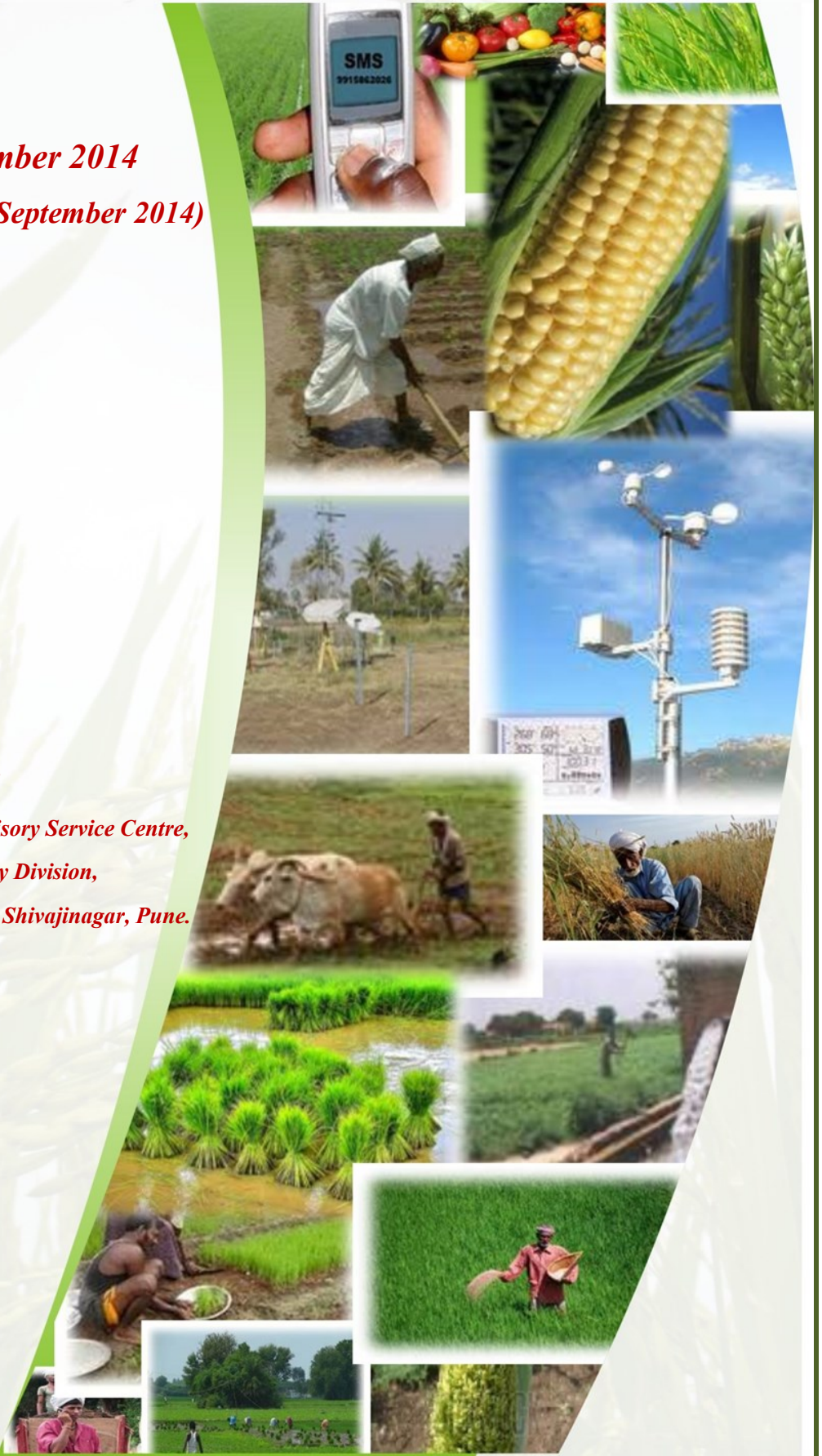


National Agromet Advisory Service Bulletin

Tuesday 9th September 2014
(For the period 9th to 12th September 2014)



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



Monsoon Watch

- Southwest monsoon was vigorous over West Madhya Pradesh and Vidarbha and active over Marathwada and Telangana on 8th September 2014.

Realised Weather on 9th September 2014

- **Rainfall:** (From 0830 to 1730 hours IST of yesterday): Rain/thundershowers occurred at most places over Vidarbha and Gujarat region; at many places over Himachal Pradesh and Andaman & Nicobar Islands; at a few places over Konkan & Goa and Gangetic West Bengal & Sikkim and at isolated places over Madhya Pradesh, Chhattisgarh, Kerala and Assam & Meghalaya. The amounts of rainfall (2 cm or more) recorded at 1730 hours IST of yesterday were: Sundernagar & Una 8 each; Jalgaon 7; Baroda 5; Nancowry 5; Nasik, Surendranagar & Indore 3 each; Ludhiana, Chandigarh, Ahmedabad, Kota & Carnicobar 2 each.
- **Temperature:** Yesterday, the maximum temperatures were above normal by 2-3°C at isolated places over Himachal Pradesh, West Rajasthan, West Bengal & Sikkim, Assam & Meghalaya, Coastal Andhra Pradesh and Tamilnadu. They were below normal by 4-7°C at many places over Vidarbha, Marathawada, Madhya Maharashtra and Gujarat region and by 2-3°C at isolated places over Jammu & Kashmir, Himachal Pradesh, South Madhya Pradesh, Odisha and Chhattisgarh and near normal over rest of the country.

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 12th September, 2014)

- Rain/thundershowers would occur at most places over Konkan & Goa during the period.
- Rain/thundershowers would occur at most places over West Madhya Pradesh during next 24 hours; over Gujarat Region and Madhya Maharashtra during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at many places over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, East Rajasthan, Saurashtra & Kutch, Vidarbha, Coastal Karnataka, Andaman & Nicobar Islands during the period.
- Rain/thundershowers would occur at many places over Uttarakhand, Himachal Pradesh during next 24 hours; over East Madhya Pradesh and Marathwada during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at a few places over Odisha and Kerala during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at a few places over Jammu & Kashmir, Punjab, West Uttar Pradesh, Nagaland, Manipur, Mizoram, Tripura, Gangetic West Bengal, Chhattisgarh and Interior Karnataka during the period.
- Rain/thundershowers would occur at isolated places over Bihar, Coastal Andhra Pradesh, Telangana, Rayalaseema, Tamil Nadu & Puducherry and Lakshadweep during the period.
- Rain/thundershowers would occur at isolated places over East Uttar Pradesh, Jharkhand and West Rajasthan during next 24 hours and at a few places thereafter.
- Rain/thundershowers would occur at a few places over Haryana & Delhi during next 48 hours and at isolated places thereafter.

Weather Warning during next 3 days

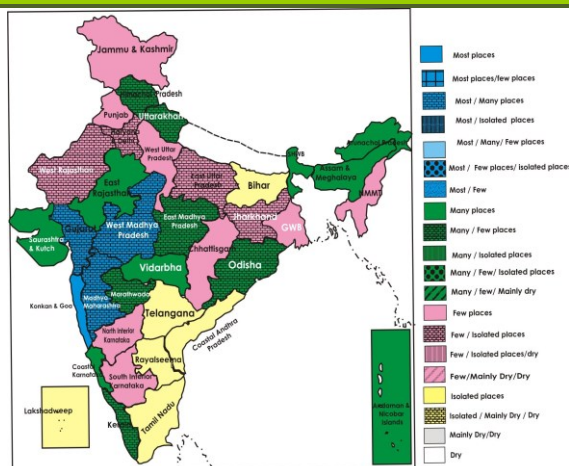
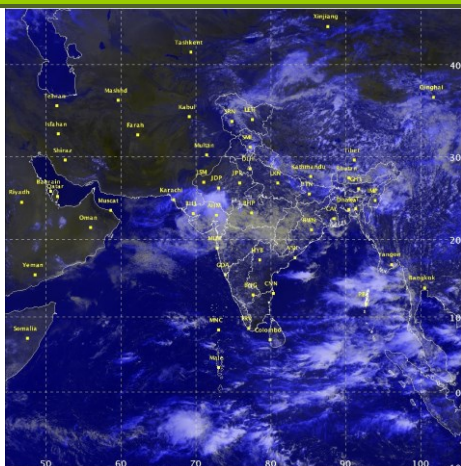
- **09 September (Day 1):** Heavy to very heavy rainfall would occur at a few places with isolated extremely heavy falls over north Konkan and Gujarat region. Heavy to very heavy rainfall would occur at isolated places over West Madhya Pradesh. Heavy rainfall would occur at isolated places over Vidarbha, Madhya Maharashtra, Marathwada, Andaman & Nicobar Islands, East Rajasthan, Saurashtra & Kutch, Himachal Pradesh, Uttarakhand, Assam & Meghalaya and Arunachal Pradesh.
- **10 September (Day 2):** Heavy to very heavy rainfall would occur at a few places over Gujarat region and north Konkan. Heavy to very heavy rainfall would occur at isolated places over Madhya Maharashtra, West Madhya Pradesh. Heavy rainfall would occur at isolated places over Saurashtra & Kutch, Arunachal Pradesh, Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim.
- **11 September (Day 3):** Heavy to very heavy rainfall would occur at isolated places over Gujarat region and north Konkan. Heavy rainfall would occur at isolated places over Arunachal Pradesh, Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim.

Weather Outlook for subsequent 4 days from 12th to 16th September 2014

- Rain/thundershowers would occur at most places over Konkan & Goa and Gujarat Region upto 13th September and at many places thereafter.
- Rain/thundershowers would occur at many places over East Rajasthan, Madhya Pradesh, Uttar Pradesh, Coastal Karnataka, Kerala, east and northeast India.
- Rain/thundershowers would occur at a few places over peninsular India and at isolated places over rest parts of the country.

Satellite image dated, 09.09.2014, 0600 UTC

Weather Forecast Map (Valid upto 0830 hours of 12th September 2014)



Salient Advisories

- Drain out excess water from standing crop fields in Valley Temperate Zone, Sub-Tropical and Intermediate Zone of **Jammu & Kashmir**.
- Drain out excess water from standing crop fields in Vindhya Plateau Zone of **Madhya Pradesh**.
- Continue direct seeding of chillies and gap filling in direct seeded rice. Apply biogyme, micronutrients and mineral mixture in cotton to recover from slow growth in the Krishna Godavari Zone of **Andhra Pradesh**.
- 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. Lay out dead furrows across the slope for every 3.6mts / 12 rows in groundnut fields for moisture conservation.
- In Barak Valley 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 after receding flood with 60 to 80 days old seedlings of the varieties like Prafulla (80 days) and Gitesh (60 days) and old seedlings of other improved long duration variety like Monohar Sali, Salpona, Prasadbhog, Gobin bhog etc can be transplanted up to mid September.
- As rain would occur at most places over **Gujarat** region during next 48 hours and at many places thereafter with heavy to very heavy rainfall at a few places on 9th and 10th September with isolated extremely heavy falls on 9th and at many places over **Saurashtra & Kutch** region during the period with heavy rainfall at isolated places on 10th September, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops in Gujarat. Provide adequate drainage in standing crops to avoid water stagnation.

Detailed Zonewise Agromet Advisories

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



Rice



Sugarcane



Okra



Soybean

- **Realised Weather:** Rain/thundershowers occurred at isolated places over Kerala. Maximum temperatures were above normal by 2-3°C at isolated places over Coastal Andhra Pradesh and Tamilnadu and near normal over rest of the region.

- **Weather Forecast:** Rain/thundershowers would occur at many places over Coastal Karnataka, at a few places over Interior Karnataka, at isolated places over Coastal Andhra Pradesh, Telangana, Rayalaseema, Tamil Nadu & Puducherry during the period. Rain/thundershowers would occur at a few places over Kerala during next 48 hours and at many places thereafter.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain/thundershowers would occur at many places over Coastal Karnataka, Kerala.
- **Advisories:**
 - **Karnataka:**
 - As rain/thundershowers would occur at many places over Coastal Karnataka during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
 - Continue sowing of sunflower, sowing of fodder crops in some areas to avoid fodder shortage and undertake land preparation for *rabi* sowing utilizing the realized rainfall in the North Dry Zone of Karnataka.
 - In Eastern Dry Zone of Karnataka, continue sowing of ragi, cow-pea and field-bean.
 - Undertake land preparation for *rabi* sowing utilizing the realized rainfall in the North Transition Zone of Karnataka.
 - Due to prevailing humid weather, blue beetle insects were noticed in rice fields and leaf roller insects in banana (Yelakki) in Mysore district in the Southern Dry Zone of Karnataka. Spray Bavistin @ 1mg / litre of water to manage blue beetle insects and Ekalux@ 2ml/litre of water on a non rainy day.
 - **Kerala:**
 - As rain/thundershowers would occur at many places over Kerala on 11th September, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
 - Undertake crown cleaning, phytosanitation, regulation of shade and provide proper drainage to prevent mid-whorl yellowing in coconut in the Southern Zone of Kerala.
 - Present high humid weather condition is congenial for incidence of pink disease in rubber plant in the Problem Area Zone of Kerala. Brush the forking region with Bordeaux paste or Thiride mixed with rubberkote @ 10g/kg as a prophylactic measure after current spells of rain. Also to control foot rot in pepper, drench the basal portion of pepper vines with 2% pseudomonas solution followed by application of trichoderma enriched cowdung+ neem cake @1kg /vine to manage foot rot after current spells of rain.
 - High humidity and continuous rain are congenial for incidence of quick wilt disease and stem bleeding in coconut in the Central Zone of Kerala. Apply *Trichoderma* or *pseudomonas* culture in soil or 1% Bordeaux mixture can be sprayed on the leaves and small branches to manage quick wilt disease and chisel out the affected tissues completely and paint the wound with Tridemorph 5% to prevent stem bleeding after current spells of rain.
 - **Telangana and Andhra Pradesh:**
 - In the Southern Telangana Zone, complete sowing of cotton, maize, groundnut, pulses, castor etc. utilising the realised and expected rainfall.
 - In Scarce Rainfall Zone of Rayalaseema, continue sowing of contingency crops like sorghum, bajra, foxtail millet, cowpea, sunflower, green gram, field bean, castor and horse gram utilizing the realised rainfall. Lay out dead furrows across the slope for every 3.6mts / 12 rows in groundnut fields for moisture conservation.
 - Undertake direct seeding of chillies and gap filling in direct seeded rice. Apply biogyme, micronutrients and mineral mixture in cotton to recover from slow growth in the Krishna Godavari Zone of Andhra Pradesh.
 - Due to cloudy and humid conditions thrips incidence and bacterial blight was observed in chillies and is likely to continue in the Scarce Rainfall Zone of Rayalaseema. Spray Pipronil @2ml/litre or Acetamprid @0.2g/litre to manage thrips incidence and copper oxy chloride 30g +1g streptomycin in 10 litres of water to manage bacterial blight.
 - Incidence of blast is noticed in rice and is likely to increase in the Southern Telangana Zone. Spray Tricyclazole @ 0.6 g per litre of water.
 - **Tamil Nadu:**
 - Continue sowing and transplanting of *samba* rice in the Cauvery Delta Zone of Tamil Nadu.
 - Complete sowing of winter irrigated cotton to avoid reduction in yield and undertake harvesting of minor millets & groundnut in the Western Zone of Tamil Nadu.
 - Arrange farm inputs for dry land cultivation in the North East Monsoon season in the South Zone of Tamil Nadu. Select drought resistant varieties of cotton, maize, jowar, green gram, sunflower and pearl millet.
- **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.
 - Due to high humidity, cattle and poultry feed may get affected with aflatoxin. Feed toxin free feeds to the livestock in the Western Zone of Tamil Nadu.
 - Vaccinate livestock against Foot and Mouth disease (FMD vaccination), Black Quarter disease (BC vaccination) and Haemorrhagic Septicaemia. Vaccinate sheep and goats with (ET vaccine) against Enterotoxemia in the North Dry Zone of Karnataka.

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



Rice



Okra



Jute



Green Gram

- **Realised Weather:** Rain/thundershowers occurred at isolated places over Assam & Meghalaya. Maximum temperatures were above normal by 2-3°C at isolated places over Assam & Meghalaya and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Arunachal Pradesh, Assam & Meghalaya; at a few places over Nagaland, Manipur, Mizoram and Tripura during the period.
- **Weather Warning:** Heavy rainfall would occur at isolated places over Assam & Meghalaya and Arunachal Pradesh during the period.
- **Weather Outlook:** Rain/thundershowers would occur at many places over northeast India.
- **Advisories:**
 - **Assam & Meghalaya, Arunachal Pradesh:**
 - As rain/thundershowers would occur at many places over Assam, Meghalaya and Arunachal Pradesh during the period along with heavy rainfall at isolated places, 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 sowing of green gram, black gram, sesame and nursery sowing of cole crops.
 - In Barak Valley 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 after receding flood with 60 to 80 days old seedlings of the varieties like Prafulla (80 days) and Gitesh (60 days) and old seedlings of other improved long duration variety like Monohar Sali, Salpona, Prasadbhog, Gobin bhog etc can be transplanted up to mid September.
 - In North Bank Plain Zone of Assam, undertake land preparation for sowing of pulses like green gram and black gram and nursery raising for cole crops.
 - 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 Sub Tropical Hill Zone of Arunachal Pradesh, undertake harvesting of *jhum* rice after current spells of rain.
 - In Meghalaya, maintain water level of 3-5 cm in transplanted *sali* rice. 1st top dressing of 1/4th Urea (44Kg/ha) should be done after 1st hand weeding at 25-30 DAT. Continue nursery preparation/ sowing of vegetables like cabbage, cauliflower, carrot, radish, broccoli and French bean. Continue land preparation and planting of potato. Sowing of pea can be started now in high altitude of East Khasi Hills. Avoid water logging in ginger/turmeric to avoid rhizome rot and fungal disease.
 - Cloudy and humid weather is favourable for attack of leaf folder in rice in Upper Brahmaputra Valley of Assam, spray Chloropyriphos 20 EC @ 1 ml per liter 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 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 Fenitrotheon @ 1 litre in 200-250 litre of water per ha after current spells of rain.
 - Due to prevailing humid weather conditions, there is chance of attack of gundhi bug in early transplanted rice and blast in normal transplanted rice in Arunachal Pradesh. Dust with Malathion 5D @ 20 kg/ha for gundhi bug and undertake foliar spray of Hexaconazole 5% EC @ 2 ml/litre of water or Mancozeb 63%WP @ 2 g/litre of water against blast 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 Mancozeb @ 2g/litre or Carbendazim @1g/litre. Also present weather is congenial for development of late leaf spot in groundnut. Spray Carbendazim (0.05%) + Mancozeb (0.2 after current spells of rain.
 - **Nagaland, Manipur, Mizoram and Tripura:**
 - In Manipur, maintain water level of 5-8cm in *kharif* rice and weeding may be done before top dressing. Undertake main field preparation for transplanting of cole crops.
 - In Mizoram, undertake nursery preparation for cole crops like cabbage, cauliflower, broccoli and knolkhol.
 - 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 Manipur, due to cloudy and humid weather conditions, there is chance of gall midge, aphid, leaf folder and plant hopper attack in *kharif* rice. Spray Thiomethoxam @ 5g/15 lit of water against gall midge, Fipronil @ 2g/pump or Imidachloprid 17.8 SL @ 7 ml/ 15 litres against aphid, Coragen @ 3ml/15 lit of water or Lambdacythothrin @ 15ml/ 15 litre of water against leaf folder and plant hopper on a non rainy day.
- 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. Also spray Monocrotophos 36 WSC @ 1.5 ml/litre against gundhi bug infestation in rice. Insecticide application should be done if the population reaches ETL. Apply the chemicals on a non rainy day.
- In Mild Tropical Plain Zone of Tripura, there is chance of attack leaf folder in *aman* rice due to prevailing humid weather. The attack may be managed by application of Imidachloprid @2ml per litre of water. Also, in the present weather, there may be attack of downy mildew in bitter melon and pointed gourd. Redomil –MZ @2 g per litre may be applied to manage the attack. Apply the chemicals on a non rainy day.
- **Animal Husbandry**
- In Assam, cattle should not be fed with water submerged rotten grass and give anti-worm drugs.
- In Meghalaya, in rainy season, litter should be changed periodically to avoid dampness and prevent disease development like coccidiosis in poultry. During day time sufficient ventilation should be provided to reduce the humidity inside the sheds.
- In Tripura, damp litter and high moisture may cause Coccidiosis in the chicken, so avoid dampness in the deep litter. Prevailing high humidity may cause ammonia fumes which irritate the respiratory tract and eyes in poultry. Provide good ventilation in poultry sheds.
- In Manipur, provide clean drinking water to livestock. Avoid water logging around the sheds as it may help in mosquito breeding.

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



Sugarcane



Jute



Onion



Rice

- **Realised Weather:** Rain/thundershowers occurred at many places over Andaman & Nicobar Islands; at a few places Gangetic West Bengal & Sikkim. Maximum temperatures were above normal by 2-3°C at isolated places over West Bengal & Sikkim. They were below normal by 2-3°C at isolated places over Odisha and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim, Andaman & Nicobar Islands; at a few places over Gangetic West Bengal; at isolated places over Bihar during the period. Rain/thundershowers would occur at a few places over Odisha during next 48 hours and at many places thereafter. Rain/thundershowers would occur at isolated places over Jharkhand during next 24 hours and at a few places thereafter.
- **Weather Warning:** Heavy rainfall would occur at isolated places over Andaman & Nicobar Islands on 9th September and over Sub-Himalayan West Bengal & Sikkim on 10th and 11th September.
- **Weather Outlook:** Rain/thundershowers would occur at many 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 isolated heavy spells on 10th & 11th September, postpone irrigation, inter-cultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
 - In Old Alluvial Zone of West Bengal, continue sowing of black gram and undertake the land preparation for transplanting of 4-6 weeks old seedlings of cole crops like cauliflower and cabbage after spells of heavy rain.
 - In Old Alluvial Zone, due to cloudy and humid weather, there is a chance of stem borer, leaf folder and blast in *aman* rice, apply Chloropyrifos @ 2.5 ml/litre of water or Cartap Hydrochloride 50WP @ 1 g/litre of water against stem borer and leaf folder. To prevent the attack of blast, spray Tricyclazole @ 0.5 g/litre of water. Apply the chemicals after current spells of rain.
 - Due to cloudy and high humid weather conditions, there is chance of attack of leaf folder and blast in *aman* rice in

New Alluvial Zone. As a control apply Triazophos @ 0.5 ml/litre or Chlorpyrifos 50% + Cypermethrin 5% @ 1.5 ml/litre of water against leaf folder and apply Carbendazim + Mancozeb @ 2.5g/litre of water against blast. Apply Redomil -MZ (@2 g per litre to control downy mildew and mosaic in bitter and pointed gourd. Spray Difenthiuron @ 0.75g per litre of water against thrips and mites in chilli. Apply the chemicals on a non rainy day.

- In Laterite and Red Soil Zone, due to cloudy weather conditions, there is chance of attack of cutworm or termites in maize. To protect the crop, apply Chloropyrifos @ 3.5 kg / bigha (1.5% powder) on a non rainy day.
- Due to humid condition in Terai zone, damping off may occur in vegetable nursery, to manage the disease, spray Carbendazim 12%+ Mancozeb 64% @ 2 gm/litre of water. Also spray Carbendazim 12% + Mancozeb 64%, 2 gram per litre of water against collar rot in chilli and beans after current spells of rain.

▪ **Andaman and Nicobar Islands**

- As rain/thundershowers would occur at many places over Andaman and Nicobar Islands during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
- In Nicobar, farmers are advised to prepare nursery of early *rabi* vegetables.

▪ **Odisha:**

- As rain/thundershowers would occur at many places over Odisha on 11th September, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops.
- In East and South Eastern Coastal Plain Zone of Odisha, undertake land preparation and sowing of pre *rabi* crops like green gram, black gram, horse gram, cow pea and sesame in fallow upland and medium uplands after spells of heavy rain.
- In North Central Plateau Zone of Odisha, continue planting of lemon and mango.
- In Western Undulating Zone of Odisha, waterlogged conditions with high humidity (75-80%) favours buildup of scale insect, whitefly and Pyrrilla in sugarcane. Spray Imidacloprid @ 1 ml / 4 litres of water after current spells of rain.
- 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 after current spells of rain.
- In North Central Plateau Zone of Odisha, in the prevailing temperature, there are chances of occurrence of Yellow vein mosaic disease in arhar. Spray Dimethoate @ 300g a.i./Ha or Methyl Demeton @ 250g a.i./ha to control the insect vector after current spells of rain.
- In North Central Plateau Zone of Odisha, maize crop has been infested with stem borer and likely to increase in the present weather. Apply Furadan 1 g in the leaf whorl or spray. Chloropyrifos @2 ml in 1 litre water after current spells of rain. Again repeat the spraying after 15 days of first spraying.
- In East and South Eastern Coastal Plain Zone of Odisha, current temperature and humidity may favour the infestation of tikka disease and root rot in groundnut. To control these, spray Saaf, Companion or Sixer @ 2 ml per litre of water after current spells of rain.

▪ **Bihar:**

- In North West Alluvial Plain Zone of Bihar, continue planting of onion, sowing of pigeon pea and urad in upland areas and sowing of Shakarkand. Undertake nursery sowing of cabbage and cauliflower.
- In North East Alluvial Plain Zone of Bihar, in transplanted rice, apply top dressing of 1/3rd urea (44 kg/ha) after 1st hand weeding at 25-30 days after transplanting and apply remaining 1/3rd urea (44 kg/ha) after 2nd hand weeding at 40-45 days after transplanting. Maintain optimum water level in rice. Complete land preparation preferably upland for sowing of September arhar.
- In South Bihar Alluvial Zone, complete sowing of *rabi* pigeon pea up to mid September also complete sowing of kulthi in upland areas.

▪ **Jharkhand:**

- In Western Plateau Zone of Jharkhand, in upland areas, continue sowing of kulthi, niger and toria. In rice, apply urea after 20-25 days of transplanting. Undertake field preparation for cultivation of early potato and green peas.
- In South Eastern Plateau Zone of Jharkhand, in fallow sloppy lands, continue sowing of September Pigeonpea, Kulthi, Niger, Lobia, Rice bean. Undertake land preparation for the cultivation of short duration early potato.
- In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of urad, horse gram, niger and sweet potato. Continue sowing of tomato, cabbage and cauliflower in raised seed bed. Conserve rain water by repairing the broken bunds of the rice fields.
- 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.
- Due to hot and humid weather, attack of stem borer in rice is being seen 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 after current spells of rain. In case of heavy infestation of the insect, apply granular insecticide like Carbofuran 3 G @ 12 kg per acre or Phorate 10 G (@ 4 kg per acre. However, at the time of broadcasting of granular insecticide, stagnated water in the field is must.
- Due to prevailing humid weather conditions, there is chance of attack of gundhi bug in timely sown rice in Western

Plateau Zone of Jharkhand. To control the insects, dusting of Chlorpyrifos / Quinolphos / Methyl parathion dust @ 10 kg per acre on a non rainy day. As an alternative method (in the case of unavailability of the insecticides), dusting of coal / wood ash mixed with kerosene.

➤ Suitable varieties are given in Annexure I.

• **Animal Husbandry**

➤ In Coastal Saline Zone of West Bengal, there is chance of worm infection in grazing cattle. Feed Bolus (albozer, albozen, wormer-1.5 g) @ 1 bolus per 150 kg body weight.

CENTRAL INDIA [M.P., CHHATTISGARH]



Sugarcane

Rice

Okra

Green Gram

- **Realised Weather:** Rain/thundershowers occurred at isolated places over Madhya Pradesh, Chhattisgarh. Maximum temperatures were below normal by 2-3°C at isolated places over South Madhya Pradesh and Chhattisgarh and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over West Madhya Pradesh during next 24 hours and at many places thereafter. Rain/thundershowers would occur at many places over East Madhya Pradesh during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at a few places over Chhattisgarh during the period.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over West Madhya Pradesh on 9th and 10th September.
- **Weather Outlook:** Rain/thundershowers would occur at many places over Madhya Pradesh. Rain/thundershowers would occur at isolated places over rest parts of the region.
- **Advisories:**
 - **Madhya Pradesh:**
 - As rain/thundershowers would occur at most/many places over Madhya Pradesh with heavy to very heavy rainfall over West Madhya Pradesh on 9th and 10th September, postpone irrigation, inter-cultural operations, application of plant protection measures and fertilizers in the standing crops. Provide adequate drainage in standing crops to remove excess water in West Madhya Pradesh.
 - Drain out excess water from standing crop fields in Vindhya Plateau Zone and Jhabua Hill Zone of Madhya Pradesh.
 - Due to cloudy weather, there are chances of attack of semilooper, tobacco caterpillar and girdle beetle in soybean, moong and urad in Jhabua Hill Zone of Madhya Pradesh, Spray Profenophos @ 2 ml per litre of water after current spells of rain.
 - 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 after current spells of rain.
 - Due to heavy rain there are chances of stem rot in ginger and turmeric in Vindhya Plateau Zone of Madhya Pradesh, spray Blitox 50 E. C. @ 2.5gm per litre of water after current spells of rain.
 - Due to humid weather, there is possibility of attack of cercospora leaf spot disease in the *til* (Sesame) in Bundelkhand Zone of Madhya Pradesh, spray Mancozeb @ 2.5 g per litre of water after current spells of rain.
 - **Chhattisgarh:**
 - In Plain Zone of Chhattisgarh, in fallow upland, sowing of horsegram and Niger may be undertaken upto mid September.
 - Due to cloudy weather, there are chances of attack of blast in rice in North Hill Zone and Plain Zone of Chhattisgarh, apply Tricyclazole @120 g per acre on a non rainy day.
 - Due to humid weather, there may be chance of incidence of tikka disease in groundnut in Plain Zone of Chhattisgarh, spray Metalexil @ 0.15% on a non rainy day.
 - Due to cloudy weather there are chances of incidence of leaf blight in maize in Bastar Plateau Zone of Chhattisgarh, spray Mencozeb @ 2 g per litre of water on a non rainy day.
- **Animal Husbandry**
 - In Madhya Pradesh, provide clean water and concentrate feed mixed with dry and green fodder to cattle.
 - In Chhattisgarh, create smoke around cattle sheds to protect from mosquitoes.

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



Rice

Sugarcane

Bottle Gourd

Onion

- **Realised Weather:** Rain/thundershowers occurred at many places over Himachal Pradesh. Maximum temperatures were above normal by 2-3°C at isolated places over Himachal Pradesh, West Rajasthan. They were below normal by 2-3°C at isolated places over Jammu & Kashmir, Himachal Pradesh and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over East Rajasthan; at a few places over Jammu & Kashmir, Punjab and West Uttar Pradesh during the period. Rain/thundershowers would occur at many places over Uttarakhand, Himachal Pradesh during next 24 hours and at a few places thereafter. Rain/thundershowers would occur at isolated places over East Uttar Pradesh and West Rajasthan during next 24 hours and at a few places thereafter. Rain/thundershowers would occur at a few places over Haryana & Delhi during next 48 hours and at isolated places thereafter.
- **Weather Warning:** Heavy rainfall would occur at isolated places over East Rajasthan, Himachal Pradesh and Uttarakhand on 9th September.
- **Weather Outlook:** Rain/thundershowers would occur at many places over East Rajasthan and Uttar Pradesh. Rain/thundershowers would occur at isolated places over rest parts of the region.
- **Advisories:**
 - As rain/thundershowers would occur at many places over Himachal Pradesh and Uttarakhand on 9th September and over East Rajasthan during the period along with heavy rainfall at isolated places on 9th September, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops. Provide adequate drainage in standing crops to remove excess water.
 - **Jammu & Kashmir:**
 - Drain out excess water from maize, moong, mash crop fields in Valley Temperate Zone, Sub-Tropical and Intermediate Zone of Jammu & Kashmir.
 - Due to humid weather conditions, there is attack of aphids on vegetable crops in Cold Arid Zone of Jammu & Kashmir. To control apply Malathion @ 1ml/litre of water, on a non rainy day and repeat after 12 days of interval.
 - Due to high humid weather conditions, there is chance of attack of sheath blight and blast on rice in Intermediate Zone of Jammu & Kashmir. Monitor the crop and apply Bavistin @ 2 g/lit of water or Propiconazole 25 EC @ 1 ml/litre of water after receding of flood water.
 - **Himachal Pradesh:**
 - Undertake sowing of radish, turnip, carrot and leafy vegetable like palak and methi in mid hill areas and early varieties of pea in Sub-Montane and Low Hills Sub-Humid Tropical Zone and Bilaspur district of Mid Hills Sub-Humid Zone of Himachal Pradesh. Nursery sowing of cauliflower (late group), cabbage, Knol Khol, Broccoli and Chinese cabbage and direct sowing of radish, carrot, turnip, spinach and fenugreek and planting of onion (30X 10 cm spacing) can also be undertaken in mid hill areas after spells of heavy rain.
 - Weather is conducive for attack of rice blast, hispa, leaf folder in rice in Mild Hills Sub Humid Zone of Himachal Pradesh. For control of rice blast, spray Bavistin 0.01 or Beam 75 WP 0.06% in 10-15 days interval. For rice hispa and leaf folder, spray Chloropyriphos 20 EC (2.5ml /litres) of water after current spells of rain.
 - Due to prevailing humid weather conditions, there are chances of attack of fruit rot and blight disease in capsicum and chillies in Mid Hills Sub-Humid of Himachal Pradesh. To control, apply Bourdeaux mixture 0.8% (800gms copper Sulphate+800gms lime+100L water) or Blitox or Masstox (300gms)/100 litres of water after current spells of rain. In tomato use yellow trap one trap/100m² to prevent the attack of white fly. For control of attack of mites in vegetables, spray Fenazaquin (Magister) @ 3.75ml per 15litre of water after current spells of rain.
 - Due to prevailing humid weather conditions, there are chances of attack butterfly and aphids in cabbage and cauliflower in High Hill Dry Temperate Zone of Himachal Pradesh. Spray Cypermethrin @ 1ml per litre of water after current spells of rain.
 - **Uttarakhand:**
 - Undertake sowing of fodder crops like sorghum, maize, lobia etc. (Chara Serson-602 and African Tall, Jawahar or Kisan). Continue sowing of early vegetable pea like VL Ageti Mater-7, Vivek Mater-10, and Arkel at high hills in Bhabar and Tarai Zone of Uttarakhand after spells of heavy rain.

- Undertake sowing of mustard, phalak, methi, raddish and continue sowing of early toria, pea in Hill Zone of Uttarakhand after spells of heavy rain.
- In Sub humid Sub Tropical Zone of Uttarakhand, as rice crop is at active tillering stage, maintain 5cm water level and apply second dose of Urea at this stage.
- Under present weather conditions, there are more chances of incidence of sucking insects in soybean, mung and tikka disease on groundnut in Bhabar and Tarai Zone of Uttarakhand. Monitor the crops and if the incidence is more than 10 %, spray 40 Ec-Trizophos @ 250 ml dissolved in 200 liters of water per acre in soybean, to control spray Monochrotophos36 Ec @ 200 ml dissolved in 250 liters of water/acre in mung. To control tikka disease on groundnut, spray Indophill M-45 @ 800 g dissolved in 400 liters of water per acre. Apply the chemicals on a non rainy day.
- **Punjab, Haryana and Delhi:**
- In Western Plain Zone of Punjab, continue field preparation and sowing of short duration hybrid maize (PMH 2) utilizing the expected rainfall.
- In Western Plain and Undulating Plain Zone of Punjab, continue nursery sowing of mid-season cauliflower, desi varieties of radish, carrot and turnip.
- In Undulating Plain Zone of Punjab, complete new plantation of fruit crops as weather of this period is favourable for the establishment and growth of small plants. Higher humidity due to intermittent rainfall may lead to infection of sheath blight in rice, spray Tilt @ 0.1% on the disease spots. Present weather condition is very congenial for attack of fruit rot in chilli, spray infofil M45 @390 g/acre in 100-200 litres of water on a non rainy day.
- Due to 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 Oberon @ 200ml/acre for white fly and Ulala 80g/acre on a non rainy day for the management of Jassids.
- 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.
- In Delhi, continue transplanting of onion seedling in the prepared fields.
- **Uttar Pradesh:**
- Undertake transplanting of cauliflower (60x60 cm row spacing), brinjal (75x60 cm row spacing), cabbage, tomato and chilli and planting of fruit crops in Barabanki, Faizabad, Ambedkarnagar districts of Eastern Plain Zone of Uttar Pradesh utilizing the realized and expected rainfall.
- Undertake sowing of toria (T-9, T-36, Bhavani, Pant -30,303) at a row spacing of 30 cm in Central Plain Zone of Uttar Pradesh utilizing the realized and expected rainfall.
- Undertake transplanting of cauliflower, cabbage, tomato, chilli and brinjal and sowing of palak, cucumber, methi, ageti carrot and planting of fruit crops like mango, papaya, lemon, amla, etc. in Jhansi district of Bundelkhand Zone of Uttar Pradesh. Undertake second top dressing of urea @ 20 kg + Zinc Sulphate @ 5 kg per hectare in rice on a non rainy day.
- Due to prevailing humid condition, there are chances of attack of Gundhi bug in rice in Raibareilly, Sultanpur, Deoria and Ballia districts of Eastern Plain Zone of Uttar Pradesh. Spray Malathion 5% or Linden 1.3% @ 20-25 kg per hectare on a non-rainy day.
- 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 after current spells of rain. For control of leaf eating caterpillar in vegetable, spray Di-corovas @ 1ml per litre of water on a non-rainy day.
- Prevailing humid weather condition is congenial for attack of Gundhi bug in rice in Central Plain Zone (Kanpur) of Uttar Pradesh. To control, apply Methyl Parthion 2% or Malathion 5% @ 20-25 kg/ha on a non-rainy day. To control leaf spot disease in urd and moong, spray Copper Oxychloride @ 3litre/ha or Carbendazim /Thiophinet Methyl @500g/ha in 500-600 litres of water on a non rainy day.
- **Rajasthan:**
- Undertake nursery sowing of cauliflower (Japanese, Pusa hybrid-2 and Himjoyti) and radish (Pusa Chetki) in Semi Arid Eastern Plain Zone of Rajasthan after spells of heavy rain.
- Continue nursery sowing of cauliflower (Pusa hybrid-2, Improved Japanese, Pusa Shubhra and Pusa Himjyoti) in Flood Prone Eastern Plain Zone of Rajasthan after current spells of heavy rain.
- Continue nursery sowing of mid season cauliflower (Japanese, Pusa hybrid-2 and Himjoyti) and sowing radish (Pusa Chetki) in Arid Western Plain Zone of Rajasthan. Apply remaining half dose of nitrogen i. e. 30 kg/ha through urea in 25-30 days old pearl millet crop.
- In Arid Western Plain Zone of Rajasthan, due to warm and cloudy weather condition there may be chances of flower drop in cucurbits (Bottle gourd, Ridge gourd etc.), to protect spray planofix @ 0.25 ml/litre, on non-rainy day.
- Due to humid and cloudy conditions there are chances of leaf curl and mosaic in Papaya, to control uproot and burn the affected plants and spray Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 ml per litre water in Semi Arid Eastern Plain Zone of Rajasthan after current spells of rain.

- Due to humid and cloudy conditions, there are incidence of bollworm and jassids in cotton in Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan to control apply Karberil 50% dust @ 2.5 kg/ha, after spells of rain.
- **Horticulture**
- Under prevailing humid weather condition, there are chances of incidence of scab in apple in Mild Hills Sub-Humid Zone of Himachal Pradesh. Apply Ziram or Captan @ 600ml per 200 litres of water 15-20 days before harvesting in clear weather.
- **Animal Husbandry:**
- Keep the cattle in sheds during heavy rainfall period in Himachal Pradesh, Uttarakhand and East Rajasthan.
- Under prevailing humid weather condition, there are chances of attack of ticks and mites on animals 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]



Rice

Sugarcane

Okra

Soybean

- **Realised Weather:** Rain/thundershowers occurred at most places over Vidarbha and Gujarat region; at a few places over Konkan & Goa. Maximum temperatures were below normal by 4-7°C at many places over Vidarbha, Marathwada, Madhya Maharashtra and Gujarat region and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Konkan & Goa during the period. Rain/thundershowers would occur at most places over Gujarat Region and Madhya Maharashtra during next 48 hours and at many places thereafter. Rain/thundershowers would occur at many places over Saurashtra & Kutch and Vidarbha during the period. Rain/thundershowers would occur at many places over Marathwada during next 48 hours and at a few places thereafter.
- **Weather Warning:** Heavy to very heavy rainfall would occur at a few places with isolated extremely heavy falls over north Konkan and Gujarat region on 9th September. Heavy to very heavy rainfall would occur at a few places over Gujarat region and north Konkan on 10th and at isolated places over Gujarat and north Konkan on 11th September and over Madhya Maharashtra on 10th September. Heavy rainfall would occur at isolated places over Vidarbha, Madhya Maharashtra, Marathwada on 9th September. Heavy rainfall would occur at isolated places over Saurashtra & Kutch on 9th and 10th September.
- **Weather Outlook:** Rain/thundershowers would occur at most places over Konkan & Goa and Gujarat Region upto 13th September and at many places thereafter. Rain/thundershowers would occur at isolated places over rest parts of the region.
- **Advisories:**
 - **Maharashtra:**
 - As rain/thundershowers would occur at most/ many places over Maharashtra during the period along with heavy to very heavy rainfall would occur at a few places during the period with isolated extremely heavy falls over north Konkan on 9th, heavy rainfall at isolated places over Vidarbha, Madhya Maharashtra, Marathwada on 9th September and heavy to very heavy rainfall at isolated places over Madhya Maharashtra on 10th September, 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 5-8 cm in rice fields. Drain out excess water from the rice, finger millet & vegetable fields.
 - In Madhya Maharashtra, complete planting of *adsali* sugarcane utilising the current rains and conserve rain water for future use. Maintain the water level of 5 cm in transplanted rice field.
 - In Marathwada region in Maharashtra, make furrows in cotton, soybean and jowar fields for rain water harvesting.
 - In Vidarbha, to avoid wilting in cotton & soybean, drain out excess water from crop field & drenching of Copper Oxychloride solution @30g per 10 litres water may be done after current spells of rain. Spray 2 % urea at flowering stage in cotton and soybean for better growth after current spells of rain. Maintain water level upto 5 cm in transplanted rice fields in East Vidarbha.
 - Prevailing rainy weather in Pune region is congenial for incidence of thrips and blight in onion; spray Carbendazim @ 10 gm + Fipronil 10 ml with 10 ml sticker per 10 litres of water at 15 days interval after current spells of rain.
 - Due to prevailing humid and cloudy weather in East Vidarbha, there may be attack of green semilooper and tobacco eating caterpillar in soybean; spray Quinalphos 25% @ 20 ml per 10 litres of water from the lower sides of

the leaf after current spells of rain.

▪ **Gujarat:**

- As rain would occur at most places over Gujarat region during next 48 hours and at many places thereafter with heavy to very heavy rainfall at a few places on 9th and 10th with isolated extremely heavy falls on 9th and at many places over Saurashtra & Kutch region during the period with heavy rainfall at isolated places on 10th, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops in Gujarat. Provide adequate drainage in standing crops to avoid water stagnation. Harvest rain water for future use.
- Complete sowing of castor in Bhal and Coastal Zone of Gujarat after current spells of heavy rain.
- Carry out gap filling in late sown castor in North West Zone and in South Gujarat Heavy Rainfall Zone after current spells of heavy rain. Avoid water logging in low lying areas of cotton, pulses, castor and sesame crop fields in North West Zone.
- In North Saurashtra Zone, drain out excess rain water from cotton in low-lying fields. To reduce dropping of flower and immature balls, spray Nephthalic acetic acid @ 7 ml /10 liters of water after current spells of heavy rain.
- Due to increase in humidity there is a chance of heavy attack of Helicoverpa Armigera in soybean in South Saurashtra Zone; for control spray Dichlorvos @0.05 (5ml) or Fenitrothion @0.05 (10 ml) in 10 litre of water after current spells of heavy rain.
- Due to warm and humid weather, there is possibility of leaf spot disease in groundnut in North Saurashtra Zone; spray Hexaconazole @15 ml or Tebuconazole @10 ml in 10 liters of water after current spells of heavy rain.
- **Animal Husbandry**
- In Gujarat, keep fodder in safe place to avoid spoilage due to heavy rain and keep animal sheds hygienic and clean to avoid flies and mosquitoes.

Annexure I
List of varieties

Bihar

Shakarkand: Rajendra Shakarkand- 5, Rajendra Shakarkand-35, Rajendra Shakarkand-43, Rajendra Shakarkand-47, Kalmegh and Rajendra Shakarkand-92.

Pigeon Pea: arhar: Bahar, Pusa 9, Narendra Arhar 1

Urd: T-9, Pant U-19, Pant Urd 31, PDU-1

Radish: Pusa Chetki, Pusa Himani, Pusa Rashmi, Japani Saphed

Pointed gourd: Rajendra Parwal-1, Rajendra parwal-2, FP1 and 3

Cabbage: early varieties: Pride of India, Golden ekar, Pusa mukta

Cauliflower: Aghani, Pusi, Early Snowball, Patna main and Pusa Shuvra varieties of cauliflower.

Jharkhand:

Urd: T 9, Pant U 19, 30, 35 and Birsa urd 1

Moong: Pusa Vishal, S M L 668, K 885, P S 16, Pant Moong 2 and P D M 11.

Arhar: Birsa Arhar (210 days), Bahar (240 Days) and ICPH 2671 (210 days),

Maize: short duration variety: Birsa Vikas Maize-2 and medium duration variety: Birsa Maize-1.

Kulthi: Madhu, Birsa kulthi-1, B.R.-10

Niger: Birsa niger-1, Birsa niger-2, Birsa niger-3, Pooja-1

Toria: T.-9, B.R.-23 and P.T.-303.

Green peas: Arkel, Kashi Nandini, P.E.-6, Birsa Matar

Lobia: Pant Lobia 1

Rice bean: R B L 1

Safflower : A 300, Akshagiri 59-2-1

Potatao: Kufri Ashoka and Kufri Pukhraj, Kufri Surya and Kufri Puskar