesh, spray Trizophos 40 E.C. @ 2.0 ml per litre of water.
  - **Chhattisgarh:**
    - In Chhattisgarh Plain Zone continue intercultural operations and weed control in soybean. Spray Parsut or Targasupar 300 ml/acre for control of weeds. Also go for first top dressing with urea (40 kg/ha.) in rice at tillering stage.
    - Continue planting of horticultural crops like papaya, mango, guava etc. in North Hill Zone of Chhattisgarh.
    - Continue intercultural operations and of weed control of weeds in rice, maize, arhar, urad and soybean in North Hill Zone of Chhattisgarh.
    - In Bastar Plateau Zone of Chhattisgarh, due to cloudy weather, there are chances of swarming caterpillar in rice, spray DDVP @ 1ml per litre of water.
    - Due to humid weather, there are chances of attack of Tobacco caterpillar in soybean, black gram and pigeon pea in Plain Zone of Chhattisgarh, spray Quinalphos 25 E.C. @ 1.25 litre per hectare.
    - Due to cloudy weather, there are chances of attack of stem borer in rice in North Hill Zone and Plain Zone of Chhattisgarh, apply granular insecticide like Carbofuran 3G @ 12 kg per acre or Phorate 10G (@ 4 kg per acre.

However, at the time of broadcasting of granular insecticide, stagnant water must be available in the field.

- **Animal Husbandry**

- In Chhattisgarh, create smoke around cattle sheds to protect from mosquitoes.

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



### *Transplanting of Rice*

### *Sugarcane*

### *Bottle Gourd*

### *Onion*

- **Realised Weather:** Weather remained mainly dry/dry over the region. Maximum temperatures were above normal by 2-6°C at most places over Punjab, Haryana & Delhi; at many places over Uttarakhand, Himachal Pradesh, Rajasthan, Uttar Pradesh.
- **Weather Forecast:** Mainly dry weather would prevail over Haryana, Delhi and Punjab during next 24 hours; over West Uttar Pradesh during next 48 hours and rain/thundershowers would occur at isolated places thereafter. Rain/thundershowers would occur at isolated places over Himachal Pradesh, Uttarakhand, East Uttar Pradesh, East Rajasthan during the period. Rain/thundershowers would occur at a few places over Jammu & Kashmir during next 48 hours and at isolated places thereafter. Mainly dry weather would prevail over West Rajasthan during the period.
- **Weather Warning:** Nil
- **Weather Outlook:** Rain/thundershowers would occur at a few places over western Himalayan region and at isolated places over plains of northwest India.
- **Advisories:**
  - **Jammu & Kashmir:**
    - In Intermediate Zone of Jammu & Kashmir, continue nursery sowing of cabbage (Golden Acre, Pride of India and Pusa Mukta) and cauliflower (Giant Snow Ball and Pusa Synthetic) utilizing the realised rainfall.
    - In Sub Tropical Zone of Jammu & Kashmir, drain out excess water from the maize fields and apply 2<sup>nd</sup> dose of nitrogen as top dressing in rice just before panicle initiation stage (55 – 65 DAT).
    - Due to hot & humid condition, there are chances of sheath blight and blast on rice in Intermediate Zone of Jammu & Kashmir. For control, apply Bavistin @ 2 g/litre of water on a non rainy day. Also, there are chances of hairy caterpillars in pulses. Collect and destroy young gregarious caterpillars.
  - **Himachal Pradesh:**
    - Continue nursery sowing of Chinese cabbage and direct sowing of radish, carrot, broccoli and lettuce in Sub-Montane & Low Hills Sub-Tropical Zone and in Bilaspur district of Mid-Hills Sub-Humid Zone of Himachal Pradesh, utilizing the realized rainfall. Apply second dose of urea @ 40-50 kg per hectare to tomato, brinjal, capsicum, chilli and cucurbits.
    - In Mid-Hills Sub-Humid Zone of Himachal Pradesh, undertake sowing of carrot (var. Arkel, VL-7), cauliflower (Patna snowball and Joint snowball, cabbage (Pride of India, Golden anchor and hybrid) and transplanting of onion.
    - Under prevailing humid weather condition, there are chances of attack of stem borer in maize in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh. For control, apply pinch of Thimath granules in affected plants.
    - Under prevailing humid weather condition, there are chances of attack red pumpkin beetle and fruit fly in cucurbits in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh. Spray Malathion 50 EC @ 1ml per litre of water. Also install pheromone trap @25 per hectare.
    - Under prevailing humid weather condition, there are chances of incidence of attack of rice blast in rice in Sub-Montane & Low Hills Sub-Tropical Zone and in Bilaspur district of Mid-Hills Sub-Humid Zone of Himachal Pradesh. Spray Bavistin 0.01 or beam 75 WP 0.06% in 10-15 days interval. There are chances of attack of rice hispa in rice. For management, clear the grasses from bunds or spray Cypermethrin 10EC @ 1ml per litre or Chloropyriphos 20 EC @ 2.5ml and for control of rice leaf folder, spray Chloropyriphos 20 EC @ 2.5ml per litre of water.
  - **Uttarakhand:**
    - In Sub humid Sub Tropical Zone of Uttarakhand, maintain 5 cm water level in transplanted rice.
    - Complete sowing of urad in Bhabar and Tarai Zone..
    - Due to high humidity (above 80%), there are chances of late blight in potato in Hill Zone of Uttarakhand. Spray of Carbendazim or Diathem M-45 @ 2g per litre of water dissolved with sticker.

- Due to high humid & cloudy condition, there are chances of incidence of leaf folder in rice in Bhabar and Tarai Zone of Uttarakhand. Monitor the crop, if the damage is > 5 %, spray Diamathoate 30 EC @ 400 ml dissolved in 400 litres of water per acre.
- **Punjab, Haryana and Delhi:**
- As rainfall deficit is 61% so far in Punjab and also mainly dry weather would prevail for next three days the following advisories are suggested:
  - Sowing of short duration early maturing and drought tolerant varieties of crops including maize (PMH2) and moong (PAU 911, ML 818).
  - Moong variety ML13 can be sown in rainfed areas in Gurdaspur, Hoshiarpur and Ropar. Moong PAU- 911 variety has been recommended for the whole state except Bathinda, Mansa, Faridkot, Muktsar and Ferozpur districts.
  - Adopt moisture conservation practices like hoeing, weeding, mulching in crops like sugarcane, maize, cotton to reduce the evapotranspiration losses and to conserve moisture for *rabi* crops.
  - De-tasselling in maize is advised to reduce transpiration losses.
  - Apply life-saving irrigation to standing crops.
- In Western Plain Zone of Punjab, continue field preparation for sowing of short duration hybrid maize (PMH 2).
- In Undulating Plain Zone of Punjab, continue nursery sowing of mid-season cauliflower, desi varieties of radish, carrot and turnip. Complete new plantation of fruit crops as weather of this period is very favourable for the establishment and growth of small plants.
- In Central Plain Zone of Punjab undertake sowing of PMH-1 or PMH-2 for getting higher yield from August planted maize.
- Due to partly cloudy weather, there are chances of occurrence of sucking pests *viz.* white fly and Jassids in cotton in Western Zone of Punjab. Monitor the crops and spray the Oberon @ 200ml/acre for white fly and Ulala 80g/acre for the management of Jassids.
- In Haryana, as mainly dry weather would prevail, apply irrigation in rice and sugarcane. Alternate wetting and drying in rice fields and irrigation is advised in alternate rows in sugarcane in case of shortage of water for irrigation.
- In Western Zone of Haryana, complete sowing of fodder crops such as jowar mixed with cowpea to increase the nutritive value for continuous supply of green fodder. Apply irrigation to bajra and transplanted fruit crop and undertake hoeing in guar and pulses for conserving the moisture.
- In Delhi, in view of persisting subdued rainfall activity, farmers are advised to apply irrigation to the standing crops.
- **Uttar Pradesh:**
- Undertake top dressing of nitrogen @ 40 kg per hectare in sunflower in Allhabad, Chitrakut, Fatehpur, Kaushambi and Pratapgarh districts of Central Plain Zone of Uttar Pradesh.
- Continue nursery sowing of cauliflower, cabbage, tomato and chilli in Central Plain Zone and in Eastern Plain Zone and complete sowing of short duration varieties of bajra (ICMV-155, WCC-75, ICTP-8203, Raj-171, Pusa-322,23, ICMH-451) in Ballia and Deoria districts of Uttar Pradesh utilizing the realized rainfall.
- Continue sowing of arhar (Bahar, Narendra Arhar 1,2, Azad, Pusa-9, Malveey-Vikas, Chamtkar, PDA-11) and complete moong (var. Pant-1, Narendra-1, PDM-54, Samrat and Asha) in Barabanki, Faizabad and Ambedkarnagar districts of Eastern Plain Zone of Uttar Pradesh utilizing the realized rainfall. Intercropping of Moong or lobia with Arhar can also be undertaken. Undertake sowing of ladies finger and lobia in Gorakhpur, Raibareilly and Sultanpur districts.
- Under prevailing humid weather condition there are chances of attack of red beetle in vegetables in Bundelkhand Zone of Uttar Pradesh. Spray Nimbisidin @ 2 litre or Monocrotophos @ 1 litre per 800 litres of water.
- Under prevailing humid weather condition there are chances of attack of stem borer in maize in Ballia and Deoria districts of Eastern Plain Zone of Uttar Pradesh. Apply Linden 6% @ 20 kg or Carbofuron granules 3% , 20kg or Linden+Carbaryl (4:4 G) 25 kg per hectare.
- Under prevailing humid weather condition, there are chances of incidence of blast disease in rice in Western Plain Zone of Uttar Pradesh. For control of rice blast, spray Beem @ 120 g per 200 litres of water. For control of leaf eating caterpillar in vegetable, spray Di-corovas @ 1ml per litre of water.
- Under prevailing humid weather condition, there are chances of incidence of yellow mosaic in soybean in Central Plain Zone of Uttar Pradesh. For control, spray Dimethoate 30EC @ one liter per 1000 litres of water per hectre.
- **Rajasthan:**
- Undertake nursery sowing of cauliflower (Pusa hybrid-2, Improved Japanese, Pusa Shubhra and Pusa Himjyoti) in Flood Prone Eastern Plain Zone of Rajasthan.
- Due to dry weather condition, there are chances of incidence of army worm in bajra in Arid Western Plain Zone of Rajasthan. To control spray Quinalphos 1.5 % powder @ 25kg/ha.
- Due to warm and cloudy weather conditions, there is chance of leaf spot disease on groundnut in Semi-Arid Eastern Plain Zone of Rajasthan. To control spray Bavistin @ 0.5 gm or Mancozeb @ 2 gm per litre water.
- Due to hot weather condition, there are chances of attack of fruit borer in vegetables. To control spray Carbaryl

- @2g Per litre of water.
- Due to dry weather conditions, there are chances of attack of pod borer in *khariif* pulses in Transitional Plain Zone of Rajasthan. To control, spray Quinalphos 25 EC @ 1 litre per hectre just after flowering at pod formation stage.
- **Horticulture**
- Under prevailing hot and humid weather condition, there are chances of attack of fruit fly in guava in Central Plain Zone of Punjab. Spray Fenvulrate @ 2.5 ml per litre of water and repeat at weekly interval. Fix fruit fly traps in orchards at the rate of 16 traps per acre.
- **Animal Husbandry:**
- Under prevailing humid weather condition, there are chances of attack of ticks and mites on animals in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh and also in Flood Prone Eastern Plain Zone of Rajasthan. For control spray Butox @ 2.0 ml per litre of water. Clean the cowshed with phenyl and keep the animal sheds dry and clean.

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



**Transplanting of Rice**

**Sugarcane**

**Okra**

**Soybean**

- **Realised Weather:** Rain/thundershowers occurred at isolated places over Konkan & Goa and weather remained mainly dry/dry over rest parts of the region. Maximum temperatures were above normal by 2-6° at many places over, Maharashtra, Saurashtra & Kutch and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Konkan & Goa during next 48 hours and at many places thereafter. Rain/thundershowers would occur at many places over Madhya Maharashtra and Marathwada; at a few places over Vidarbha and at isolated places over Saurashtra & Kutch during the period. Rain/thundershowers would occur at many places over Gujarat Region during next 24 hours and at a few places thereafter.
- **Weather Warning:** Heavy rainfall would occur at isolated places over Konkan & Goa and Madhya Maharashtra during the period and over Marathwada on 27<sup>th</sup> August.
- **Weather Outlook:** Rain/thundershowers would occur at many places along west coast and interior Maharashtra.
- **Advisories:**
  - **Maharashtra:**
    - As rain/thundershowers would occur at most/ many places over Konkan & Goa, Madhya Maharashtra and Marathwada during the period, along with isolated heavy rainfall over Konkan & Goa and Madhya Maharashtra during the period and over Marathwada on 27<sup>th</sup> August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to avoid water stagnation.
    - In Konkan, maintain water level upto 5 cm in main rice field.
    - In Madhya Maharashtra, continue planting of *adsali* sugarcane utilising the current rains and conserve rain water for future use.
    - In Marathwada, as rain would occur at many places, in unsown areas undertake sowing of contingency crops like sesame, bajra and pigeon pea. Undertake rainfall harvesting methods by making furrows in cotton, soybean and jowar fields.
    - In Vidarbha, in unsown/delayed sowing areas, sowing can be done with sole crop pigeon pea (AKT 8811, Vipula, PKV- Tara and BSMR-736 (with closer 45x20 spacing) in the districts of Amravati, Wradha, Washim etc. after receipt of adequate rain.
      - As alternative crops sunflower (TAS 82, PKV SF-9, PKVSH-27, KBSH 1 and KBSH 44), sesame (AKT-64 and JLT-7).
      - Maintain water level upto 2-3 cm in transplanted rice fields. Apply fertilizers and undertake intercultural operations in cotton, soybean, maize and jowar on a non rainy day.
      - In West Vidarbha region, it is advised to plan for early rabi red gram ( C-11, ICPL-87119) and Early rabi sesame (N-8) after receipt of sufficient rain.
    - There may be attack of leaf eating caterpillar in soybean in East Vidarbha due to prevailing humid weather; spray Quinalphos 25 % @ 20 ml per 10 litres of water from the lower side of the leaves on a non rainy day.
    - Prevailing high humid weather is congenial for the incidence of purple blotch on onion in Nasik district, spray Dithane M 45 @ 2 to 2.5 g + Fipronil 1.5 ml per litre of water after current spells of rain.

▪ **Gujarat:**

- In North Gujarat Region, complete sowing of sorghum (seed purpose - GJ-39, 40 or 41 and for fodder - Gundari, GFS-4) utilising available soil moisture. Apply 40 Kg N and 40 Kg P at the time of sowing of sorghum. Continue transplanting of fennel (40 days old) in main field. Complete sowing of hybrid varieties of castor (GAUCH-2, GCH-5, 6 and GCH-7) utilising the realised rainfall in South Gujarat Heavy Rainfall Zone and Bhal and Coastal Zone. Complete sowing of cluster bean (GC-2) in Bhal and Coastal Zone of Gujarat utilising the expected rainfall.
- Continue intercultural operations and weeding in cotton, pulses sesame and pearl millet in North Gujarat Zone and North West Zone, in cotton and sesame in Bhal and Coastal Zone on a non rainy day. Carryout gap filling and thinning in pearl millet and apply supplementary dose of Nitrogen in form of urea @ 87 kg/h in cotton and pearl millet on a non rainy day in North West Zone.
- Complete transplanting of brinjal, tomato and chilli in the main field in North Gujarat Zone and North Saurashtra Zone. Spray 2% urea solution in cotton in North and South Saurashtra Zone. Apply life saving irrigation in castor and pigeon pea (micro-irrigation).
- Cloudy weather and humid condition is favourable for incidence of sucking pests in vegetables in North Gujarat Zone and South Gujarat and South Gujarat Heavy Rainfall Zone; spray Imidacloprid or Thiomethoxam 4 ml / 10 liter of water for control on a non-rainy day.
- **Animal Husbandry**
- In current hot and humid weather condition in Middle Gujarat Zone, fodder should be provided to cattle before 10AM and after 5PM. Proper water should be given to avoid water stress. Mineral Mixture Powder should be given 40 gm per day. Spray phenyl in the animal sheds to avoid flies and mosquitoes. Make arrangement for artificial light to poultry to maintain egg production as cloudy conditions are likely to prevail in South Gujarat Heavy Rainfall Zone.