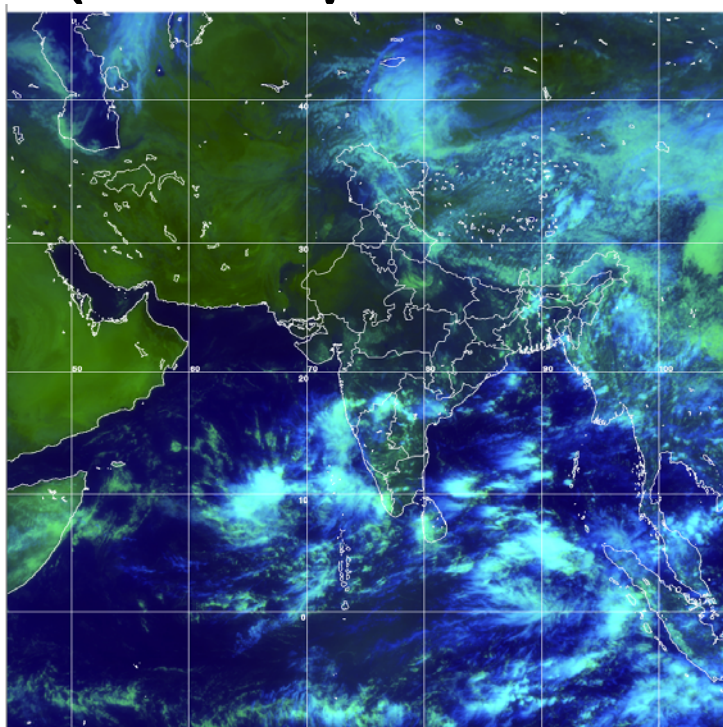




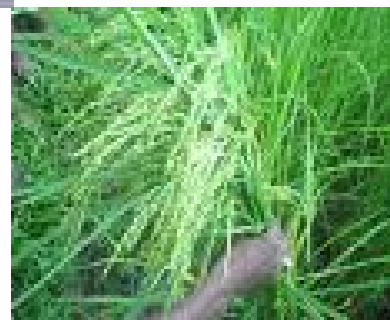
National Agromet Advisory Bulletin

Thursday, 23rd September, 2010

(For the period 23rd to 27th September, 2010)



Satellite image 0600 UTC Dated
24th September, 2010



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National Agrometeorological Advisory Service Centre

Agricultural Meteorology Division

India Meteorological Department

Shivajinagar

Pune.

The bulletin is also displayed in the website (<http://www.imdagrimet.gov.in>) of the Division

Executive Summary

Heavy rainfall during last week caused flooding and water logging in number of states in northern parts of the country and as a results standing crops, particularly grown in low land areas are affected significantly.

Due to flooding in some districts of Central Plain Zone, Bundelkhand and Western Plain Zone in Uttar Pradesh, standing crops like rice, soyabean, black gram, green gram, sesamum, jowar and bajra are damaged. As the crops are at grain formation stage, quality of grains is likely to be affected in these areas due to heavy rainfall. Sterility of flowers may also occur wherever the crops are at flowering stage. Farmers are advised to drain out the excess water from the fields of standing crops and undertake field preparation and sowing of toria and early *rabi* vegetables only after receding of flood water.

Flood situation in most of the districts in Uttarakhand is likely to damage the standing rice, soybean, tur, mung and urd crops. Farmers are advised to arrange for draining out excess water from fields of standing crops. In view of excess rainfall in Ludhiana in Punjab; Chandigarh, Faridabad and Mahendragarh districts in Haryana and New Delhi, farmers are advised to drain out excess water from the fields of standing crops to save the crops from the adverse effect of water logging. Heavy rainfall in Imphal (East) and Imphal (West) districts in Manipur damaged onion, ginger, turmeric, cucumber and groundnut crops. As there are chances for rain, draining out of excess water is essential to avoid spread of diseases and damages of crops.

Most of the districts of East Uttar Pradesh, Bihar, Jharkhand and Gangetic West Bengal received good rainfall during last couple of weeks which has improved the condition of standing crops in these states. Soybean crop, partially affected due to less rainfall during earlier weeks in some districts of Uttar Pradesh namely Jalaun, Jhansi and Lalitpur, are in reasonably good condition due to receipt of recent rainfall. Soil moisture status is also good for sowing of crops in the fields kept fallow. Farmers are advised to undertake sowing of crops mentioned below in respective States utilizing rainfall recently occurred and also likely to occur during next few days.

In Gangetic West Bengal, farmers are advised to sow short duration less water requiring crops like tori, arhar etc. and also vegetables like tomato, okra, brinjal, cauliflower, radish, capsicum etc.

Farmers are advised to sow pegen pea and toria in fallow lands in North East Alluvial Zone and South Bihar Alluvial Zone and also rapeseed in North West Alluvial Plain Zone in Bihar. Vegetables such as cauliflower, radish etc. can also be sown. Farmers are advised to transplant cauliflower and to sow brinjal.

In fallow lands in Jharkhand, 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 may also be undertaken.

Overall crop situation in remaining States of the country are quite satisfactory.

Distribution of rainfall (% departure from normal) for the districts of Punjab, Haryana, Delhi, Himachal Pradesh, Uttar Pradesh, Uttarakhand, West Bengal, Bihar and Jharkhand during last five Weeks

State/Districts	25.08.10	01.09.10	08.09.10	15.09.10	21.09.10
Himachal Pradesh					
Bilaspur	2	-95	52	32	-12
Chamba	53	-4	124	34	344
Hamirpur	18	-86	78	270	298
Kangra	112	0	37	87	114
Kinnaur	351	115	-35	155	-76
Kullu	254	-48	46	434	-36
Lahaul and Spiti	-90	-96	-89	-3	-97
Mandi	39	-39	56	64	-77
Shimla	86	2	141	18	-61
Sirmaur	133	35	330	188	1832
Solan	47	-72	56	32	211
Una	55	-4	92	222	-47
Punjab					
Amritsar	14	-100	81	61	2
Bhatinda	69	-100	-7	167	-46
Faridkot	26	-100	58	-24	13
Fatehgarh Sahib	-91	-100	-66	65	2
Ferozpur	-61	-29	-78	-45	14
Gurdaspur	383	-58	84	48	-85
Hoshiarpur	96	-85	-9	109	-57
Jalandhar	54	-94	-52	268	-23
Kapurthala	-49	-72	-82	544	-100
Ludhiana	91	-84	-62	-36	185
Moga	-79	-100	-18	49	-19
Muktesar	-85	-100	-85	-17	-35
Nawashahar	-43	-100	30	250	-46
Patiala	-32	-100	-33	237	87
Ropar	101	-89	27	41	-18
Sangrur	60	-100	-80	197	218
Haryana					
Ambala	2	-46	296	174	-51
Bhiwani	155	-43	-32	151	384
Chandigarh	69	-93	88	96	347
Faridabad	150	-62	13	53	450
Fatehabad	58	-100	-100	54	110
Gurgaon	251	-75	1	125	254
Hissar	92	-80	119	109	62
Jhajar	281	-26	-78	203	381
Jind	112	-73	17	202	-10
Katihah	82	-71	-9	177	-16
Karnal	185	-65	471	388	16
Kurukshetra	-25	-70	19	99	33
Mahendragarh	365	-34	91	235	674
Panchkkula	9	-95	76	7	36
Panipat	117	-42	24	451	19
Rewari	392	-4	-37	166	447
Rohtak	192	7	81	81	223
Sirsa	79	128	-40	229	163
Sonepat	227	-40	-39	498	150
Yamunanagar	106	76	227	367	133
New Delhi	159	-47	55	239	462
East Uttar Pradesh					
Allahabad	-6	-82	-30	-79	157
Ambedkar Nagar	6	-100	-58	-42	180
Azamgarh	73	-28	-21	-40	562
Bahraich	149	-55	-40	-40	69
Ballia	-11	-69	-63	6	93
Balrampur	220	-93	82	12	256
Banda	-71	7	15	-68	229
Barabanki	296	-53	-41	-21	46
Basti	116	-91	24	-64	546
Deoria	24	-80	-54	176	80
Faizabad	90	-38	13	-21	114

State/Districts	25.08.10	01.09.10	08.09.10	15.09.10	21.09.10
Farrukhabad	151	47	149	44	104
Fatehpur	101	-18	-40	-67	237
Gazipur	76	-31	-72	-53	43
Gonda	301	-80	133	-39	51
Gorakhpur	201	-17	95	47	111
Hardoi	27	-40	9	43	305
Jaunpur	129	-79	-48	-39	245
Kanpur City	-4	-92	-31	-48	32
Kanpur Dehat	-47	-83	42	56	-40
Kheri	313	-25	24	-13	120
Kushi nagar	136	-3	-54	7	285
Lucknow	126	-52	-33	-2	58
Maharajganj	60	-2	40	-81	209
Mau	-10	-86	-44	-42	51
Mirzapur	145	-92	-43	6	78
Pratapgarh	67	-25	-65	-67	92
Raibareilly	10	-68	-72	-45	126
Sant Ravidas Nagar	26	-47	-100	59	325
Shrawasti	220	65	-57	-26	333
Sidharthnagar	164	-13	0	10	-22
Sitapur	170	-86	0	23	40
Sonbhadra	-4	-82	39	-53	409
Sultanpur	45	-34	-21	-28	184
Unnao	92	-21	-7	29	64
Varanasi	47	-94	-54	-52	172
West Uttar Pradesh					
Agra	8	-79	-9	-59	302
Aligarh	146	-23	437	11	266
Auraiya	44	-59	-14	-69	91
Badaun	43	10	95	46	237
Baghpat	528	-33	101	438	482
Bareilly	165	11	214	94	410
Bijnor	118	-58	71	45	503
Bulandshahr	143	-49	196	81	348
Etah	-57	-46	23	64	338
Etawah	-32	-34	61	0	188
Firozabad	27	-98	72	-29	122
Ghaziabad	103	-56	-21	239	541
Hamirpur	-31	17	-7	-79	341
Jalaun	79	-89	-98	-86	252
Jhansi	-17	-55	-27	-58	403
Jotirba Phule Nagar	96	47	70	343	126
Lalitpur	-9	-48	22	-99	412
Mahamaya Nagar	63	-42	28	47	111
Mainpuri	53	-82	24	-13	143
Mathura	297	-33	110	-7	240
Meerut	24	-57	17	50	67
Moradabad	202	17	250	53	65
Muzzaffarnagar	84	-63	-19	-37	345
Pilibhit	156	-27	32	7	285
Rampur	108	-53	115	64	561
Saharanpur	99	-42	122	234	267
Shahjahanpur	50	-31	132	73	410
UttaraKhand					
Almora	144	68	68	173	930
Chamoli	139	106	237	116	754
Champawat	212	74	273	-11	809
Dehradun	175	50	271	71	569
Garhwal Pauri	160	-55	79	79	462
Garhwal Tehri	131	-8	258	153	294
Haridwar	115	-26	102	175	827
Nainital	209	-1	101	39	1012
Pithorgarh	4	0	24	-48	584
Rudraprayag	96	-78	150	-45	168

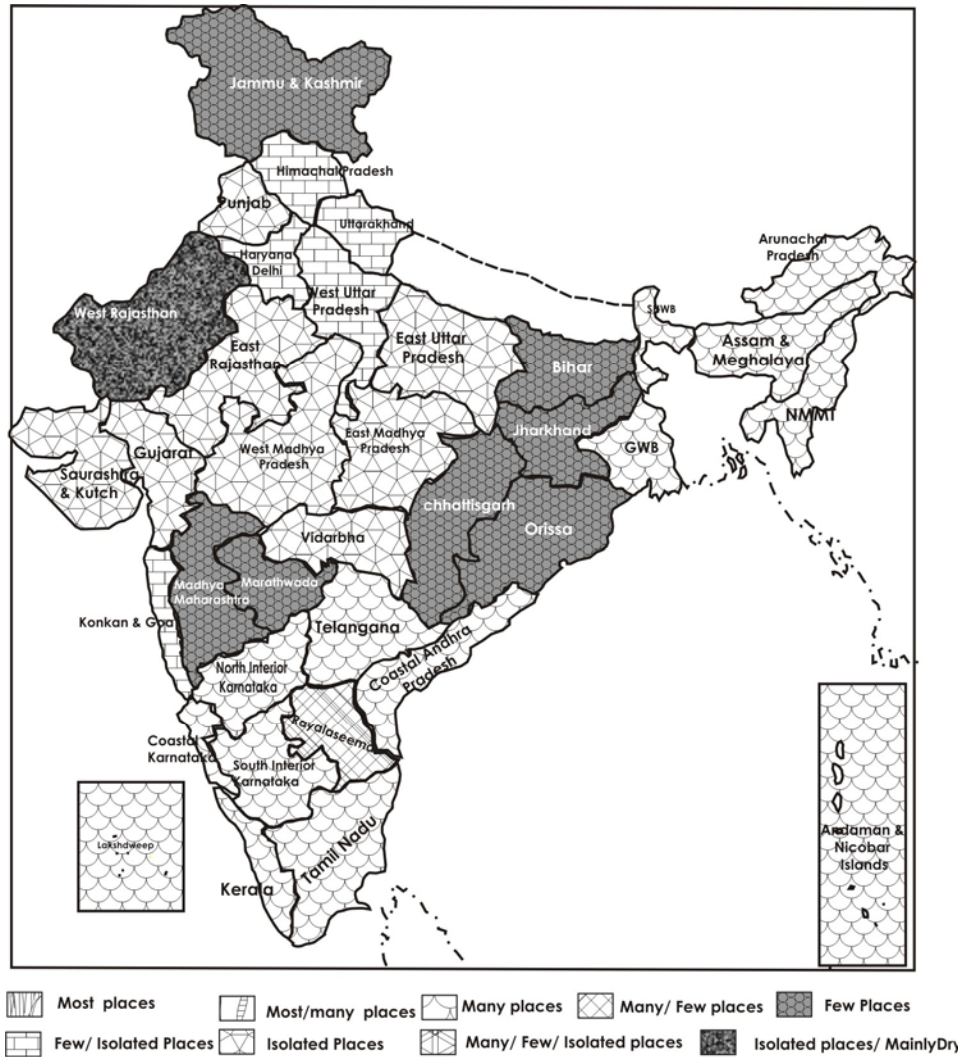
State/Districts	25.08.10	01.09.10	08.09.10	15.09.10	21.09.10
Udham Sing Nagar	228	-41	42	-44	292
Uttarkashi	96	7	159	66	381
Bihar					
Araria	-2	-89	-59	-38	207
Aurangabad	-14	-77	-93	-58	147
Begusarai	140	-100	-100	-100	-16
Bhabua	16	-99	-87	-38	133
Bhagalpur	153	-72	-99	39	2
Bhojpur	24	-95	-85	33	-32
Buxar	323	-96	-99	-46	125
Darbhanga	39	-70	-93	-31	89
East Champaran	139	-27	-69	-64	50
Gaya	73	-100	-81	-74	-50
Gopalganj	-36	25	-33	12	81
Jahanabad	56	-89	-100	-34	-66
Jamui	143	-77	-100	-66	37
Kathihar	21	-86	-92	-41	85
Khagadia	-31	-71	-100	-40	49
Kishanganj	87	-40	103	-64	6
Madhepura	-27	**	-91	-11	132
Madhubani	-35	-93	-94	-67	36
Monghyar	-10	-55	-99	368	233
Muzaffarpur	55	-92	-95	49	-32
Nalanda	129	-100	-100	-38	11
Patna	76	-100	-92	-30	-37
Purnea	96	30	107	-30	91

State/Districts	25.08.10	01.09.10	08.09.10	15.09.10	21.09.10
Rohtas	7	-82	-96	-34	137
Saharsha	-10	-37	-63	-16	118
Samstipur	81	-100	-99	-71	-58
Saran	12	-96	-93	22	-1
Sitamarhi	6	-96	-68	-60	-27
Siwan	-46	-99	-93	69	231
Supaul	-45	-97	-49	-49	59
Vaishali	-37	-100	-95	-58	-56
West Champaran	281	12	175	-61	169
Jharkhand					
Bokaro	98	-66	-50	-4	235
Chatra	37	-73	-98	-27	-17
Dhanbad	49	-81	-69	42	69
East Singbhum	-48	-83	-61	-89	113
Giridih	143	-90	-73	83	42
Godda	65	-100	-100	1	-13
Gumla	10	-6	-37	36	73
Hazaribagh	59	-90	-75	-39	28
Koderna	**	**	**	**	-28
Lohardagga	39	-24	-78	-27	4
Pakur	66	-100	-100	-59	216
Palamau	22	-96	-88	-14	115
Ranchi	-30	-59	-54	105	64
Sahebganj	19	-100	-100	-82	421
West Singbhum	-65	-43	-29	-32	41

LEGEND

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

Weather Forecast
(Valid upto 1430 hours of 26th September, 2010)



Weather Outlook (upto 1430 hours IST of 28th September, 2010)

- Fairly widespread rainfall would continue over northeastern states and south Peninsular India.

Warning

- Isolated heavy rainfall would occur over Tamilnadu, Kerala, Lakshadweep and Andaman & Nicobars Islands during next 48 hours.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Most of the districts of the States of the region received rain during last week.
- **Rainfall Forecast:** Rain is likely to occur at many places over Gangetic West Bengal, Sub Himalayan West Bengal and Sikkim and at a few places over Bihar Jharkhand and Orissa during the period.
- **Major Crops:**
 - Early sown rice (panicle initiation / flowering / grain formation), late sown rice (tillering), maize (flowering / cob formation), sesamum (vegetative / flowering / pod formation), groundnut (flowering / pegging / pod formation), soybean, green gram (flowering / pod formation), black gram, kulthi (early vegetative / vegetative), tori (sowing), arhar and vegetables like cauliflower, brinjal etc. (sowing / early vegetative / vegetative) in Bihar.
 - Early sown rice (flowering / grain formation), late sown rice (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 (germination / early vegetative / vegetative / flowering / pod formation), arhar (sowing / germination / early vegetative / vegetative), sesame (vegetative / flowering / pod formation) and groundnut (pegging / pod formation) in West Bengal.
 - Large cardamom (capsule / grain maturity / harvesting), orange (fruiting / fruit maturity), summer potato (harvesting), maize (harvesting), ginger (vegetative), rice (flag leaf initiation / flowering), *rabi* vegetable (sowing / nursery sowing / transplanting) in Sikkim.
- **Advisories:**
 - As there was good rainfall in most of the district of the States of the region, postpone irrigation to the standing crops. As rain is likely to occur at many places over West Bengal and Sikkim during the period, postpone intercultural operation and application of fertilizer and plant protection measures to the crops.
 - Most of the districts of Bihar, Jharkhand and Gangetic West Bengal received good rainfall during last couple of weeks which has improved the condition of standing crops in these states. Soil moisture status is also good for sowing of crops in the fields kept fallow. Farmers are advised to undertake sowing of crops mentioned below in respective States utilizing rainfall recently occurred and also likely to occur during next few days.
 - In Gangetic West Bengal, farmers are advised to sow short duration less water requiring crops like tori, arhar etc. and also vegetables like tomato, okra, brinjal, cauliflower, radish, capsicum etc.
 - Farmers are advised to sow pignon pea and toria in fallow lands in North East Alluvial Zone and South Bihar Alluvial Zone and also rapeseed in North West Alluvial Plain Zone in Bihar. Vegetables such as cauliflower, radish etc. can also be sown. Farmers are advised to transplant cauliflower and to sow brinjal.
 - In fallow lands in Jharkhand, farmers may sow early mustard, potato 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 may also be undertaken.

- As soil moisture condition is favourable, Undertake *rabi* groundnut and also other early *rabi* crops like raddish, cabbage, cauliflower, beans, cluster bean and tomato in Orissa.
- Recommended varieties of crops to be sown in different States of the region are mentioned in Annexure I.
- There is a chance of attack of brown plant hopper in rice in New Alluvial Zone of West Bengal under the prevailing weather condition. If the number of insect is more than 15 per plant, apply 0.75 ml Nuvan or Vapona per litre of water or dust quinalphos 1.5 % or carbaril 4 % at lower portion of the stem.
- 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.
- High humidity, low temperature and cloudy weather may favour the infestation of blast in rice in Ganjam district of Orissa. To control it, spray 1 g Beam and 1.5 g Hinosan in 2 litres twice at 15 days interval.
- Apply plant protection measures after current spells of rain in West Bengal and Sikkim and on a non-rainy day in remaining parts of the region.

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

- **Realised Rainfall:** East Siang, Papumpara, Upper Siang, Upper Subansiri and West Kameng districts of Arunachal Pradesh and most of the districts of Assam (except East Garo Hills, Hailakandi, Kamrup, Karbi Analog and Tinsukia 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 (germination / early vegetative) in Assam.
 - Rice (milk / maturity), vegetables (vegetative / flowering / fruiting), *rabi* vegetables (nursery sowing), maize (cob maturity / harvesting), orange (fruiting) and ginger and turmeric (vegetative) in Arunachal Pradesh.
 - Upland rice (early maturity / maturity / harvesting), *aman* rice (tillering) and vegetables (sowing / early vegetative / vegetative / flowering / fruiting) in Tripura.
 - *Sali* rice (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 toria, radish and tomato in Hills Zone, sowing / transplanting of cabbage, cauliflower and nursery sowing of brinjal in Lower Bramhaputra Valley Zone, sowing of cauliflower and early maturing cabbage, radish, knolkhol and brinjal in Upper Bramhaputra Valley Zone, transplanting of short duration varieties of rice and sowing of early brinjal and vegetables in Barak Valley Zone, sowing of *kharif* pulses and early vegetables like early cauliflower and radish in Central Bramhaputra Valley Zone and sowing of 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. Farmers are also advised for preparation of field for potato.
- 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. Farmers are also advised to transplant brinjal and chilli in East Garo West Garo, South Garo and Ri-Bhoi Districts.
- Prepare land and undertake sowing of mustard and winter season vegetables like pea, French bean, cabbage, palak etc. in Nagaland.
- Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
- Due to the cloudy and humid weather, there is possibility of attack of sheath blight in *aman* rice in tripura. Chloro Thaloni 0.2% @ 3 g per litter of water may be applied twice at the interval of 15 days.
- Brown spot disease may also occur in rice in Tripura due to humid weather. Zineb 0.25% @ 3 g per litter of water may be applied to manage the attack.
- High humidity and cloudy weather are congenial for die back disease in Khasi mandarin in Mizoram. Collect and destroy the dropped fruits and also apply appropriate plant protection measures to manage the disease.
- Prevailing weather is congenial for fruit fly in guava in Mizoram. Spray Dimethoate @ 0.03% to manage the insect.
- 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.
- 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.
- 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(except Kangra, Kinnaur, Kullu, Lahaul and Spiti, Mandi, Shimla and Una), Haryana, Delhi, East Uttar Pradesh, West Uttar Pradesh, Uttarakhand, Ludhiana and Sangrur districts in Punjab, Doda in Jammu & Kashmir, East Rajasthan(except Ajmer, Banswara, Bhilwara, Chittorgarh, Bundi, Dungarpur, Jhalawar, Kota, Pratapgarh, Rajsamand, Sirohi, Tonk,Udaipur) and Churu, Hanumangarh in 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 a few/isolated places over West Uttar Pradesh, Uttarakhand, Haryana, Delhi, Himachal Pradesh and Jammu& Kashmir and at isolated places or mainly dry weather over East Uttar Pradesh, Punjab, West Rajasthan and East Rajasthan during next three days.
- **Major Crops:**
 - Rice (panicle initiation/flowering), jowar and maize(flowering/grain formation), pigeon pea(vegetative/flowering), vegetable crops (flowering/fruited), early mustard and sarson(sowing) in Delhi
 - Rice (tillering/panicle initiation), vegetables (vegetative / flowering) in Himachal Pradesh.
 - Vegetable crops (flowering / fruited / harvesting), rice (panicle initiation), maize, groundnut(pecking), sunflower (vegetative / flowering) in Jammu & Kashmir.

- Sugarcane (vegetative), rice (flowering/grain formation), soyabean, jowar, bajra, pigeon pea and groundnut (early vegetative / vegetative), toria, mustard(sowing) in Uttarakhand.
- Sugarcane (vegetative), cotton(vegetative/flowering), maize (vegetative), rice (panicle initiation/flowering), mung, mash (flowering/pod formation) in Punjab.
- Sugarcane (vegetative), cotton (vegetative), rice(tillering/panicle initiation), guar and bajra (vegetative) in Haryana.
- Rice(tillering/panicle initiation), 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 / fruiting / harvesting), maize, soybean, bajra, jowar, mung, cluster bean, sesamum and groundnut (vegetative/flowering/grain formation), mustard, taramira and rapeseed(sowing) in Rajasthan.

● **Advisory:**

- As there was good rainfall during last week in most of the districts of Himachal Pradesh, Haryana, Delhi, East Uttar Pradesh, West Uttar Pradesh, Uttarakhand and East Rajasthan during last week, farmers are advised to postpone irrigation to the standing crops. Apply irrigation to the standing crops in Punjab, West Rajasthan and Jammu & Kashmir as there was no significant rainfall during last week in most of the districts and no significant rainfall is likely during next three days.
- Due to flooding in some districts of Central Plain Zone, Bundelkhand and Western Plain Zone in Uttar Pradesh, standing crops like rice, soyabean, black gram, green gram, sesamum, jowar and bajra are damaged. As the crops are at grain formation stage, quality of grains is likely to be affected in these areas due to heavy rainfall. Sterility of flowers may also occur wherever the crops are at flowering stage. Farmers are advised to drain out the excess water from the fields of standing crops and undertake field preparation and sowing of toria and early *rabi* vegetables only after receding of flood water.
- 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) under optimum soil moisture conditions.
- Flood situation in most of the districts in Uttarakhand is likely to damage the standing rice, soybean, tur, mung and urd crops. Farmers are advised to arrange for draining out excess water from fields of standing crops. 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, mustard(Uttam Singh Nagar) after drainage of excess water.
- Farmers in sub tropical zone (Jammu, Kathua and Reasi district) are advised to undertake sowing of toria intercropped with gobi sarson. Due to chances of light rain or thundershowers farmers are advised to undertake soil moisture conservation practices under dry land condition in order to complete the sowing of *rabi* crops. However in sloppy land ploughing may be done on contours. Undertake nursery sowing/sowing of cauliflower, cabbage and knol –khol, potato, radish, carrot, turnip, garlic, methi and spinach during these days.
- Farmers in Flood Prone Eastern Plain Zone (Alwar, Bharatpur, Dholpur, Karauli, Sawai, Madhopur) and Irrigated North Western Plain Zone (Sriganganagar, Hanumangarh) in Rajasthan are advised to undertake sowing of mustard, taramira and rapeseed utilizing the realized rainfall during last week.
- Farmers in Semi Arid Eastern Plain Zone (Dausa, Ajmer, Tonk, Jaipur districts) in Rajasthan are advised to undertake sowing of early pea utilizing the realized rainfall during last week.
- Farmers in Eastern zone (Bhiwani, Fatehabad, Hissar, Jhajjar, Mahendrgarh, Mewat, Rewari, Rohtak and Sirsa districts) in Haryana are advised to undertake transplanting of fruit crops and prepare the field for sowing of mustard and barseem.
- 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. Complete sowing of toria alone or intercropping with gobhi sarson in Central Plain Zone (Amritsar, Kapurthala, Fatehgarh Sahib, Ludhiana, and Jalandhar).

- Present weather conditions are congenial for tikka leaf spot and collar rot in groundnut in Jammu Sub Tropical Zone (Jammu, Khatua, Reasi) under such situation spray the crop with mancozeb @ 0.25% or carbendazim @ 0.1% at the disease appearance.
- Undertake spraying, application of fertilisers and intercultural operations on a non rainy day in West Uttar Pradesh, Uttarakhand, Haryana, Delhi, Himachal Pradesh and Jammu & Kashmir. The above mentioned operations may be carried out in the remaining States.

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

- **Realised Rainfall:** All the districts in Coastal Karnataka; Davangare, Hassan, Kodagu and Shimoga districts in South Interior Karnataka; all the districts in North Interior Karnataka except Bagalkote, Haveri and Bijapur; Ernakulam, Idukki, Kottayam, Kozhikode and Thrissur districts in Kerala, all the districts in Coastal Andhra Pradesh except East and West Godavari, Nellore and Prakasam districts; all the districts in Telangana except Medak and Virudhunagar district in Tamil Nadu.
- **Rainfall Forecast:** Rain is likely to occur at many places in the region except over Rayalaseema where rain is likely at a few places. Isolated heavy rainfall is likely to occur over Tamil Nadu and Kerala during next 48 hours.
- **Major Crops:**
 - Rice is at maturity stage. Pepper is at berry development / maturity 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 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 and *desi* cotton.
- **Advisories:**
 - Due to continuous rains in Krishna Godavari Zone during August-September 2010, green gram and black gram crops were completely damaged. However the left over pods can be picked when there is no rains. Due to excess moisture, red gram crop leaves became pale green to yellow in colour; farmers are advised to undertake foliar spray of 2% FeSo₄ + 5 g citric acid +150 g urea for 10 litres of water for immediate recovery.
 - Due to receipt of good rainfall over Southern Telangana Zone (Hyderabad, Medak, Rangareddy and Nalgonda districts). 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 the region except over Rayalaseema 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 Tamil Nadu and Kerala as there are chances of isolated heavy rainfall during next 48 hours
 - As there was sufficient rainfall in North Dry Zone (Bijapur) in Karnataka with a possibility of rainfall during next three days, farmers are advised to continue sowing of sunflower, *desi* cotton (Jayadhar and Suyodhar) and start sowing of rabi sorghum and safflower.

- 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).
- Due to congenial weather conditions and excessive vegetative growth of groundnut in Scarce Rainfall Zone of Rayalaseema (Ananthpur and Kurnool) there are chances for incidence of Spodoptera and Helicoverpa. To control, spray thiodicarb @1.5 gm per litre of water. If grown up larvae is noticed, arrange poison baits (Rice bran @ 5 Kg + Jaggery@ 500 g + Monocrotophos or Chlorpyrifos @ 500 ml) during the evening hours to control them.
- Present weather condition in Southern zone of Kerala may favour the incidence of leaf folder and stem borer in rice, bud rot in coconut, yellowing in arecanut and rhizome rot in ginger. Undertake plant protection measures to control the pests and diseases.
- Prevailing weather conditions in Southern Telangana Zone (Hyderabad, Medak, Rangareddy and Nalgonda districts) are congenial for the incidence of BPH and leaf folder in rice, mealy bug in cotton and powdery mildew, downy mildew and anthracnose in grape. Farmers are advised to undertake plant protection measures to control the pests and diseases.
- Plant protection measures may be undertaken after spells of rain in the region.
- **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, Theiloriosis 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:** Daman, Dangs, Navsari, Surat, Tapi and Valsad districts of Gujarat region, most of the districts of Konkan and Goa (except Goa), Solapur district of Madhya Maharashtra, most of the districts of Marathwada (except Aurangabad, Hingoli, Jalna and Parbhani districts) and Vidarbha (except Akola, Amraoti, Buldhana and Washim districts) received good rain during last week. Most of the remaining districts of the States of the region received no significant rain during last week.
- **Rainfall Forecast:** Rain is likely at a few places in Madhya Maharashtra and Marathwada and at isolated places in Gujarat region, Saurashtra and Kutch and Vidarbha during the period. Rain is likely to occur at a few places in Konkan and Goa during next 48 hours and decrease thereafter.
- **Major Crops:**
 - *Kharif* rice (tillering in East Vidarbha and panicle initiation / flowering in Konkan, Kolhapur, Nashik & Pune (western parts) divisions), *kharif* jowar (vegetative / flag leaf initiation), soyabean (pod formation / pod development), bajra (grain formation / grain maturity), cotton (flowering / boll formation), sunflower (flowering / head formation), groundnut (pod formation / pod filling), red gram (primary branching / secondary branching) and irrigated cotton (flowering / boll formation) in Maharashtra.
 - Rice (flowering / grain formation), groundnut (pod formation), cotton (floral bud initiation / flowering), maize (flowering / cob formation), bajra (grain formation / maturity), pigeon pea and sesamum (flowering / pod formation), soybean, green gram and black gram (pod formation / maturity) and castor (vegetative) in Gujarat.
- **Advisory:**
 - As the districts namely Dhule and Sangli in Madhya Maharashtra, Aurangabad, Hingoli, Jalna and Parbhani in Marathwada and Akola, Buldhana and Washim in Vidarbha did not receive sufficient rain during last couple of weeks, apply irrigation to the standing crops in these districts. As rain occurred in

most of the remaining districts of the States of the region during last couple of weeks, postpone irrigation to the standing crops.

- As soil moisture status is favourable, undertake sowing of *rabi* jowar and safflower in Maharashtra.
- As there is less possibility of rainfall during next few days, spray 4 kg DAP + 2 kg urea / acre on *kharif* cotton after 2.5 to 3 months from sowing for better development of cotton boll & preventive measures against red leaf.
- As there is possibility of clear sky during the period, farmers of North Gujarat region are advised to harvest *kharif* crops like green gram and pearl millet. Also carry out weeding and intercultural operation in standing crops and apply supplementary dose of nitrogen fertilizer taking the advantage of relatively dry weather.
- Farmers of North Saurashtra Zone are advised to sow Purva Til keeping seed rate of 3 kg / ha and also to apply third installment of nitrogenous fertilizer @ 40 kg N / ha as top dressing after 90 days of sowing.
- Under prevailing weather there is possibility of infestation of white fly in sugarcane, cotton, sunflower, lemon, bitter gourd, ridge gourd, brinjal, tomato etc. in Maharashtra; spray 2 ml Hostathion or 2 ml Methomil per litre of water.
- Due to increase in temperatures there is chance of infestation of white fly and jassids in *kharif* cotton in Maharashtra; spray Triazophos @ 30 ml in 10 litres 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.
- Continuous rainy weather may cause infestation of rust in soyabean in Yavatmal district of Maharashtra; spray Propeconazol @ 5 ml or Difenconazol @ 10 ml in 10 litres water. Due to cloudy and humid weather, soyabean may get affected by leaf eating caterpillar (*Spodoptera*); 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 on a non-rainy day in Madhya Maharashtra, Marathwada and Konkan and Goa.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rain occurred over most of the districts of East Madhya Pradesh; Datia, Guna, Indore and Rajgarh districts of West Madhya Pradesh and all the districts of Chattisgarh during the period.
- **Rainfall Forecast:** Rain is likely at a few places over Chhattisgarh for the next three days and at isolated places over the remaining areas.
- **Major Crops:**
 - *Kharif* crop like soyabean, maize, sorghum, sesame (grain development / maturity), green gram and black gram (grain development) in Madhya Pradesh.
 - *Kharif* crops like soyabean, maize, etc (grain formation), green gram (grain formation / development) and sugarcane (cane development) in Chhattisgarh. This is proper time for sowing of horse bean and castor and transplanting of vegetables.
- **Advisory:**
 - Farmers in Bundekhand Zone of Madhya Pradesh are advised to complete harvesting of mature *kharif* crops and continue land preparation for sowing of *rabi* crops at the end of this week.
 - Farmers in Kymore Plateau and Satpura Hill Zone region are advised to prepare nursery for medium duration crop of cauliflower and cabbage and transplanting of seedling in main field at optimum moisture level in the field.
 - Farmers in Vindhya Plateau zone are advised to prepare nursery for onion (varieties mentioned in Annexure I).
 - At present rice is at panicle emergence stage in Chattisgarh Plain Zone (Bilaspur, Dhamtari, Durg, Janjgir, Kabirdham, Kanker, Kawardha, Korba, Mahasamund, Raigarh, Raipur and Rajnandangaon districts) which is a critical growth stage. Rains received during the last few days are very useful for the crop. Farmers are advised to undertake broadcasting of last dose of nitrogen.

- 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 sowing of sesamum & horse bean immediately in upland areas.
- Due to favourable weather conditions in Vindhya Plateau zone in Madhya Pradesh, there are chances for the attack of stem and pod borer in chilli, brinjal and tomato, spray Tricophos 40 EC 800 ml per hectare.
- 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 Triazophos 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 and Raipur districts) 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 on a non rainy day in Chhattisgarh.
- **Animal Husbandry:**
 - Looking to cloudy weather conditions increase light duration in poultry farms to maintain egg production.
 - Provide proper aeration for cattle as humidity is rising.
 - Arrange for vaccination for Foot and Mouth disease, and anthrax. Use potassium permanganate @ 5 ml per liter of water for infected animals in Bundelkhand Zone of Madhya Pradesh.

Annexure I List of Varieties

Assam

Cauliflower: Improved Japanese, Pusa Synthetic, Pusa Snowhall 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, Pusa Vairab, JC-2, BWR-12 etc.

Knolkhol: White Vienna.

Toria: TS -27, TS- 29 etc.

Bihar

Tori: RAUTS-17, PT-303, Bhawani and Panchali.

Pigeon pea: Sarad and Pusa-9.

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

Vegetable pea: Arkel, Azad Pea-1.

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

Potato: Kufri Chandramukhi, Kufri Ashoka, Kufri Kanchan.

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

Arhar: Sarad and Pusa 9.

Radish: Contayl Lal, Red Bombai, Japanese White.

Orissa

Raddish: Pusa chetaki, Pusa Rashmi, and Pusa Himani.

Cauliflower: Pusa Ketaki, and Pusa Deepali.

Cabbage: Pride of India.

Beans: Pusa Parvati and Arka Komal.

Tomato: BT 2, BT 10, BT 12, Neeladri, Sada Bahar, Madhuri, Maharathi, Rashmi and Navin.

Jammu & Kashmir

Cabbage: Golden Acre, Pride of India.

Cauliflower: Giant Snow Ball, Pusa Synthetic.

knol khol: White Vienna and Purple Vienna.

Toria: RSPT-1, RSPT-2, RSPR-3

Gobi sarson: GSS-1

Potato: K.Badshah, K.Sinduri, K.Chipsona & K.Sona

Radish: P. Reshmi

Carrot: Pusa Kesar, P.Yamdagani

Turnip: PTWG

Garlic: local, yamuna safed, agrifound, parvati

Methi: pusa early bunching and kasuri methi

Spinach: all green

Punjab**Radish:** Asiatic (Desi) varieties -Pusa Chetki,**Carrot:** PC-34**Turnip:** L-1, Desi varieties**Rajasthan****Ashwaghandha:** Ashwaghandha-20 and Ashwaghandha-134.**Radish:** Pusa Rasmi**Carrot:** Pusa Keshar**Early pea:** Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6**Mustard:** Early sown(irrigated) (15Sep-10Oct) : EJ17, Pusa Mahak, Kanti,**Normal sown (irrigated) (October):** Maya, Rohini, Pusa Jai Kisan, Varuna, RGN 13, RGN73, NRCDR-2, NRCHB 506(hybrid)**Normal sown (rainfed):** Arawali, RGN48, Geeta, PBR 97**Late sown (irrigated) (November sowing):** NRCHB101, SwarnaJyoti, Ashirwad, Vardan**Saline sodic soils:** CS-52, CS-54, CS-56, Narendra Rai 1**Taramira:** Karan Tara, Narendra Tara**Yellow Sarson:** NRCYS-05-02, YSH-40 Beej Pakhwara**Rapeseed- mustard:** Rohini, Pusa Jaikisan, Maya, NRCDR-2, Lakhmi, NRCHB 101 and hybrid NRCHB506**Uttarakhand****Vegetable pea:** VL Ageti Mater-7, Vivel Mater-10, Pant Subjee Mater-3, Azad Mater-3 and Arkel**Garlic:** VL-Garlic or DARL-52**Toria:** Toria 303, Pant toria-507**New Delhi****Carrot:** Pusa Rudhira and Pusa Kesar.**Early pea:** Pusa Pragati.**Sarson saag:** Pusa saag-1;**Radish** Pusa chatki, Versa kee Rani, summer long, long chetaki;**Spinach:** All green;**Coriander:** Pant Haritama, hybrids;**Turnip:** Pusa swati, local red variety.**Early mustard:** Pusa Agrni, Pusa Taraka, Pusa Mahak**Maharashtra****Rabi jowar:** Selection -3, Phule Mauli, Phule Anuradha etc. for low fertile soil, Phule Chitra, Phule Mauli, Maldandi 35 - 1 etc. for medium fertile soil & Phule Vasudha, Phule Yashoda, CSV-22 etc. for black soil.**Safflower:** Bhima, Phule Kusuma, Girna, Nari-6, Sharada, Nari-NH-1 and DSH-129.**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.**Madhya Pradesh:**

Onion: Udaipur 102, Pusa White and Nasik Rosa Agri Found Light Red

Chhattisgarh

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

Annexure II Contour maps for the week ending 22.09.10

