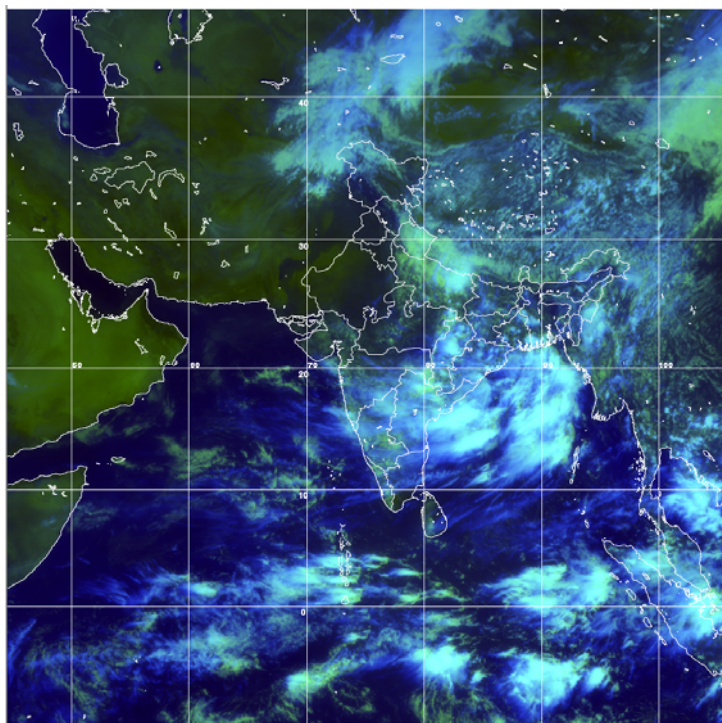




National Agromet Advisory Bulletin

Friday, 17th September, 2010
(For the period 17th to 21st September, 2010)

Satellite image 0600 UTC Dated
17th September, 2010



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National Agrometeorological Advisory Service Centre
Agricultural Meteorology Division
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Executive Summary

There is significant improvement in the rainfall condition in West Bengal, particularly in Gangetic West Bengal. Subdued rainfall conditions prevailed over Aurangabad, Begusarai, Darbhanga, East Champaran, Gaya, Jamui, Madhubani, Nalanda, Samstipur, Sitamarhi, Supaul and Vaishali districts of Bihar, Chatra, East Singhbhum, Pakur and Sahebganj districts of Jharkhand and also Purulia and Malda districts of West Bengal during last few weeks. However, as most of the remaining districts received good rain, the condition of standing crops has improved in the districts where sowing was delayed due to receipt of poor rain during earlier part of the season. Farmers, who kept the lands fallow till date or lost the crops due to deficient rain, are advised to sow the crops mentioned below for respective States, utilising rainfall received during earlier weeks and also rainfall likely to occur during next few days.

In Gangetic West Bengal, farmers are advised to sow short duration less water requiring crops like tori, black gram, arhar and vegetables like tomato, okra, brinjal, cauliflower etc. in Coastal Saline Zone. Undertake sowing of coriander, radish or leafy vegetables like spinach, as these crops will be ready for harvesting within 50 to 60 days, which will give quick economic return. Cultivate crops like black gram and sweet potato, as these crops can be sown upto 20th September, if some soil moisture is available. Sow arhar with 30 cm spacing in lowlands or in medium lands. Sow Kulthi as sole crop or as mixed cropping with sweet potato upto 20th September.

Farmers, who could not sow their crops or lost their crops in Bihar, are advised to adopt the following advisories. Urd should be sown now. Kulthi can also be taken at this time. Vegetables such as cauliflower, radish etc. can also be sown also. Farmers are advised to transplant cauliflower and to sow brinjal. In upland areas where rice could not be transplanted owing to deficit rainfall, farmers are advised to take up tori and September arhar.

In areas where crops were affected due to deficient rain in Jharkhand during earlier weeks, farmers may sow early mustard and toria as sole crops and early mustard + vegetable pea and toria + vegetable pea as intercrops. It is also advised to transplant tomato, cabbage and cauliflower seedlings and to prepare nurseries to raise seedlings of chilli, tomato, brinjal, cabbage and cauliflower. Marigold and Gladiolus as a sole crop may also be undertaken.

Crops, which were partially affected due to less rainfall during earlier part of the season in some districts of Uttar Pradesh, are in reasonably good condition due to receipt of good rainfall during last few weeks.

Due to excess rainfall, water logging condition is reported in Southern Telangana Zone (Hyderabad, Medak, Rangareddy and Nalgonda districts). Farmers are advised to drain out excess water from the fields. Topdressing with urea @ 25-30 kg per acre in rainfed crops like maize and cotton after draining out excess water is advised.

Overall, crop condition is improving in Bihar and Jharkhand due to receipt of rainfall during last 1-2 weeks. There are good crop production prospects due to well distributed rainfall.

Distribution of rainfall (% departure from normal) receiving subdued rainfall of the districts in Orissa, Bihar, Jharkhand, Gangetic West Bengal, Uttar Pradesh and Madhya Pradesh for last five Weeks

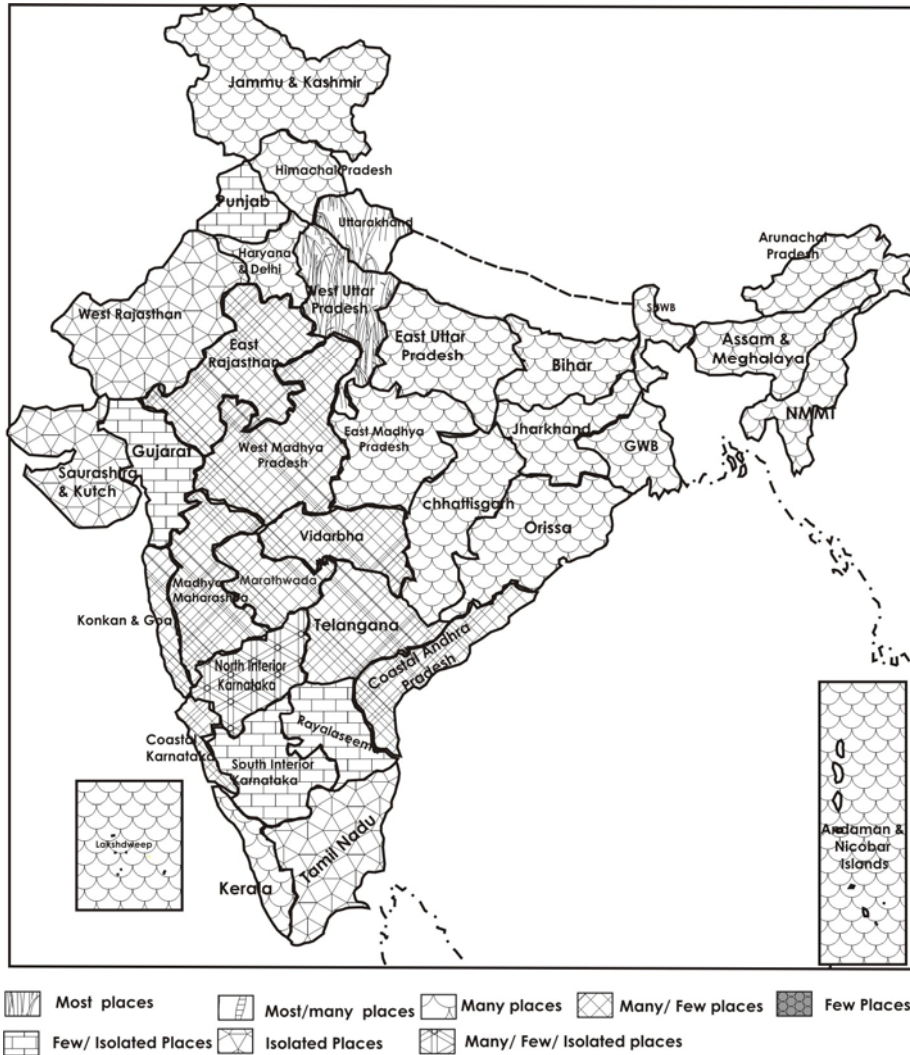
Orissa	18.08.10	25.08.10	01.09.10	08.09.10	15.09.10
More than 3 weeks continuously deficient to no rain					
Bhadrak	-60	-54	-44	-39	-43
Jajpur	-53	-79	-20	-40	-47
Kendrapara	-94	-72	-38	-57	-37
Mayurbhanj	-72	-53	-62	-25	-35
Sambalpur	-82	-49	-54	-54	-38
3 weeks continuously deficient to no rain					
Deogarh	-68	2	-38	-35	-68
Sundargarh	-57	-16	-36	-67	-52
2 weeks continuously deficient to no rain					
Jharsuguda	-59	-20	-6	-67	-67
Puri	-45	-75	41	-28	-36
Bihar	18.08.10	25.08.10	01.09.10	08.09.10	15.09.10
More than 3 weeks continuously deficient to no rain					
Khagadia	2	-31	-71	-100	-40
Madhubani	36	-35	-93	-94	-67
Supaul	-6	-45	-97	-49	-49
Vaishali	41	-37	-100	-95	-58
3 weeks continuously deficient to no rain					
Araria	34	-2	-89	-59	-38
Aurangabad	-6	-14	-77	-93	-58
Begusarai	-69	140	-100	-100	-100
Bhabua	-16	16	-99	-87	-38
Buxar	42	323	-96	-99	-46
Darbhanga	101	39	-70	-93	-31
East Champaran	4	139	-27	-69	-64
Gaya	-33	73	-100	-81	-74
Jahanabad	-9	56	-89	-100	-34
Jamui	2	143	-77	-100	-66
Kathihar	-82	21	-86	-92	-41
Nalanda	73	129	-100	-100	-38
Patna	12	76	-100	-92	-30
Rohtas	23	7	-82	-96	-34
Samstipur	-54	81	-100	-99	-71
Sitamarhi	23	6	-96	-68	-60
Jharkhand					
More than 3 weeks continuously deficient to no rain					
East Singhbhum	-27	-48	-83	-61	-89
West Singhbhum	-61	-65	-43	-29	-32
3 weeks continuously deficient to no rain					
Chatra	-54	37	-73	-98	-27
Hazaribagh	32	59	-90	-75	-39
Lohardagga	3	39	-24	-78	-27
Pakur	-62	66	-100	-100	-59
Sahebganj	-88	19	-100	-100	-82
West Bengal					
More than 3 weeks continuously deficient to no rain					
GWB					
24 Pargana (S)	-12	-29	-61	-64	-34
West Midnapore	-40	-58	-85	-55	-39
3 weeks continuously deficient to no rain					
GWB					
Purulia	-77	90	-62	-53	-64

LEGEND

- EXCESS 20% OR MORE
- NORMAL +19% TO - 19%
- DEFICIENT - 20% TO - 59%
- SCANTY - 60% TO - 99%
- NO RAIN - 100%
- DATA NOT AVAILABLE

SHWB	18.08.10	25.08.10	01.09.10	08.09.10	15.09.10
Malda	-20	49	-45	-48	-52
Dinajpur (S)	0	203	-99	-49	-36
Uttar Pradesh					
3 weeks continuously deficient to no rain					
East Uttar Pradesh					
Allahabad	-19	-6	-82	-30	-79
Ambedkar Nagar	-78	6	-100	-58	-42
Azamgarh	-4	73	-28	-21	-40
Bahraich	-73	149	-55	-40	-40
Barabanki	-81	296	-53	-41	-21
Gazipur	66	76	-31	-72	-53
Jaunpur	-56	129	-79	-48	-39
Kanpur City	-96	-4	-92	-31	-48
Mau	-54	-10	-86	-44	-42
Pratapgarh	-22	67	-25	-65	-67
RaiBareilly	-80	10	-68	-72	-45
Sultanpur	-2	45	-34	-21	-28
Varanasi	-25	47	-94	-54	-52
West Uttar Pradesh					
Jalaun	-70	79	-89	-98	-86
Jhansi	-63	-17	-55	-27	-58
2 weeks continuously deficient to no rain					
East Uttar Pradesh					
Fatehpur	-52	101	-18	-40	-67
Madhya Pradesh					
More than 3 weeks continuously deficient to no rain					
E. Madhya Pradesh					
Katni	-34	-92	-75	-48	-38
Panna	-43	-51	-56	-94	-75
Shahdol	-40	-43	-62	-62	-93
W. Madhya Pradesh					
Badwani	-46	-31	-47	-26	-39
Bhopal	-26	-83	-38	-23	-79
Mandsaur	-18	-33	-29	-51	-81
3 weeks continuously deficient to no rain					
W. Madhya Pradesh					
Sheopur Kalani	-35	129	-95	-88	-99
2 weeks continuously deficient to no rain					
E. Madhya Pradesh					
Chhatarpur	14	-31	-8	-60	-77
Dindori	-40	-24	-10	-73	-34
Tikamgarh	-68	21	16	-51	-99
W. Madhya Pradesh					
Dewas	3	-87	-16	-83	-62
Harda	-68	-17	-2	-72	-34
Raisen	-23	-52	-8	-82	-71
Shahre	-37	-79	-11	-36	-41
Shajapur	-37	-56	-4	-61	-58
Shivpuri	111	24	48	-64	-66
Vidisha	-40	-46	-16	-83	-67

Weather Forecast (Valid upto 0830 hours of 20th September, 2010)



Weather Outlook (upto 0830 hours IST of 22nd September, 2010)

- Scattered to fairly widespread rainfall would occur over northwest and east India.
- Fairly widespread rainfall would continue over northeastern states and central India.

Warning

- Heavy to very heavy rainfall at a few places would occur over west Uttar Pradesh and Uttarakhand during next 48 hours.
- Isolated heavy rainfall would occur over east Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, north coastal Andhra Pradesh and Orissa during next 48 hours.

Zonewise Agromet Advisories

EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]

- **Realised Rainfall:** Most of the districts of Bihar (except Aurangabad, Begusarai, Darbhanga, East Champaran, Gaya, Jamui, Kishanganj, Madhubani, Samstipur, Sitamarhi, Supaul, Vaishali and West Champaran), Jharkhand (except East Singbhum, Pakur and Sahebganj), Orissa (except Balasore, Bargarh, Deogarh, Jagatsingpur, Jharsuguda, Nawapara, Nawarangpur), West Bengal (except Purulia and Malda) Sikkim received rain during last week.
- **Rainfall Forecast:** Rain is likely to occur at many places over the region during the period. Isolated heavy rainfall would occur over Orissa during next 48 hours.
- **Major Crops:**
 - Early sown rice (grain formation / early maturity), late sown rice (early tillering / tillering), maize (vegetative / flowering / cob formation), sesamum, groundnut, soybean, green gram (vegetative / flowering / pod formation), black gram, kulthi, tori, arhar and vegetables like cauliflower, brinjal etc. (sowing / early vegetative / vegetative) in Bihar.
 - Early sown rice (grain formation / early maturity), late sown rice (early tillering / tillering), early sown maize (cob formation), sesame (vegetative / flowering / pod formation), groundnut (pegging / pod formation), urd, green gram, pignon pea, niger and short duration maize (vegetative / flowering), kulthi (early vegetative / vegetative) and potato, toria and early mustard (sowing), tomato cabbage and cauliflower (nursery sowing / transplanting), chilli and brinjal (nursery sowing) in Jharkhand.
 - Rice (tillering / flowering / grain formation / early maturity) and maize (cob formation), groundnut (pegging / pod formation), pulses, soybean, sesamum, ragi (flowering / pod formation), vegetable crops (vegetative / flowering / fruiting) in Orissa.
 - Sugarcane (cane development), vegetable crops (sowing / germination / early vegetative / vegetative / flowering / fruiting / harvesting), *aus* rice (grain formation / maturity / harvesting), *aman* rice (tillering), pulses (sowing / germination / early vegetative / vegetative / flowering / pod formation), sesame (vegetative / flowering / pod formation) and groundnut (pegging / pod formation) in West Bengal.
 - Large cardamom (capsule maturity), orange (fruiting / fruit maturity), seed potato (harvesting), summer potato (harvesting), maize (harvesting), ginger (vegetative / late vegetative), rice (tillering / flag leaf initiation), *rabi* vegetable: sowing / nursery sowing in Sikkim.
- **Advisories:**
 - As rain is likely to occur at many places over the region during the period, postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the crops. However, as the districts namely Begusarai, Gaya, Jamui, Madhubani, Samstipur, Sitamarhi and Vaishali in Bihar did not receive rainfall during last few weeks, farmers are advised to apply irrigation to the crops if rain will not occur within next 3 – 4 days.
 - Aurangabad, Begusarai, Darbhanga, East Champaran, Gaya, Jamui, Madhubani, Nalanda, Samstipur, Sitamarhi, Supaul and Vaishali districts of Bihar, Chatra, East Singbhum, Pakur and Sahebganj districts of Jharkhand and Purulia and Malda districts of West Bengal experienced subdued rainfall condition during last few weeks. However, as most of the remaining districts received good rain during any of the last couple weeks, the condition of standing crops has improved in the districts where sowing was delayed due receipt of poor rain during earlier part of the season. However, the farmers, who kept the lands fallow till date or lost the crops due to deficient rain, are advised to sow the crops mentioned below for respective States, utilising rainfall received during earlier weeks and also rainfall likely to occur during next few days.
 - In Gangetic West Bengal, farmers are advised to:
 1. sow short duration less moisture requiring crops like tori, black gram, arhar and vegetables like tomato, okra, brinjal, cauliflower etc. in Coastal Saline Zone.

2. sow coriander, radish or leafy vegetables like spinach, as these crops will be ready for harvesting within 50 to 60 days, which will give quick economic return.
 3. cultivate crops like black gram and sweet potato, as black gram (Navin) and sweet potato can be sown upto 20th September if some soil moisture is available.
 4. sow September sown Arhar with 30 cm spacing in lowlands or in medium lands.
 5. sow Kulthi as sole crop or as mixed cropping with sweet potato upto 20th September.
- The farmers, who could not sow their crops or lost their crops in Bihar, are advised to adopt the following advisories.
 1. Urd should be sown now. Kulthi can also be taken at this time.
 2. Vegetables such as cauliflower, radish etc. can also be sown. Farmers are advised to transplant cauliflower and to sow brinjal at this time.
 3. In upland areas where rice could not be transplanted owing to deficit rainfall, farmers are advised to take up tori and September arhar.
 - The farmers affected due to deficient rain in Jharkhand during earlier weeks may follow the advisories mentioned below.
 1. Farmers are advised to sow early mustard (Pusa Jaikisan, Shivani, Varuna, Kranti) and toria (P.T.-303, Panchali, Bhavani) as sole crops and early mustard (Pusa Jaikisan, Shivani, Varuna, Kranti) + Vegetable Pea (Arkel, Azad Pea-1) and toria (P.T.-303, Panchali, Bhavani) + Vegetable pea (Arkel, Azad Pea-1) as intercrops.
 2. Farmers of this State are also advised to transplant tomato, cabbage and cauliflower seedlings and to prepare nurseries to raise seedlings of chilli (Pusa Jwala, Pusa Sadabahar, Kalyanpur Lal), tomato (Swarn Sampada, Swarn Lalima, Pusa Ruby), brinjal (Pusa Purple Long, Swarn Pratibha, Pusa Hybrid-5, Pusa Hybrid-6, Swarn Shakti), cabbage (Late Drumhead) and cauliflower (Snowball-6, Pusa Snowball-21). Marigold (Pusa Basmati, Pusa Narangi) and Gladiolus (American Beauty, Jackson Willy Gold, Her Majesty) as a sole crop may also be undertaken.
 - Recommended varieties of crops to be sown in different States of the region are mentioned in Annexure I.
 - Due to high humidity and cloudy weather, damping off and circular spots of brown colour appear on the leaves of brinjal in Purba Midnapur district of West Bengal. Spray the crop with Difoltan 80 WP @ 2 g / litre of water when symptom of disease appears. Apply plant protection measures after current spells of rain.

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

- **Realised Rainfall:** Most of the districts of Assam (except Goalpara, Karbi Analog, Morigaon, N.C.Hills, Nowgong, Nalbari and Sonitpur districts) and Arunachal Pradesh (except East Kameng, Lower Subansiri and West Siang districts) received rainfall during last week.
- **Rainfall Forecast:** Rain is likely to occur at many places over the region during the period.
- **Major Crops:**
 - Vegetables (flowering / fruiting / harvesting), sugarcane (cane development), maize (maturity), *sali* rice (transplanting / early vegetative / seedling / tillering / panicle initiation), *ahu* rice (transplanted summer rice) (early maturity / maturity), arhar (vegetative / flowering), sesamum (vegetative / flowering / pod formation) and black gram and green gram (sowing / germination) in Assam.
 - Rice (early maturity / maturity / harvesting), pulses (pod formation / maturity), sesame (flowering / pod formation / early maturity), vegetables (vegetative / flowering / fruiting), *rabi* vegetables (nursery sowing), maize (cob maturity / harvesting), orange (fruiting) and sugarcane (cane development) in Arunachal Pradesh.
 - Upland rice (early maturity / maturity / harvesting), *aman* rice (tillering) and vegetables (sowing / early vegetative / vegetative / flowering / fruiting) in Tripura.

- *Sali* rice (early vegetative / tillering / panicle initiation), potato (planting / early vegetative / vegetative), vegetables (sowing / germination / early vegetative / vegetative / flowering / fruiting), maize (cob maturity) in Meghalaya.

- **Advisory:**

- As rainfall is likely to occur at many places over the States of this region, postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the standing crops. Also arrange for draining out excess water from the fields to protect the crops from water logging.
- Farmers in Assam are advised to undertake sowing of black gram and green gram, radish and tomato in Diphu Hills Zone, transplanting of finger millet and early cabbage, sowing of black gram and green gram and nursery sowing of brinjal in Lower Bramhaputra Valley Zone, transplanting of short duration varieties of rice and sowing of early cauliflower, radish, knolkhol and brinjal and pulses like black gram and green gram in Upper Bramhaputra Valley Zone, transplanting of short duration varieties of rice and sowing of early brinjal and vegetables in Barak Valley Zone, transplanting of short duration varieties of rice and sowing of *kharif* pulses and early vegetables like early cauliflower and radish in Central Bramhaputra Valley Zone and sowing of green gram and black gram vegetables like cauliflower, cabbage, knolkhol, radish and tomato in North Bank Plain Zone.
- Transplanting of *sali* rice is affected in some districts of Assam by stagnant water in the field due to heavy rainfall. Farmers of these areas are advised to transplant or sow short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. upto last week of September.
- Farmers in Arunachal Pradesh are advised to raise nursery of hybrid tomato, cauliflower and cabbage in present weather conditions.
- It is also optimum time for planting of potato in mid hills region of Ri-Bhoi, East Khasi and West Khasi hill Districts of Meghalaya.
- Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
- Under excessive moisture in soil, there is possibility of infestation rhizome rot in ginger and turmeric in Arunachal Pradesh. To manage the disease, provide adequate drainage and apply *Trichoderma harzianum* @ 50 g / bed along with FYM or neem cake.
- Infestation of Jassids in okra and cowpea may occur during this period in Ri-Bhoi, east Khasi, South Garo and Jaintia district of Meghalaya. To prevent this insect attack, 2-3 spraying of Imidachloprid @ 0.3 ml / litre of water may be done immediately.
- High humidity and continuous rainfall is congenial for the development of scab disease in khasi mandarin orange in Mizoram. Pruning and destruction of the diseased leaves, twigs, branches and fruits followed by spraying with 1 % Bordeaux mixture (1 kg copper sulphate + 1 kg quick unslaked lime + 100 liters of water) are recommended.
- High temperature and high humidity may favour the development of sigatoka leaf disease in banana in Mizoram. Pruning and burning of infected leaves is recommended; in case of severe infestation mancozeb @ 0.01% may be applied.
- Prevailing high relative humidity and night temperature of 21-23⁰C for few hours may favour infestation of blast disease in rice in Mizoram. Spray Mancozeb @ 0.25% to manage the disease.
- As there is chance of rain at many places over the region, farmers are advised to apply plant protection measures after current spells of rain.
- In present weather conditions, special care should be taken against attack of maggots in the wounds of animals in Arunachal Pradesh. Application of turpentine oil in the wounds followed by application of antibiotics for five days is advised.

NORTH WEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, UP, RAJASTHAN]

- **Realised Rainfall:** Rain occurred in most of the districts of Himachal Pradesh, Punjab, Haryana, Delhi, Anantnag, Doda, Kathua, Pulwama, Udhampur districts in Jammu & Kashmir, East Uttar Pradesh(except

Allahabad, Fatehpur, Kanpur city and Banda districts), West Uttar Pradesh(except Lalitpur and Jalaun districts), Uttarakhand, East Rajasthan and West Rajasthan during last week. No significant rainfall occurred in most of the remaining districts in the region.

- **Rainfall Forecast:** Rainfall is likely to occur at many/most places over East Uttar Pradesh, West Uttar Pradesh, Uttarakhand, Haryana, Delhi, Himachal Pradesh, Jammu& Kashmir and East Rajasthan, at a few places over Punjab and at isolated places over West Rajasthan, during next three days. Isolated heavy to very heavy rainfall would occur over west Uttar Pradesh and Uttarakhand during next 24hours and at a few places thereafter. Isolated heavy rainfall would occur over east Uttar Pradesh during next 48 hours.
- **Major Crops:**
 - Rice (panicle initiation/flowering), jowar and maize(flowering/grain formation), pigeon pea(vegetative/flowering), vegetable crops (flowering/fruited) in Delhi
 - Rice (tillering), vegetables (vegetative / flowering) in Himachal Pradesh.
 - Vegetable crops (flowering / fruited / harvesting), rice (panicle initiation), maize, groundnut and sunflower (vegetative / flowering) in Jammu & Kashmir.
 - Sugarcane (vegetative), rice (tillering/panicle initiation), soyabean, jowar, bajra, pigeon pea and groundnut (early vegetative / vegetative) in Uttarakhand.
 - Sugarcane (vegetative), cotton, maize (vegetative), rice (tillering/panicle initiation), mung, mash (vegetative/flowering) in Punjab.
 - Sugarcane (vegetative), cotton (vegetative), rice(tillering), guar and bajra (vegetative) in Haryana.
 - Rice(tillering), sugarcane (vegetative), vegetable crops (transplanting / vegetative / flowering), black gram, green gram, sesamum, lobia, maize, pigeon pea + pulses, groundnut and sesamum(early vegetative / vegetative / flowering) in Uttar Pradesh.
 - Sugarcane (vegetative), vegetable crops (flowering / fruited / harvesting), maize, soybean, bajra, jowar, mung, cluster bean, sesamum and groundnut (vegetative/flowering/grain formation) in Rajasthan.
- **Advisory:**
 - As there was good rainfall during last week and rainfall is likely at many/most places over East Uttar Pradesh, West Uttar Pradesh, Uttarakhand, Haryana, Delhi, Himachal Pradesh, Jammu& Kashmir and East Rajasthan during next three days, farmers are advised to postpone irrigation to the standing crops. Also arrange to provide drainage facilities as isolated heavy rainfall would occur over Uttar Pradesh and Uttarakhand during next one or two days.
 - Farmers in Uttar Pradesh are advised to apply second topdressing of $\frac{1}{4}$ remaining amount of Nitrogen in rice may be done after 40-50 days of transplanting and drain out the standing water before topdressing and to control *khaira* disease, spray the solution of slaked lime with 1000 litre water per hectare in rice in rainfall deficit areas of Allahabad, Ambedkar Nagar, Azamgarh, Bahraich, Barabanki, Gazipur, Jaunpur, Kanpur City, Mau, Pratapgarh, RaiBareilly, Sultanpur, Varanasi, Jalaun, Jhansi and Fatehpur districts. Undertake sowing of toria in fallow lands utilizing the rainfall realised during last week.
 - Farmers in Delhi are advised to drain out excess water from vegetable crop fields to avoid damage of crops. Farmers are advised to undertake sowing of carrot, early pea, radish, spinach and coriander etc. and undertake field preparation for sowing of early mustard and sarson (varieties in Annexure I) utilizing the rainfall during last week.
 - Farmers in Bhabar and Tarai zone(high hills in Nainital district) in Uttarakhand are advised to undertake sowing of early vegetable pea and field preparation for sowing of garlic and undertake sowing of toria, planting of litchi(Uttam Singh Nagar). Undertake sowing / transplanting of turnip, raddish, salad vegetables, beet root, cabbage and broccoli in medium hilly region of hill zone(Tehri Gharwal, Rudraprayag, Champawat, Uttarkashi, Pitorgarh, Bageshwar and Almora districts).
 - Farmers in sub tropical zone (Reasi district) and intermediate zone (Doda, Rajouri and Udhampur) in Jammu & Kashmir are advised to undertake sowing of toria, transplanting of cabbage, cauliflower and knol khol and sowing of cole crops in polyhouses, transplanting of off season onion and cauliflower in sub montane and low hills sub tropical zone (Chamba, Hamirpur, Una and Kangra districts).

- Farmers in Rajasthan are advised to undertake sowing of ashwaghandha and ajwain utilizing the realized rainfall during last week in Sub Humid Southern Plain and Aravalli Hill Zone (Chittorgarh, Rajsamand and Udaipur district) and sowing of radish, carrot and early pea in Semi Arid Eastern Plain Zone (Dausa, Ajmer, Tonk, Jaipur districts).
- Farmers in Eastern zone (Bhiwani, Fatehabad, Hissar, Jhajjar, Mahendragarh, Mewat, Rewari, Rohtak and Sirsa districts) in Haryana are advised to undertake transplanting of fruit crops.
- Farmers in Western Plain Zone (Firozpur and Faridkot districts) and western zone (Bathinda, Moga, Muktsar, Mansa, Sangrur districts) of Punjab are advised to undertake sowing of radish, carrot and turnip utilizing the realised rainfall during last week.
- Present weather conditions are favorable for bacterial leaf blight in rice in Jammu in Jammu & Kashmir, farmers are advised drain out whole old water and apply fresh water to the crop after four days and also delay the nitrogen application or spray the crop with Streptocycline @ 100gm + Copper Oxochloride @ 500gm in 500 litre of water when symptoms are appears in the crop.
- Undertake spraying, application of fertilisers and intercultural operations after current spells of rain in over East Uttar Pradesh, West Uttar Pradesh, Uttarakhand, Haryana, Delhi, Himachal Pradesh, Jammu & Kashmir and East Rajasthan. The above mentioned operations may be carried out on a non rainy day in Punjab.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]

- **Realised Rainfall:** All the districts in Coastal Karnataka, Bangalore, Chikmagalur, Kodagu, Kolar and Shimoga districts in South Interior Karnataka, all the districts in Kerala, all the districts in Coastal Andhra Pradesh except Srikakulam, Karimnagar, Nalgonda and Nalgonda districts in Telangana and Chittoor district in Rayalaseema and all the districts in Tamil Nadu except Coimbatore, Dindigul, Erode, Kanyakumari, Karur, Ramnadhapuram, Theni, Thirunelveli, Tuticorin, Virudhunagar.
- **Rainfall Forecast:** Rain is likely to occur at many places in Kerala; few/many places over Coastal Andhra Pradesh, Telangana, Coastal Karnataka and North Interior Karnataka, at a few / isolated places over remaining places. Isolated heavy rainfall is likely to occur over North Coastal Andhra Pradesh during next 48 hours.
- **Major Crops:**
 - Rice is at grain formation stage. Pepper is at berry development stage and arecanut is at nut development stage. New planting is continued for coconut, black pepper, mangosteen, rambutan etc. in Kerala.
 - *Kuruvai* rice (flowering), groundnut (pegging / pod formation), sugarcane (grand growth), banana (fruit bearing stage) in Tamil Nadu.
 - *Kharif* crops viz., maize is at cob formation / development stage, paddy crop is at tillering stage and groundnut is at flowering / pegging in Andhra Pradesh.
 - *Kharif* crops viz., green gram and black gram (pod development / maturity), pigeon pea (vegetative) and sugarcane (cane development) in Karnataka. This is proper time for sowing of sunflower.
- **Advisories:**
 - Due to receipt of good rainfall over Southern Telangana Zone (Hyderabad, Medak, Rangareddy, Nalgonda). Farmers are advised to undertake topdressing urea @ 25-30 kg per acre in rainfed crops like maize and cotton.
 - Rain is likely to occur at many places in Kerala during next three days; farmers are advised to postpone intercultural operations, application of fertilizers and pesticides and irrigation to plantation crops and vegetable crops. Arrange for drainage facilities over North Coastal Andhra Pradesh as there are chances of isolated heavy rainfall during next 48 hours
 - Farmers in Cauvery Delta Zone in Tamil Nadu are advised to undertake sowing of rice nursery for *latte samba/thaladi* utilizing Mettur dam water (varieties in Annexure I).

- Present cloudy conditions coupled with high humid conditions over Scarce Rainfall Zone of Rayalaseema (Ananthpur, Kurnool) in Andhra Pradesh were favourable for the incidence of powdery mildew in ber and green chillies and already noticed in some fields. To control spray Dinocap (Karathane) or Tridemefon (byaleton) @ 1 g per litre of water.
- Due to favourable weather conditions Southern Telangana Zone (Hyderabad, Medak, Rangareddy, Nalgonda) in Andhra Pradesh, there are chances of incidences of stem borer and *Hispa* in rice, sucking pests, bacterial leaf spot and tobacco streak virus in cotton, *Spodoptera*, Tikka leaf spot and rust in groundnut, semilloper in castor, white fly in sugarcane, fruit and shoot borer in brinjal and bhindi, early blight in tomato and bacterial leaf spot in chilli. Undertake plant protection measures to control the pests and diseases.
- Due to high humidity and cloudy weather prevailing in Northern Zone (Kannur, Kasargod, Kozikod, Malappuram) in Kerala, banana plants may be affected by Sigatoka leaf spot disease; spray Hexaconazole @ 1 ml/liter of water to control the disease.
- Under the prevailing weather conditions in Northern Zone (Kannur, Kasargod, Kozikod, Malappuram), there is a chance of attack of leaf sheath and leaf rot. Carbendazim @ 1g or Propiconazol @ 1ml/ litre of water can be sprayed to bring down incidence of fungal diseases on stem and sheath. There are also chances for the incidences of leaf roller in shaded condition. Unfold the folded leafs with a thorny twig and spray Quinalphos @ 2 ml/ litre of water. Trichogramma cards also can be used to control leaf folder @ 1card/ 5 cents
- Plant protection measures may be undertaken after spells of rain in Coastal Karnataka, Kerala, Coastal Andhra Pradesh, Telangana and North Interior Karnataka.
- **Animal Husbandry**
 - Prevailing weather conditions are congenial for the occurrence of Hemorrhagic Septicemia and Black Quarter in cattle and ET and sheep pox in sheep in Andhra Pradesh. To prevent the diseases, vaccinate the animals.
 - The vector activity will increase in rainy months in North Eastern Zone (Chennai, Cuddalore, Thiruvallur, Kancheepuram, Vellore, Villupuram) in Tamil Nadu which may cause arthropod borne diseases like Anaplasmosis, Theilariosis and Trypanosomiasis in cattle. Hence it is advised to avoid stagnation of water near animal sheds. The diseases can also be prevented by using fly repellents.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Most of the districts of the States of this region (except most of the districts of Marathwada) received good rain during last week.
- **Rainfall Forecast:** Rain is likely at many places in Konkan and Goa and at a few places in Gujarat region during next 48 hours and decrease thereafter. Rain is likely to occur at many places in Madhya Maharashtra, Marathwada and Vidarbha during next 24 hours and decrease thereafter. Isolated rain also likely in Saurashtra and Kutch during the period.
- **Major Crops:**
 - *Kharif* rice (tillering in East Vidarbha and tillering / panicle initiation in Konkan, Kolhapur, Nashik & Pune (western parts) divisions), *kharif* jowar (vegetative), soyabean (flowering / pod formation), bajra (flowering / grain formation), cotton (floral bud initiation / flowering), sunflower (floral bud formation / flowering), groundnut (pegging / pod formation), red gram (primary branching / secondary branching), moong (pod maturity / picking) and irrigated cotton (flowering / boll formation) in Maharashtra.
 - Rice (panicle initiation / flowering), groundnut (pegging / pod formation), cotton (floral bud initiation / flowering), maize and bajra (flowering / grain formation), pigeon pea, soybean, sesamum, green gram and black gram (flowering / pod formation) and castor (early vegetative / vegetative) in Gujarat.
- **Advisory:**

- As rain occurred in most of the districts during last couple of weeks and is also likely at many places in Maharashtra and at a few places in Gujarat region, postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the standing crops.
- Farmers in North Sourashtra Zone of Gujarat State are advised to sow Purva Til keeping seed rate of 3 kg / ha.
- Transplant winter chilly, brinjal and tomato in North Gujarat Zone. Also raise cauliflower nursery and sow pumpkin.
- Due to rainfall, decrease in temperature and increase in humidity during last week, there is attack of leaf burn disease on potato and tomato in Maharashtra; for control spray Copper oxychloride 50% @ 2.5 g per liter of water.
- The incidence of rice leaf folder is noticed on rice in some part of the Nagpur division of Maharashtra; spray the crop with Carbaryl 50 WP @ 20 g / 10 litres of water and Monocrotophos 36 WSC @ 11 ml / 10 litres of water.
- There is infestation of green semi looper & tobacco leaf eating cater pillar in soyabean in Maharashtra due to congenial weather; spray 5 % Neem extract or Endosulfan 35 % @ 15 ml or Fenvalerate 20% @ 5 ml in 10 liters water.
- Due to cloudy & humid weather, soybean gets affected by leaf eating caterpillar (Spodoptera) in western Maharashtra plain zone; spray 500 ml S.L.N.P.V. (Magic) in 500 litres of water or 25% Cypermethrin 200 ml / ha in 500 litres of water.
- Apply plant protection measures after current spells of rain in Maharashtra State.
- As rain is likely at many places, keep animals in safe places during rainfall.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rain occurred over Balaghat, Chindwara, Dindori, Jabalpur, Mandla, Satna, Seoni, Sidhi, Dhar, Harda, Indore, Khandwa and Ratlam districts of Madhya Pradesh and Durg, Janjgir, Kanker, Korba, Koriya, Mahasumund, Raigarh and Raipur districts Chattisgarh during the period.
- **Rainfall Forecast:** Rain is likely at many places over East Madhya Pradesh and Chhattishgarh for the next three days and at a few/many places over West Madhya Pradesh. Isolated heavy to very heavy rainfall is likely over East Madhya Pradesh during next 48 hours.
- **Major Crops:**
 - *Kharif* crop like soyabean, maize, sorghum, sesame (grain formation), green gram and black gram (grain formation / developmen) in Madhya Pradesh.
 - *Kharif* crops like soyabean, maize, etc (flowering), green gram (flowering / grain formation) and sugarcane (cane development) in Chhattisgarh. This is proper time for sowing horse bean and castor and transplanting of rainy season vegetables.
- **Advisory:**
 - Postpone intercultural operations and application of fertilizers and pesticides in Madhya Pradesh and Chhattisgarh as there are chances of rain during next few days. Arrange for drainage facilities in East Madhya Pradesh as there are chances for isolated heavy to very heavy rainfall during next 48 hours
 - Due to excess rainfall in Jhabua Hills Zone (Jhabua, Dhar, Alirajpur) in Madhya Pradesh, farmers are advised to arrange for proper drainage for release of excess water from the crop fields.
 - Farmers in Gird Zone (Ashoknagar, Gwalior, Morena, Bhind, Guna, Shoepur, Shivpuri) in Madhya Pradesh are advised to complete transplanting tomato, brinjal and chilli and other vegetable crops. Also undertake planting of fruit crops in pits prepared at recommended distance.
 - Farmers in Bundekhand Zone of Madhya Pradesh are advised to start land preparation for sowing of *rabi* crops and complete harvesting of mature *kharif* crops at the end of this week.
 - Farmers in Bastar Plateau Zone are advised to undertake sowing of horse bean in sufficient moisture condition (varieties given in Annexure I).

- Farmers in North Hill Zone (Jashpur, Koriya, Sarguja) are advised undertake transplanting of chilli, tomato and brinjal immediately. Sowing of sesamum & horse bean may also be done immediately in upland areas.
- Farmers in Chattisgarh Plain zone are advised to undertake sowing of nursery of cabbage, tomato, brinjal, chilli
- Due to favourable weather conditions in Jhabua Hills Zone (Jhabua, Dhar, Alirajpur) in Madhya Pradesh, there are chances of incidences of tobacco caterpillar and pod borer in kharif pulses; spray Trizophos 40 EC or Profenophos @ 2.0 ml/l for control.
- Present weather condition in Chattisgarh Plain Zone (Bilaspur, Dhamtari, Durg, Janjgir, Kabirdham, Kanker, Kawardha, Korba, Mahasamund, Raigarh, Rajnandangaon, Raipur) is favourable for the incidence of tobacco caterpillar in soybean, groundnut and urd. Farmers are advised to keep watch over the crops and in the initial stage collect the caterpillars and destroy. In case of severe incidence farmers are advised for the spraying of Thiodon / Endosulphan @ 400-500 ml/acre mixed in 200 liter water.
- Plant protection measures may be undertaken after spells of rain in Madhya Pradesh and Chhattisgarh.
- **Animal Husbandry:**
 - Looking to cloudy weather increase light duration in poultry farms to maintain egg production.
 - Provide proper aeration for cattle as humidity is rising.

Annexure I List of Varieties

Assam

Short duration HYV *Sali* rice varieties (flood affected areas): like Luit, Kapili, Kolong, Dishang etc.

Early varieties of cauliflower: Pusa Keteki, Pusa Dipalee, Early Kowari, Jowahar Moti etc.

Green gram: T-44, Kopergaon, K-851, ML-56, ML-131, Pratap, SG 21-5 etc.

Black gram: T-9, T-27, Pant U-19, T-122, SB 121, KU 301, USJD 113 etc.

Early cabbage: Golden Acar, Pride of India, Pusa Mukta etc.

Early raddish: Pusa Desi, Pusa Chetki and Pusa Himani.

Brinjal: Pusa Kranti, Cluster, JC-1, Kuchia, Pusa Purple Long, Pusa Purple Round etc.

Knolkhol: White Vienna

Meghalaya

SRI rice: Ranjeet, Naveen.

Bihar

Urd: T-9, Navin, Pant Urd 19 etc.

Cauliflower: Kuwari, Patna Early, Pusa Katki, Pusa Deepali and Hajipur Agat.

Brinjal: Rajendra Baigan-2, Rajendra Annapurna, Pant Rituraj, Pant Samrat, Swarn Pratibha and Arka Navnit.

Jharkhand

Sweet potato: Pusa Safed, Kalmegh.

Vegetable pea: Arkel, Azad Pea-1.

Toria: P.T.-303, Panchali, Bhavani etc.

Maize: H.Q.P.M.-1, Suwan.

Potato: Kufri Chandramukhi, Kufri Ashoka, Kufri Kanchan.

Kulthi: Birsa Kulthi-1, Madhu.

Chilli: Pusa Jwala, Pusa Sadabahar, Kalyanpur Lal.

Tomato: Swarn Sampada, Swarn Lalima, Pusa Ruby.

Brinjal: Pusa Purple Long, Swarn Pratibha, Pusa Hybrid-5, Pusa Hybrid-6, Swarn Shakti.

Cabbage: Late Drumhead.

Cauliflower: Snowball-6, Pusa Snowball-21.

Marigold: Pusa Basmati, Pusa Narangi.

Gladiolus: American Beauty, Jackson Willy Gold, Her Majesty etc.

early mustard (Pusa Jaikisan, Shivani, Varuna, Kranti)

West Bengal

Black gram: Navin.

Arhar: Sarad and Pusa 9.

Radish: Contayl Lal, Red Bombai, Japanese White.

Spinach: Calcutta, Banerjee's Giant, Allgreen Verginia.

Tamil Nadu:

Rice:

Late samba and thaladi: ADT 38, ADT 46, Improved White Ponni, IR 20, Ambai 19, Paiyur1, Trichy 1, Trichy 3 and Co 50. For late Thaladi ADT 39 and ADT 42.

Late thaladi: ADT 39 and ADT 42.

Chhattisgarh

Horse bean: AK-21, AK-42, Bastar Kulthi, Birsa Kulthi, BLG-9.

Annexure II Contour maps for the week ending 15.09.10

