

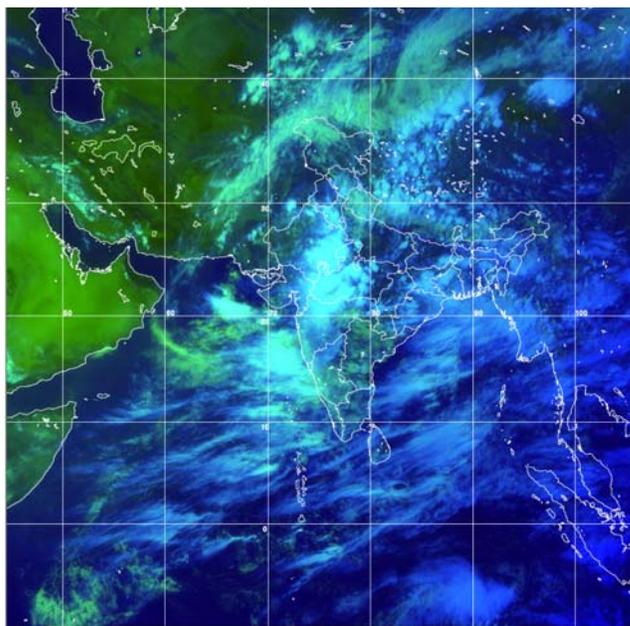


National Agromet Advisory Bulletin

Thursday, 30th July, 2010

(For the period 30th July to 3rd August, 2010)

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30th July, 2010



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Weekly Summary of Agromet Advisory Services in India

Crops in most of the states are in good condition because of sufficient rainfall during last two weeks. Sowing / transplanting of *kharif* crops were continued in different parts of the country during last week. The condition has improved significantly in Pune, Satara and Sangli districts which faced initial stress condition. Farmers in these districts have been advised to sow alternate crops.. However, dry condition is still persisting in some districts of West Uttar Pradesh (Agra, Aligarh, Firozabad, Gaziabad, Mainpuri and Mathura) and Jharkhand (Chatra, East Singhbhum, Godda, Lohardagga and Ranchi). The farmers in these districts have been advised to grow short duration varieties of rice or alternate crops requiring less soil moisture after receiving sufficient rainfall. Some of the districts in Haryana (Faridabad, Jhajjar, Kurukshetra and Rohtak), West Bengal (Murshidabad, Nadia and Dinajpur (S)), Punjab (Fatehgar), Bihar (Vaishali) and Karnataka (Chamrajnagar) also received deficient rain during last few weeks. The farmers in these districts have also been advised to undertake sowing of alternate crops if the crop has not been sown till date. The farmers in the above mentioned districts of Jharkhand, Haryana, Gangetic West Bengal and Bihar are advised to apply supplementary irrigation to save the early sown crops. In general, the crops in most parts of the country are in good condition and it is expected to get good harvest this year in anticipation of well distributed rainfall, spatially and temporarily, in the remaining growing period. Condition of major crops and some salient agromet advisories for the crops experiencing adverse weather situation during earlier weeks in different States are given below:

- Farmers in Agra, Aligarh, Firozabad, Gaziabad, Mainpuri and Mathura districts of West Uttar Pradesh are advised to select short duration rice crop and also crops requiring less water like maize, yellow gram, soyabean, black gram, green gram and sesamum in place of rice in upland situation.
- Farmers in Pune, Sangli and Satara districts of Madhya Maharashtra are advised to take crops like sunflower, arhar, castor, bajra etc. and intercrops like sunflower + arhar (2:1), arhar + cluster beans (2:1), bajra + arhar (2:1) etc.
- Due to continuous and heavy rainfall and also flood like situation, transplanting of rice has been delayed in Nagaon, Marigaon, Dibrugarh, Sibsagar, Tinsukia, Golaghat and Jorhat districts of Assam. Due to flood and continuous submergence, jute crop is also reported to be affected in Nagaon and Marigaon districts.
- Due to continuous rain cotton in Banaskantha, Gandhinagar, Mehsana, Patan and Sabarkantha districts, groundnut in Banaskantha and Sabarkantha districts in North Gujarat zone and cotton and red gram in South Gujarat zone have been affected. Farmers in these districts are advised to drain out excess water from the fields to save their crops.
- Due to high temperature and uneven distribution of rainfall, severe incidences of early shoot borer in sugarcane in Karur district, bud worm in jasmine and *Pythium* in casurina in Nagapattinam district in Tamil Nadu have been noticed. Due to this prevailing weather condition, sprouting of turmeric is also affected in Karur district.
- Normal sowing of crops and other agricultural activities are continued over remaining parts of the country.

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

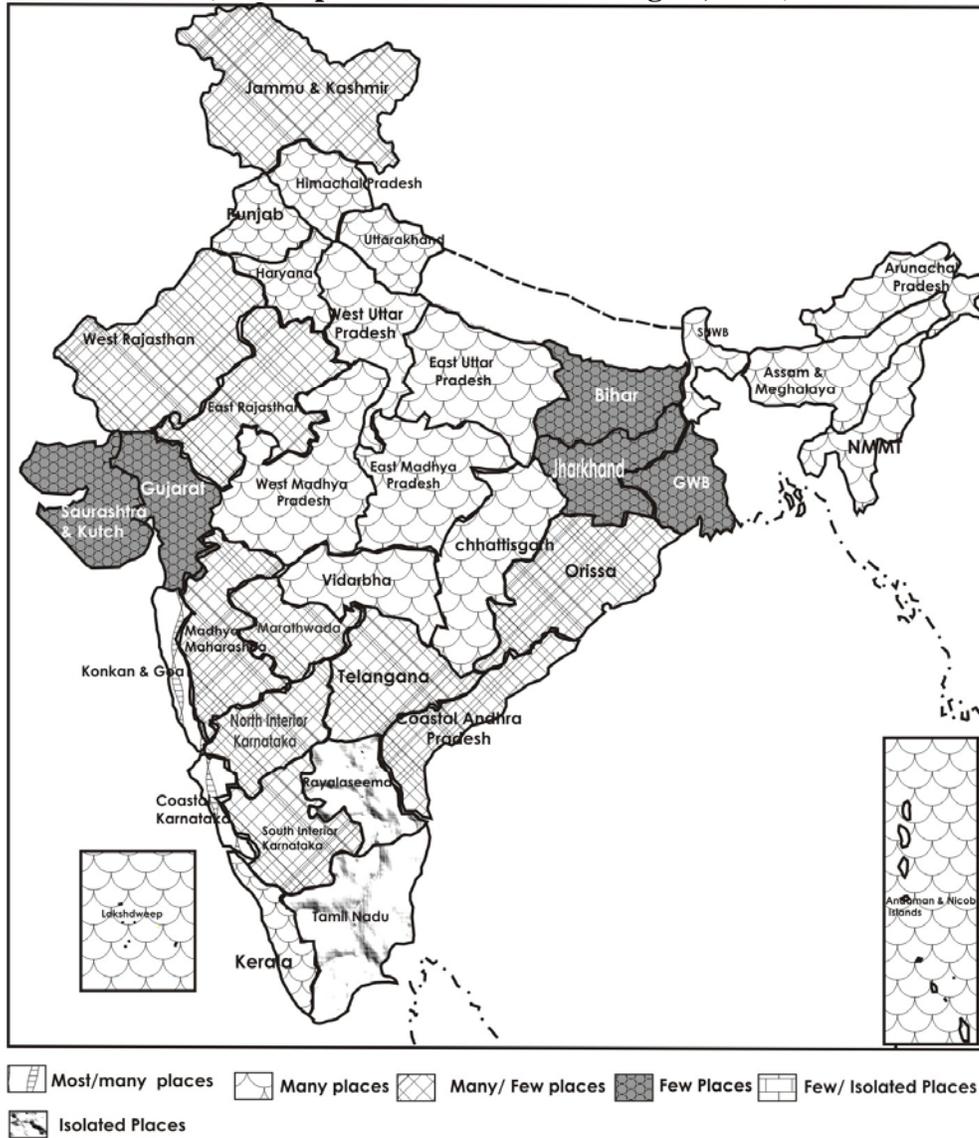
More than 3 weeks continuously deficient to no rain					
Uttar Pradesh	30.06.10	07.07.10	14.07.10	21.07.10	28.07.10
East Uttar Pradesh					
Jaunpur	-87	-100	-66	-35	-39
Mau	-62	-97	-71	-29	-71
RaiBareilly	-89	-88	-92	-43	-45
West Uttar Pradesh					
Firozabad	-82	-28	-73	-30	-78
Ghaziabad	-100	-38	-46	-38	-72
Mainpuri	-72	-77	-84	-31	-51
3 weeks continuously deficient to no rain					
East Uttar Pradesh					
Sultanpur	-54	-18	-67	-30	-25
West Uttar Pradesh					
Agra	-90	15	-85	-78	-59
Aligarh	-68	-3	-96	-86	-60
Mahamaya Nagar	-100	356	-82	-52	-31
Mathura	-88	90	-42	-45	-66
2 weeks continuously deficient to no rain					
East Uttar Pradesh					
Ballia	-55	-100	-8	-41	-47
Banda	-83	-30	58	-20	-36
West Uttar Pradesh					
Bulandsahar	-100	49	2	-35	-71
Bihar					
More than 3 weeks continuously deficient to no rain					
Khagadia	-28	-91	-37	-47	-64

Sitamarhi	-40	-93	-23	-45	-67
Vaishali	-98	-93	-45	-42	-83
2 weeks continuously deficient to no rain					
Katihar	-5	-51	16	-85	-90
Madhubani	-70	-64	5	-26	-81
Patna	16	-69	76	-68	-53
Samstipur	-81	-79	77	-25	-88
West Bengal					
More than 3 weeks continuously deficient to no rain					
GWB					
Hooghly	-29	-82	-71	-59	-22
Howrah	3	-56	-49	-26	-20
Murshidabad	92	-87	-79	-100	-58
Nadia	-38	-43	-51	-100	-42
SHWB					
Dinajpur (S)	147	-100	-60	-77	-92
2 weeks continuously deficient to no rain					
GWB					
Birbhum	6	-88	27	-83	-29
West Midnapore	109	-26	2	-80	-54
SHWB					
Malda	115	-47	5	-77	-81
Jharkhand					
More than 3 weeks continuously deficient to no rain					
Chatra	-86	-99	-45	-72	-58
East Singbhum	-94	-70	-92	-98	-44
Godda	-44	-95	-32	-80	-62
Lohardagga	-75	-62	-33	-45	-46
Ranchi	-66	-43	-27	-83	-47
2 weeks continuously deficient to no rain					
Gumla	27	-35	11	-61	-56

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 0830 hours of 2nd August, 2010)



Weather Outlook (upto 0830 hours IST of 4th August, 2010)

- Fairly widespread rainfall would occur over west coast, northwest, east and northeast India.

Warning

- Isolated heavy to very heavy rainfall would occur over south Chhattisgarh, Vidarbha and Marathwada during next 24 hours.
- Isolated heavy to very heavy rainfall would occur over Utrakhand, West Uttar Pradesh, Madhya Pradesh, north Madhya Maharashtra, Konkan & Goa and coastal Karnataka during next 48 hours.
- Isolated heavy to very heavy rainfall would also occur over Arunachal Pradesh, Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim during next 48 hours.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Rain occurred most of the districts except in and Lahul and Spiti district in Himachal Pradesh, most of the districts except Faridkot district in Punjab, a few districts except Faridabad, Fatehabad, Gurgaon, Jhajar, Jind, Kurukshetra, Panipat, Rewari, Rohtak, Sirsa and Sonapat district in Haryana, most of the districts in Jammu & Kashmir, all districts in East Uttar Pradesh except Ambedkar Nagar, Azamgarh, Basti, Gazipur, Mau, Sant Ravidas Nagar, all districts in Uttarakhand and most of the districts in East Rajasthan except Alwar and Bharathpur in East Rajasthan and most of the districts in West Rajasthan. No significant rainfall occurred in most of the districts of New Delhi and West Uttar Pradesh during last week.
- **Rainfall Forecast:** Rainfall is likely at many places during next five days in East Uttar Pradesh, West Uttar Pradesh, Uttarakhand, Haryana, Delhi, Punjab and Himachal Pradesh. Rainfall is likely at many places in Jammu & Kashmir during next 24 hours and at a few places thereafter. Rainfall is likely at isolated places during next 24 hours and at a few/many places thereafter. Isolated heavy to very heavy rainfall would occur over Uttarakhand and West Uttar Pradesh, during next 48 hours.
- **Major Crops:**
 - Rice(transplanting), jowar, pigeon pea and maize(sowing), vegetable crops (fruiting / harvesting) in Delhi
 - Rice(transplanting),vegetables (transplanting / vegetative) in Himachal Pradesh.
 - Vegetable crops (flowering / fruiting / harvesting), rice (transplanting/early vegetative), Early sown maize, groundnut and sunflower (early vegetative) in Jammu & Kashmir.
 - Sugarcane (vegetative), rice (transplanting), soybean, jowar, bajra, pigeon pea and ground nut(sowing) in Uttarakhand.
 - Sugarcane (vegetative), cotton, maize (early vegetative), rice (nursery sowing/transplanting), mung, mash(sowing) in Punjab.
 - Sugarcane (vegetative), cotton (early vegetative), rice, guar, bajra(sowing) in Haryana.
 - Sugarcane (vegetative), vegetable crops (sowing), black gram, green gram, jowar, bajra, groundnut, sesamum, lobia, maize, pigeon pea + pulses, groundnut and sesamum(sowing) in Uttar Pradesh.
 - Sugarcane(Vegetative), vegetable crops (flowering / fruiting / harvesting), maize, soybean, bajra, jowar, mung, cluster bean, sesamum and groundnut in Rajasthan.
- **Advisory:**
 - As rainfall is likely at many places during next five days in East Uttar Pradesh, West Uttar Pradesh, Uttarakhand, Haryana, Delhi, Punjab and Himachal Pradesh, many places in Jammu & Kashmir during next 24 hours and at a few places thereafter and at isolated places during next 24 hours and at a few/many places thereafter, farmers are advised to postpone irrigation to the standing crops. As isolated heavy to very heavy rainfall would occur over Uttarakhand and West Uttar Pradesh, during next 48 hours, farmers are advised to arrange drainage facilities to avoid waterlogging of standing crops.
 - Farmers in Delhi are advised to start transplanting of rice and continue sowing of baby corn, sweet corn, guar, bajra, maize, cluster bean, spinach, amaranths and ladyfinger (varieties in Annexure I) utilizing the rainfall during last week.
 - Farmers in Delhi are advised to start sowing of radish, spinach, coriander and sowing of cucurbit vegetables.
 - Farmers in mild hills sub humid zone (Kullu, Mandi, Seobagh) in Himachal Pradesh are advised to complete transplanting of rice utilizing rainfall during last week.
 - Farmers in Flood Prone Eastern Plain Zone (Alwar, Bharatpur, Dholpur, Karauli, Sawai, Madhopur districts) in Rajasthan are advised to continue sowing of green gram, moth been, cluster bean and sesame in place of bajra utilizing the rainfall during last week(varieties in Annexure I).

- Undertake sowing of short duration varieties of maize, cowpea, urd and mung in Sub Humid Southern Plain and Aravali Hill Zone (Bhilwara, Chittorgarh, Sirohi, Rajasmund districts) in Rajasthan with available moisture due to rainfall received during last week.
- Farmers in Semi Arid Eastern Plain Zone (Dausa, Ajmer, Tonk, Jaipur districts) in Rajasthan are advised to complete of pearl millet, sorghum, maize, green gram, moth bean, cowpea and cluster bean with available moisture due to rainfall received during last week. Also undertake sowing of rainy season cucurbits like *khira*, bottle gourd, ridge gourd, bitter gourd, radish sweet potato, cucumber and nursery for mid season cauliflower.
- In Southern Humid Plain Zone (Banswara district) in Rajasthan, undertake sowing of maize, mung, urd, cowpea, soybean and cotton utilising available moisture due to rainfall received during last two weeks.
- Farmers in Bhabar and Tarai Zone (Nainital and Uttam Singh Nagar) in Uttarakhand are advised to continue sowing of soybean and complete sowing of soybean, sesamum, moong, bajra and jowar this week with improved varieties of moong in Uttam Singh Nagar (varieties in Annexure I) utilising the rainfall during last week.
- Farmers in Hill Zone (Tehri Gharwal, Rudraprayag, Champawat, Uttarkashi, Pitorgarh, Bageshwar, Almora districts) in Uttarakhand are advised to complete transplanting of rice in valley region utilizing the rainfall during the last week.
- Farmers in Sub Tropical Zone (Jammu and Kathua) in Jammu & Kashmir are advised to undertake transplanting of rice and vegetables and sowing of maize, pulses, bajra and groundnut available moisture due to rainfall received during last two weeks.
- Farmers in Valley Temperate Zone (Srinagar, Anantnag, Kupwara, Budgam districts) in Jammu & Kashmir are advised to undertake sowing of sunflower in rainfed conditions with available moisture due to rainfall received during last two weeks.
- Undertake transplanting of rice and land preparation in Intermediate Zone (Doda, Rajouri, Udhampur districts) in Jammu & Kashmir for sowing of mash and moong crops utilizing monsoon rainfall during last week.
- Farmers in North Western Plain zone in Uttar Pradesh (Aligarh, Badaun, Bhagpat, Bareilly, Bijnor, Bulandshahar, Farrukhabad, Gaziabad, Jyotiba Phule, Meerut, Moradabad, Muzzaffarnagar, Noida, Pilibhit, Rampur, Saharanpur, Shahajahanpur districts) are advised to complete transplanting of rice utilizing rains this week with 3 to 4 plants per hill, if plants are more than 30 days old and also reduce distance between rows and reduce quantity of recommended fertilizers. Also complete sowing of soybean utilizing rainfall realized during last two weeks.
- Due to inadequate spatial and temporal distribution of rainfall in Agra, Aligarh and Lalitpur districts of Uttar Pradesh, moisture stress conditions prevail in early sown crops. Undertaking intercultural operations will conserve the soil moisture to cope up the situation. Farmers are advised to select short duration rice crop and crops requiring less water like maize, yellow gram, soyabean, black gram, green gram and sesamum in place of rice in upland situation.
- Farmers in Central Plain Zone in Uttar Pradesh (Allahabad, Chitrkut, Fatehpur and Kaushambhi districts) are advised to undertake nursery sowing of short duration and medium duration rice varieties utilizing utilizing rainfall realized during last two weeks. Also undertake sowing of maize, pigeon pea, jowar, pigeon pea + urd, moong, lobia as cover crop in between two lines of pigeon pea utilizing rainfall realized during last week.
- Farmers in Bundelkhand zone in Uttar Pradesh are advised to undertake sowing of crops like black gram, green gram, jowar, bajra, groundnut, sesamum and lobia utilising rainfall realized during last week.
- Farmers in Punjab are advised to complete transplanting of rice in western zone (Bhatinda, Moga, Muktsar, Mansa, sangrur districts), Central Plain Zone (Amritsar, Kapurthala, Fatehgarh Sahib, Ludhiana and Jalandhar districts). Also undertake sowing of mash and moong in western zone utilizing rainfall received during last week.

- Farmers in Haryana are advised to complete the transplanting of rice in Eastern zone (Bhiwani, Fatehabad, Hissar, Jhajjar, Mahendragarh, Mewat, Rewari, Rohtak, Sirsa districts) and also undertake sowing of guar and bajra in rainfed areas utilizing rainfall during last two weeks.
- Farmers in flood affected areas of western zone are advised to sow short duration varieties of rice and basmati varieties in nursery. Alternate crops such as Urad can be sown upto 15th August whereas toria varieties may be sown upto September end.
- Weather is conducive for rice blast in mild hills sub humid zone (Kullu, Mandi, Seobagh) in Himachal Pradesh, spray the crop with Blitox 50 (Copper oxychloride) with 2.250 kg Blitox 50 or 750 g Bavistin 50 WP or 750 ml Hinosan in 750 L water/ha and use sticker Stickwel @ 0.2 g/l of water.
- Undertake spraying and intercultural operations after current spells of rain in East Uttar Pradesh, West Uttar Pradesh, Uttarakhand, Haryana, Delhi, Punjab and Himachal Pradesh. Rainfall is likely at many places in Jammu & Kashmir during next 24 hours and at a few places thereafter. Continue sowing in Uttarakhand and West Uttar Pradesh after 24 hours as isolated heavy to very heavy rainfall is likely in these States.

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

- **Realised Rainfall:** Most of the districts of the States of this region received good rainfall during last week.
- **Rainfall Forecast:** Rain is likely to occur at many places in Orissa, Sub Himalayan West Bengal and Sikkim and at a few places in Bihar, Jharkhand and Gangetic West Bengal during next three days. Isolated heavy to very heavy rain is also likely in Sub-Himalayan West Bengal and Sikkim during next 48 hours.
- **Major Rabi Crops:**
 - Rice, maize, sesamum, sunflower, groundnut, soybean, castor, black gram, green gram, arhar and vegetables like tomato, cabbage, ladies finger, French bean etc. (sowing / early vegetative) in Bihar and Jharkhand.
 - Rice (direct sowing / transplanting) and maize, groundnut, pulses, soybean, sesamum, ragi, cotton, vegetable crops (sowing / germination / early vegetative) in Orissa.
 - Sugarcane (vegetative), vegetable crops (vegetative / flowering / fruiting / harvesting), jute (vegetative), *aus* rice (early tillering / tillering), *aman* rice (transplanting / early vegetative), pulses and vegetables (sowing / germination / early vegetative) in West Bengal.
 - Large cardamom (capsule formation / transplantation of suckers from nursery), orange (transplantation of seedling from nursery / early fruiting / fruiting), seed potato (tuberization / maturity), summer potato (tuberization), maize (flowering & cob filling / cob harvesting), *kharif* vegetable and off season vegetables (harvesting), ginger (vegetative), paddy (early tillering / tillering) in Sikkim.
- **Advisories:**
 - As rain is likely to occur at many places in Sub-Himalayan West Bengal and Sikkim during next three days, postpone irrigation in these regions. Arrange for draining out excess water and also withhold sowing / transplanting in view of heavy to very heavy rain during next 48 hours in these regions.
 - As there was good rainfall in most of the districts during last couple of weeks and rain is also likely to occur during next few days in Orissa, farmers are advised to undertake field preparation and nursery sowing / direct sowing / transplanting of rice and also sowing of maize, ragi, cotton, pulses (green gram, black gram, arhar, cow pea, rice bean), oilseeds (groundnut, soybean, sesamum, niger), vegetable crops etc.
 - Farmers are advised to undertake sowing of maize, sesamum, sunflower, groundnut, soybean, castor, black gram, green gram, arhar and vegetables like tomato, cabbage, ladies finger, french bean etc. in Bihar utilizing recent rain and also rain likely to occur during next few days.
 - Farmers in North West Alluvial Plain Zone in Bihar are also advised to utilize the available rain water for transplanting recommended varieties of rice in the medium land and low land situations with 2-3 seedlings / hill and closer spacing.

- As there is rain in most of the districts of Jharkhand during last week and rain is also likely to occur during next few days, farmers are advised to undertake direct sowing / transplanting of rice and also sowing of *kharif* crops like maize, sesamum, sunflower, groundnut, soybean, castor, black gram, green gram, arhar and vegetables.
- Farmers are advised to undertake transplanting with 21 – 25 days old seedlings in New Alluvial Zone, Coastal Saline Zone and Laterite and Red Soil Zone and also to sow arhar and also vegetables like brinjal, okra, pumpkin, bitter gourd, sponge gourd and ridge gourd in upland situation of West Bengal utilizing recent monsoon rainfall as well as rainfall likely to occur during next few days.
- Also undertake planting of fruit crops like coconut, mango and guava in Coastal Saline Zone of West Bengal.
- Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
- Due to cloudy weather and high humidity, attack of fruit rot due to fungus may be prevalent in pointed gourd in New Alluvial Zone of West Bengal. Remove the infected fruits from the land. Spray Blitox (4 g per litre of water) or Blue-copper oxide on a non-rainy day.
- Attack of swarming caterpillar in rice in Orissa has been reported and attack may increase under prevailing weather condition. Farmers are advised to apply plant protection measures on a non-rainy day.

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

- **Realised Rainfall:** Rainfall occurred in most of the districts of the states in the region during last week.
- **Rainfall Forecast:** Rainfall is likely to occur at many places in the region during the period along with possibility of isolated heavy to very heavy rainfall over Assam, Arunachal Pradesh and Meghalaya during next 48 hours.
- **Major Crops:**
 - Vegetables (flowering / fruiting / harvesting), sugarcane (cane development), maize, jute, mesta (vegetative), *sali* rice (transplanting / early vegetative), *ahu* rice (transplanted summer rice) (panicle initiation) and arhar, cotton and sesamum (sowing / germination / early vegetative) in Assam.
 - *Jhum* / WRC rice, pulses, sesame and vegetables (sowing / germination / early vegetative) and maize (sowing / vegetative) in Arunachal Pradesh.
 - Upland rice (tillering), *aman* rice (transplanting / early vegetative) and vegetables like pumpkin, ridge gourd, cucumber, ladies finger (sowing / vegetative) in Tripura.
 - *Sali* rice and transplanted *ahu* rice (transplanting / early vegetative), arhar and potato (sowing / planting / early vegetative), ladies finger, bottle gourd, pumpkin, ridge gourd, cucumber, bitter gourd, snake gourd etc. (sowing / germination / early vegetative), tomato, chilli and brinjal (transplanting / early vegetative) and maize (vegetative) in Meghalaya.
- **Advisory:**
 - In view of realized rainfall during last few weeks in most of the districts of the States and also rain / thundershower likely at many places over the region during the period, postpone irrigation, intercultural operation, application of fertilizers and plant protection measures to maize, sugarcane, jute, green gram, black gram, ginger, turmeric and vegetable crop fields. Also arrange for draining out excess water from the fields in Assam, Arunachal Pradesh and Meghalaya in view of expected heavy to very heavy rainfall.
 - Farmers are advised to withhold sowing / transplanting operations in Assam, Arunachal Pradesh and Meghalaya for next 48 hours.
 - Farmers in Assam are advised to undertake transplanting of three week old seedlings for *sali* rice in the main field and sowing of sesamum and cotton with the realized rainfall in Diphu Hills Zone, transplanting of *sali* rice and early cauliflower and sowing of sesamum, cotton, jute (for seed), pigeon pea, sesamum in Lower Bramhaputra Valley Zone (Barpetha, Bongaigaon, Dhubri, Golpara, Kamrup, Kokhrajhar, Nalbari), transplanting of *sali* rice and early cauliflower and sowing of sesamum in Upper Bramhaputra Valley Zone.

- Farmers in Barak Valley Zone of Assam are advised to undertake transplanting of semi dwarf Autumn rice under medium land situation.
- Farmers in Central Brahmaputra Valley Zone in Assam are advised to drain out excess water from maize, green gram and black gram crop fields immediately as the crops can not withstand stagnant water.
- Farmers in Arunachal Pradesh are advised to undertake sowing of *jhum* / WRC rice and maize and also vegetable crops like ridge gourd, bitter gourd, bottle gourd, pumpkin, okra, etc. and pulses like black gram, green gram, French bean, etc., preferably in raised beds and sesame.
- System of Rice Intensification (SRI) method can be adopted in Ri-Bhoi, East Khasi, West Khasi and South Garo districts in Meghalaya. Also carry out transplanting of *ahu* rice and sowing of jute, arhar, toria and transplanting of brinjal and chilli and planting of potato at optimum moisture condition.
- Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
- Due to continuous rainfall, khasi mandarin orchard in the districts of Kolasib, Aizawl and Mamit in Manipur is facing severe infestation of leaf miner and aphids. To control leaf miner and aphid undertake spraying of neem seed extract or mahua @ 2% at weekly interval. Also severe infestation of trunk borer and medium infestation of bark eating caterpillar is reported which may increase under prevailing weather condition. Regular monitoring and killing of larvae by inserting wire inside the tunnel or inserting cotton with kerosene or petrol followed by bordeaux paste (1:1.5:10) is recommended. Spraying is recommended after current spells of rain.
- Due to continuous stagnation of water, sheath blight appearance as grayish irregular spot just above water (10-30mm long) is noticed in rice. Manage with spraying of sheathmar @ 2-3 g per litre of water.
- **Animal husbandry:**
 - In present weather conditions, to prevent skin infection animals should be washed with neem leaf extract. Neem leaf extract can be prepared by soaking crushed neem leaves overnight in a container.

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

- **Realised Rainfall:** All the districts in Kerala, all the districts in Andhra Pradesh except Anantapur, Nellore, Chittoor and Cuddappah districts, all the districts in Coastal and South Interior Karnataka except Bijapur and Bangalore. Rain occurred in Chikmagalur, Hassan, Kodagu and Shimoga districts in North Interior Karnataka and Nigiris district in Tamil Nadu during last week.
- **Rainfall Forecast:** Rain is likely to occur at most/many places in Coastal Karnataka, many places over Kerala and many/few places over Interior Karnataka, Coastal Andhra Pradesh and Telangana during next three days. Rain is likely at isolated places over Rayalaseema and Tamil Nadu. Very to very heavy rainfall is likely at isolated places over Coastal Karnataka during next 48 hours.
- **Major Crops:**
 - *Kharif* crops viz., cotton, jowar, maize, green gram, groundnut, redgram and castor, etc. (sowing) in Andhra Pradesh. Early sown crops are at early vegetative/ vegetative stage.
 - *Kharif* crops viz., pigeon pea, groundnut, bajra, castor, horsegram, sesamum, maize and navane, etc (sowing) and sugarcane (cane development) in Karnataka. Early sown crops are at early vegetative/ vegetative stage.
 - *Virippu* rice (tillering), bhindi (sowing), upland rice (sowing), coconut, cashew, ginger and turmeric (planting), banana (bunching), ginger, vegetables (vegetative), pepper (berry development) and plantation crops (coconut, arecanut, pepper and cashew – various stages) in Kerala.
 - *Kuruvai* rice (vegetative/tillering), green gram and groundnut (grain development), maize (cob development) and sorghum (grain filling) in Tamil Nadu.
- **Advisories:**
 - Early sown crops in North Interior Karnataka recover from moisture stress due to receipt of good amount of rainfall except in Bijapur and Koppal during last week. Wherever sowing has not been carried out till

date, farmers are advised to select maize, chilli, spreading groundnut, sesamum and niger after receiving sufficient rainfall. Detailed contingent planning is given in Annexure II.

- Rain is likely to occur at most/many places in Coastal Karnataka, many places over Kerala and many/few places over Interior Karnataka, Coastal Andhra Pradesh and Telangana during next three days, farmers are advised to postpone irrigation to plantation crops and vegetable crops. Arrange for drainage facilities in Coastal Karnataka as very to very heavy rainfall is likely at isolated places during next 48 hours.
- As there was no sufficient rainfall in Tamil Nadu except Nigiris district, farmers are advised to apply irrigation to standing crops. Postpone irrigation to standing crops in the above district as there was rainfall during last week.
- Good amount of rainfall received in Kurnool region of Rayalaseema. Farmers are advised to undertake sowing of sunflower up to the end of July in red soils by ridge and furrow method and upto August end in black soils.
- Farmers are advised to undertake sowing of red gram, ragi, groundnut and rice nursery in Eastern Dry Zone and rice, cotton, maize and ginger in Southern Transition Zone in Karnataka.
- Farmers in North East transition Zone (Bidar) are advised to soak the seeds of pigeon pea in a solution of 20 grams of calcium chloride dissolved in one liter of water for one hour and shade dry the seeds for seven hours before sowing so as to induce drought resistance in the crop.
- As sufficient rainfall received during last week, farmers are advised to undertake transplanting of rice in main field in Coastal Zone (Udupi and Dakshi Kannada), planting of arecanut, cardamom and black pepper in Central Dry Zone (Sirsi) and sowing of groundnut, sunflower, redgram, maize and jowar in Hill Zone (Devangere, Kodagu, Tumkur) in Karnataka.
- Farmers in Southern Telangana Zone are advised to continue nursery sowing of short and medium duration rice varieties (varieties in Annexure I)
- Farmers in Krishna Godavari Zone (West Godavari, Guntur, Krishna and Prakasam districts) are advised to undertake sowing of pulse crops like green gram and black gram and nursery sowing of rice with the rains received (varieties in Annexure I).
- Farmers in High Altitude and Tribal Zone (East Godavari and Khammam) are advised to undertake sowing of short and medium duration rice in nursery and sowing of maize in the main field utilizing the recent rainfall.
- As high wind speed is expected in Western and Southern Zones of Tamil Nadu and High altitude Zone of Kerala, farmers are advised to provide mechanical support to banana and sugarcane crops to prevent from lodging.
- Farmers in Northwestern Zone of Tamil Nadu are advised to undertake sowing of maize in *Adi pattam*
- Due to prevalence of higher relative humidity, arecanut crop may infested with koleroga, hence farmers are advised to go for spraying of 1% Bordeaux mixture to control. It is also likely that brown leaf spot in rice may occur; hence farmers are advised to spray Dithane M -45 @ 2 g/lit of water. Spray chemicals after spells of rain.
- Due to high temperature and uneven distribution of rainfall, severe incidences of early shoot borer in sugarcane in Karur district, bud worm in jasmine and *Pythium* in casurina in Nagapattinam district in Tamil Nadu have been noticed. Undertake plant protection measures to control the pest and diseases.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Most of the districts of Maharashtra and Gujarat received rain during last week.
- **Rainfall Forecast:** Rain is likely at most places in Konkan and Goa and at many places in Madhya Maharashtra and Marathwada during next two days and decrease thereafter. Rain is also likely to occur at many places in Vidarbha and at a few places in Gujarat and Saurashtra & Kutch during next three days. Isolated heavy to very heavy rainfall is likely at Konkan and Goa and North Madhya Maharashtra during next 48 hours and at Vidarbha and Marathwada during next 24 hours.

- **Major Crops:**

- *Kharif* rice (germination / seedlings / early tillering) in East Vidarbha and transplanting in South Konkan, Kolhapur, Nashik & Pune (western parts) divisions), soyabean and bajra (sowing / germination / early vegetative), jowar, cotton, sunflower and groundnut (germination / early vegetative), red gram, green gram (sowing / germination / early vegetative) and irrigated cotton (early vegetative / vegetative) in Maharashtra.
- Rice, groundnut, cotton, castor, maize, bajra, pigeon pea, soybean, sesamum, green gram and black gram (sowing / germination / early vegetative) in Gujarat.

- **Advisory:**

- As rainfall is likely at most places in Konkan and Goa and at many places in Madhya Maharashtra, Marathwada and Vidarbha, postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the standing crops in these regions. Also withhold sowing / transplanting for 24 hours in Vidarbha and Marathwada and for 48 hours in Konkan and Goa and North Madhya Maharashtra in view of isolated heavy to very heavy rainfall.
- As Pune, Sangli and Satara districts of Madhya Maharashtra received good rain during last week; farmers are advised to undertake sowing of *kharif* bajra, sunflower, tur, castor, hulga (horse gram) by selecting improved and short duration varieties. Farmers may also undertake sowing of intercrops like sunflower + tur (2:1), tur + cluster bean (1:2) and bajra + tur (2:1) under this situation.
- In view of rainfall occurred during last few weeks and likely occurrence of rainfall during next few days, farmers in remaining parts of Maharashtra are advised to complete the sowing of *kharif* crops by selecting improved and high yielding varieties of bajra, groundnut, sunflower, *kharif* cotton, red gram, green gram etc.
- As rain occurred in most of the districts of Saurashtra and Kutch and Gujarat region and rainfall is also expected over the State during next few days, farmers are advised to undertake sowing of the *kharif* crops like groundnut, cotton, castor, maize, bajra, pigeon pea, soybean, sesamum, green gram and black gram.
- Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
- There is report of infestation of green semi looper & tobacco leaf eating caterpillar in soyabean in West Vidarbha and infestation is likely to increase under present weather condition; spray 5% Neem extract or Endosulfan 35% @ 15 ml or Fenvalerate 20% @ 5 ml in 10 liters water.
- Due to cloudy weather, there is chance of more infestation of fruit borer in brinjal in Maharashtra; spray 4% Neemark or Prophenophos @ 20ml or Carbosulfan @ 10 ml in 10 liters of water.
- There is attack of rust disease in fig in Maharashtra and infestation may increase under prevailing situation; spray mixture of 2 g Chlorothalonil and 1 g Carbendazim per litre of water at the interval of 14 days.
- Decrease in temperature, high cloud cover and humidity expected during the coming days are conducive for the incidence of cigatoca leaf spot in banana in South Gujarat Zone. If incidence is noticed, spray carbendazim @ 1 g / litre of water.
- Apply plant protection measures after current spells of rain in Konkan and Goa, North Madhya Maharashtra, Marathwada and Vidarbha and on a non-rainy day in Gujarat region and Saurashtra & Kutch.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rain occurred over all the districts of Madhya Pradesh except Panna district and all the districts in Chhattisgarh during the period.
- **Rainfall Forecast:** Rain is likely at many places over Madhya Pradesh and Chhattisgarh for the next three days. Very to very heavy rainfall is likely at isolated places over South Chhattisgarh during next 24 hours and Madhya Pradesh during next 48 hours.
- **Major Crops:**

- *Kharif* crop like soyabean, maize, sorghum, green gram and black gram (sowing) in Madhya Pradesh. Early sown crops are at early vegetative/vegetative stage.
- *Kharif* crops like black gram, green gram, soyabean, maize, etc (sowing), Rice (nursery sowing) and Sugarcane (cane development) in Chhattisgarh. Early sown crops are at early vegetative/vegetative stage.
- **Advisory:**
 - Insufficient rainfall in Datia and Sheopur Kalani districts in West Madhya Pradesh leads to delay in sowing and moisture stress in early sown crops. As cut off date for sowing of soyabean is over, sowing of black gram or red gram is recommended till 30th July. However, in East M.P., sowing of soyabean may be continued till 25th July.
 - Postpone intercultural operations and application of fertilizers and pesticides in Madhya Pradesh and Chhattisgarh as rain is likely at many places.
 - As sufficient rainfall received during last week, farmers are advised to continue land preparation and sowing of crops like sesamum, red gram and other pulse crops in Bhundelkhand Zone (Tikamgarh, Chattarpur) and green gram, black gram, red gram and soyabean in Vindya Plateau Zone (Bhopal, Sehore, Vidisha) (varieties in Annexure I). Start sowing of maize, soyabean, groundnut and jowar in Bhundelkhand Zone. Provide drainage facilities for maize.
 - Farmers are advised to continue transplanting of brinjal, tomato, chilli, etc in Nimar Valley Zone, Grid Zone, Satpura Hill Zone and Jhabua Hills Zone in Madhya Pradesh utilizing the monsoon rainfall. Select short duration varieties for soybean maize, pigeonpea, etc (varieties in Annexure I) in Jahbhua Hills Zone due to delayed monsoon.
 - Farmers in Malwa Plateau Zone (Dewas, Indore, Manduar, Neemuch, Rajgarh, Ratlam, Shajapur, Ujjain) are advised to undertake intercropping of maize and mung / urad with soybean. Undertake transplanting brinjal, tomato, kharif onion, early cauliflower, chili and other *kharif* vegetables.
 - Due to the heavy rains during the last week, soybean, vegetables and other legume crops may be affected in Chhattisgarh. Farmers are advised to arrange for proper drainage to avoid water logging situation. Due to the heavy rainfall and super saturate condition of the soil, nodulation in soybean crop may also be affected. Hence, farmers are advised for top dressing of N @ 15-20 kg per ha.
 - Farmers in Bastar Plateau Zone in Chhattisgarh are advised to continue sowing of bottlegourd, okra, snake gourds, bittergourds. Avoid sowing during heavy rain and provide drainage facilities.
 - Due to favourable weather conditions bihar hairy caterpillar (Kamliya keet) attack is increasing in kharif crops. Spray Qunalphos 25 EC @ 2 ml/l or Endosulphon 35 EC @ 2.5 – 3.0 ml/l after spells of rain.

Annexure I

List of Varieties

Delhi

Rice: Hybrid varieties- KRH 2, PHB 71, Arich 6444, Pant hybrid Dhan1, Narendra hybrid Dhan 1 and PRH 10; High yielding varieties - Pusa Sughand 5, Pusa Improved Basmati, Pusa 44, Pusa Sughand 4, Pant Dhan 10, Pant Dhan 4, Narendra Dhan 359, Pusa 834, Ranvir Basmati and Taravadi Basmati.

Pigeon pea: Pusa 2001, Pusa 991 and Pusa 992, Paras, Manak and UPAS 120

Maize: AH-421, AH-58 Composites varieties; Pusa composite-3 Pusa composite-4

Cucurbit vegetables: Hybrid varieties: Bottle Gourd- Pusa Naveen, Pusa Sandesh; Bitter Gourd- Pusa Visesh, Pusa-2 mosumi; Pumpkin- Pusa Visvash; Ridge Gourd- Pusa Chikni, Pusa Supriya.

Uttarakhand:

Soybean: Brag, PK-262, PK-327, VL Soya-2 and VL Soya-21, Pant Soybean-1024, Pant Soybean-1042, Pant Soybean-1092, Pant Soybean-1347

Ghagat: VLG-1

Jammu & Kashmir

Rice: Jaya, RR-8585, PC-19, IET-1410 and Ratna

Groundnut: Punjab No.1, M-13 & JL-24

Maize: GS-2, super composite, mansar, C-6, C-8 and local varieties

Uttar Pradesh

Rice: Taravadi, Bansmati, Bansmati-370, Pant-15 & Pusa Bansmati-1, Pusa-1121, Sugandh-4, Narendra 118, Narendra-97, Ashwini, Saket-4, Pantdhan-12, Govind, Ratna, Saket-4, Pant-10, 12, Narendra-118, Ashwini, Manhor & Narendra-80

Groundnut: Type-64, Chandra, Kaushal, Prakash & Amber

Soybean: Pant soyabean-1024, Pant Soyabean-1092, PK-262, PK-472, PK -416, PS -564

Jowar: Hybrid: Vasha, CSH-16, CSH-9, CSH-14, Sankul: CSV-13, CSV-15, Bundela, CSV-13, CSV-15, CSV-17

Maize: Hybrid: Ganga-2, Ganga-1, Sankul: Navin, Kanchan, Sweta, Azad, Surya, Uttam, Desi: Meerut Pili.

Bajra: Hybrid: Pusa-322, Pusa-23, ISMH-451, Sankul: ICMV-155, WCC-75, ICTP-8203, Raj-171, Desi: Mainpuri

Pigeon pea : Bahar, Narendra arhar, Azad, malviya vikas, malviya chatmatkar

Black gram: Azad- 1 & 2 , Uttra, Narendra, urd -1, Pant urd-31

Green gram : Samrat, Narendra moong-1, T-44

Sesamum: Shekhar, Pragati

Punjab:

Rice: PR-120, PR-118, PR-116, PR-114, PR-111 and PR-113

Rajasthan

Maize : Him – 129, Aravali Makka, PEHM-1, PEHM- 2, Pratap Makka-1, Pratap Makka-3, Pratap Makka-5

Jowar : CSV – 15, CSV – 17, Pratap Jowar – 1430, CSH – 13, CSH – 14, CSH-16

Soybean : JS–335, MACS–13, PK – 472, MACS–58, PS – 16, JS – 71 – 05, Pratap Soya-1 **Moong :** K 851, RMG – 62, K – 851, Pusa Baisakhi, RMG 268 and Ganga

Urd : Krishna, T – 9, PU – 19 and Barkha.

Pearmillet: Pusa 334, Pusa 383, HHB 67, HHB 94, Raj 171, ICMH 356, ICTP 820 and RHB 121

Cleaster bean: RGC 936, RGC 986, RGC 1002, RGC 1003, RGC 1017, M83 and HG 365

Sesamum: Pratap, TC 25, RT 46, RT 54, RT 103, RT 125 and Tt 13

Ground nut: GG 2, GG 7, HNG 10, Prakash and M 13

Radish: Pusa Chetki

Cauliflower: Improved Japanese, Pusa hybrid-2 & Himjoyti

Assam

Sali rice: Ranjit, Bahadur, Vasundhara, Kushal, Piyoli, Moniram, Rangali, Bhogali, Ketkijaha etc. (Long duration), Satya and Basundhara (medium duration).

Rice for flood affected areas: Jalashree, Plaban, Jalkonwari.

Red gram: T-21.

Sesamum: AST-1, Madhavi, Vinayak, Punjab Til -1, Gauri, SG 1981, RT-1 etc.

Cotton: J-34, MCU-1, MCU-4, Khaki etc.

Jute (for seed purpose): Tarun.

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

Meghalaya

SRI rice: Ranjeet or Naveen.

Bihar:

Rice:

North West Alluvial Plain Zone:

Medium land: Rajshree, Santosh, Rajendra Suvasni, Rajendra Bhagwati.

Low land: Rajshree, R. Sweta, R. Mansoori 1.

South Bihar Alluvial Zone:

Short duration varieties: Pusa 2-21, IR-36, Saket, Prabhat.

Photosensitive tall local varieties: Katarni, Kamini, Sugandha, Tulsi Munjari etc.

Kharif maize: Ganga -11, Shaktiman 1, 2, Devki and Suwan etc.

Jharkhand:

Rice:

Medium land: IR – 36, IR – 64, Rajendra Dhan 202, Kanak, Sugandha, Lalat, BR 10, Birsa Vikar Sugandh Dhan 2, Birsa Vikas Dhan 203, Birsamati, Pro Agro 6444, Birsa Dhan 202, Rajshree etc.

Low land: Birsa Dhan 202, Rajshree, Suvarna (MTU 7029), Sambha Mahsoori (BPT 5204).

Kharif maize: Suwan Composite – 1, HQMP – 1, Birsa Makai – 1, Kanchan, Birsa Vikas–2 etc.

Black gram: T-9, PU-19.

Green gram: K-851, Pusa Vishal.

Groundnut: Birsa Groundnut 2, 3, Verginia, BAU 13.

Soybean: Birsa Soybean, JS 335, Birsa safed soybean 2.

Arhar: Birsa Arhar 1, Bahar.

Orissa:

Rice:

Up land: Khandagiri, Vandana, ZHU XI-26, Parijat, Annada, Heera.

Medium land: Lalat, Konark, Surendra, Naveen, Swarna, Kharavela, Pratikhya, MTU-1001 and Geetanjali (aromatic rice).

Low land: Mahanadi, Moti, Indravati and aromatic rice like Dubraj and Ketakijoha.

Maize:

Composites: Navjot, Megha, Pratap, Shakti 1, Pragati.

Hybrids: Decan 103, Decan 109, Decan 115, Bio 9681, Pro 311, Ganga II, Cargil 900 M, Cargil 633, Sartaj.

Ragi:

Early varieties: Dibyasinha, VL 149.

Medium varieties: Bhairavi, Subhra, Godavari, Chilika.

Cotton: Bunny, Sri Tulasi, Bhaskar and Atal.

Arhar: Mahak, UPAS 120, Asha, Laxmi, Jagruti, Maruti.
Green gram: PDM-54, HUM 1, TARM 1, TARM 2, K 851, Dhauli.
Black gram: Sarala, Pant U 30, Pant U 35, KU 301, KU 300
Cowpea: SEB 2, FS 68, Swarna, SGL 1.
Soyabean: JS-72-44, PK-73-163, T-49, Ankur.
Ground nut: AK-12-24, Kisan, Jawan, Smruti.
Sesamum: Uma, Usha, Prachi, Kanaka, Kalika.
Nizer: GA-10 (Deomali), IGP-76 (Sahayadri).
Brinjal: Utkal madhury, Utkal tarrini, Utkal keshari, Pusa kranti
Chilli: Utkal rashmi, Utkal ava, Pusa jwala, Pant C 1, NP 46A
Tomato: Utkal pallavi, Utkal dipti, Panjab chhuara, Pusa hybrid-1
Onion: N 53, Arka kalyan, Agrifound dark red, Arka pragati
Radish: Pusa chetki, Pusa rashmi, Japanese white.
Cowpea: Pusa barsati, Arka garima, Utkal manik, Pusa dofasali.

West Bengal:

Aman rice: IET-4094, 2233, Ratna, Bikash, Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002, IET-5656, IET-4694, IET-4786, IET-1444, MTU-7029 etc.
Arhar: JSA-59, Pusa-9, Bahar etc.
Coconut: East Coastal, Hazari.
Mango: Himsagar, Bombai, Langra, Amrapali, Mallika.
Guava: Safeda, L-49.
Banana: Joint Governor, Robusta, Kabuli, Mortaman.

Gujarat:

Groundnut: GAUG-10, GG-11, GG-12, GG-13, GG-20 for groundnut (spreading), GAUG-1, GG-2, GG-4, GG-5 for groundnut (bunch).
Castor: GAUCH-1, GCH-2, GCH-4, GCH-5.
Maize: GM-3, GM-4, GM-6, Ganga Safed-2, Farm sameri, Narmda Moti.
Bajra: GHB-183, GHB-215, GHB-316, GHB-528.
Green gram: GM-3, GM-4 and K-851.
Black gram: T-9 and GU-1.
Cowpea: Gujarat cowpea-1, 2, 4 and Pusa Falguni.
Pegion pea: BDN-2, GTH-1, GT-100 and GT-101.
Sesamum: GT-2 or GT-3 for sesamum.
Soybean: Guj. Soyabean-1, Guj. Soyabean-2.

Maharashtra:

Bajra: Shardha (RHRBH-8609), Saburi (RHRBH-8924) and ICTP-8203.
Groundnut: SB-11, Phule Pragati (JL-24), TG-26, Phule Vyas (JL-ii220), Phule Unap and TGP-41 for Madhya Maharashtra, Konkan Gaurav and Trombay Konkan (Tapora) for Konkan.
Red gram: ICPL-87, Vipula, B.M.S.R.-853 & BSMR-736 in Madhya Maharashtra.
Cotton: Indian improved varieties AKA-5, 7 and 8, Indian hybrid varieties like PKV DH-1, American improved varieties AKH-081, PKV-Rajat and AKH-8828 for Vidarbha.
Green gram: Vaibhav, Kopergaon-1 and B.P.M.R-145, Jalgaon 781, S-8, PhuleM-2.
Sunflower: EC-68414, Modern, SS-56, K.B.S.H-1, B

Andhra Pradesh

Groundnut: K-6, K-9, Narayani etc
Green gram (upland): ML 267, LGG 450, LGG 460, LGG 407, Pusa 105, PDM 54
Black gram: LBG 20, T 9, LBG 623, WBG 26.
Rice: MTU1010, MTU1081, Swarna and BPT 5204.

Karnataka

Red gram: TTB-7, BRG-1 and Hyd-3C

Ragi: Indaf-8, MR-1

Kerala

Bhundi: Arka anamika and Susthira

Brinjal: Haritha

Chilli: Anugraha

Madhya Pradesh

Paddy:

Early: JR-201, Poornima, JRH-5, JRH-8 (Hybrid)

Medium: IR-36, IR-64, Pusa sugandha-5, MTU-1001, Pusa basmati-1, Mahamaya, Kranti

Late: Syamla, Swarna

Jowar: JJ-741, JJ-938, JJ-1022, JJ-1041 and CSV-15

Arhar: Laxmi, Pragti, Asha, Jagrati, JKM-7 and JKM-189

Soybean: JS-95-60, JS-93-05, JS-97-52, JS-80-21, JS-335, NRC-37

Green gram: K-851, JHawahar moong-721, Pant Moong-4, TJM -3,

Black gram: Pant U 30, RBU – 38, Jawahar Urd-3, JU 86.

Jhabua Hills Zone:

Soybean: JS 93 05, JS 9560

Maize: JVM-421

Pigeonpea: TJT 501 etc.

Annexure II

Contingency planning

	Normal Cropping system :	<u>(If sowing not yet done up to July 2nd week).</u>
Haveri Medium to deep black soil	Maize(maize hybrids) –Rabi sorghum (M 35-1) Maize + Redgram (maruti) (6:2) Hybrid cotton (Bt) Rice followed by short duration pulse (green gram/ black gram) Groundnut (GPBD 4, JL 24)-R.Jowar Soybean(JS 335) -R.Sorghum Green gram (china mung)- Sorghum Chilli (B. Dabbi , B.Kaddi) +Desi cotton (Jayadhar)	No change in normal cropping system.
Red loamy soil	Maize Hybrid cotton Sorghum (CSH 14) + Pigeon pea (Maruti) (5:1 and 4:2) Spreading groundnut (S-230, Murdar local) Little Millet + Redgram (6:1)	No change in normal cropping system
Belghum Medium to Deep black soil	Groundnut (JL-24, GPBD-4) / Soybean / Black gram Green gram- R.Jowar/wheat/chickpea/safflower Hybrid cotton Green gram/ Black gram-R.Jowar / safflower Maize-Chickpea Sunhemp- Tobacco	Avoid green gram, black gram, soybean, Sorghum. Maize (Early maturing maize hybrids (Vivek-9), PEMH-2 / composites (Renuka)). Sunflower, sole tobacco, groundnut, cotton, transplanted Chilli, Chilli+ cotton(1:1) Cotton+ Red gram(1:2) Maize + Red gram(4:2) Tobacco + Onion(1:2), Hybrid Bajra Agronomic Measures: Apply

		enriched compost (FYM+ press mud + poultry manure) to tobacco. .Adopt 60 x 60 cm in cotton
Red loamy soil (If sowing not yet done up to July 2nd week).	Normal cropping: Spreading groundnut (DSG-1) Hy.Bajra, Horse gram, Hybrid cotton (Bt.),Groundnut, Chilli, Foxtail millet Hy.Sorghum + Redgram (Maruti) (4:2) Groundnut + Redgram (4:1)	Change in cropping: Avoid sorghum+ Red gram. Go for groundnut + Red gram Bajra+Horse gram(2:2) Bajra +Sesamum(4:2) Bajra+ Moth bean (2:4)
Crop contingency: Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.	Agronomic measures: Intercultivation, Conservation furrows, go for gap filling & crop residue mulching as a crop management measure. For soil and water management, adopt: Crop Residue Mulching Spraying of MOP (2%) / Kaoline (1%) Urea spray (1.5%) in maize Protective irrigation	
Dharwad	Crop contingency: If sowing not yet done up to July 1 week Normal cropping system: Maize (maize hybrids) - Chickpea (A-1) Soybean (JS 335)- Rabi Jowar(M 35-1) Groundnut (GPBD 4, TMV2, JL 24) - R. Jowar / Wheat (DWR 162) Green gram (CM/SM)-Rabi Jowar/Wheat Chilli (B. Dabbi & B. Kaddi) + desi Cotton (Jayadhar) + Onion .	Change in cropping system Normal cropping can be continued up to July 15th week, but avoid green gram , ground nut and soybean based cropping system.. Maize + Red gram (4:2) Groundnut + Red gram (4:2) Sunflower (hybrid)- Chickpea Agronomic measures: Follow ridges & Furrow method of sowing. Reduce the spacing in Hy. Cotton to 60 X 60 cm.

Annexure III

Contour maps for the week ending 28.07.10

