



National Agromet Advisory Service Bulletin



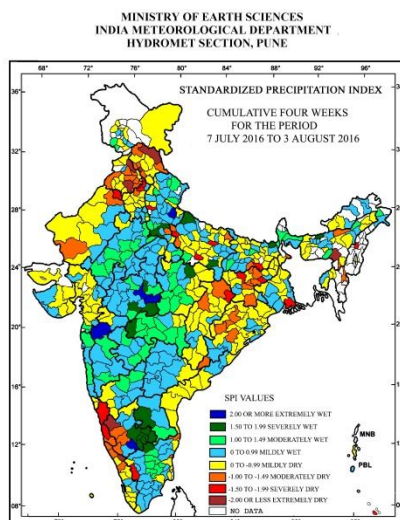
Friday 5th August 2016
(For the period 5th to 9th August 2016)



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

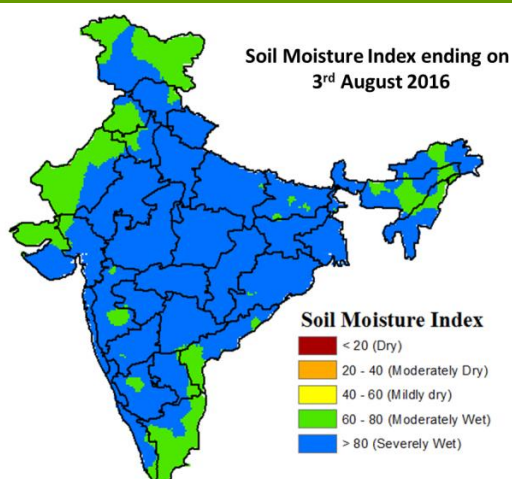
Weblink For
District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Standardised Precipitation Index Four Weekly for the Period 7th July to 3rd August 2016



- Extremely/severely wet conditions experienced in Baksa district of Assam; Araria district of Bihar; Kheri, Mirzapur, Agra, Bareilly, Etah districts of Uttar Pradesh; Betul, Bhopal, Hoshangabad, Khandwa, Sehore, Satna districts of Madhya Pradesh; Nashik, Buldhana districts of Maharashtra; Anantapur district of Andhra Pradesh; Krishnagiri district of TamilNadu; Bangalore Rural, Bangalore Urban, Kolar, Mandya, Tumkur, Ramanagara, Chickballapur districts of Karnataka.
- Extremely/Severely dry conditions experienced in Jaintia Hills district of Meghalaya; Kohima district of Nagaland; Howrah district of West Bengal; Chatra, Dhanbad district of Jharkhand; Jamui districts of Bihar; Ambedkar Nagar, Kannauj, Kaushambi, Ghaziabad districts of Uttar Pradesh; Ambala, Kurukshetra, Sirsa, Panchkula districts of Haryana; Hoshiarpur, Barnala districts of Punjab; Bilaspur, Lahaul & Spiti districts of Himachal Pradesh; Jashpur district of Chhattisgarh; Coimbatore district of Tamil Nadu; Uttar Kannada, Udupi, Shimoga districts of Karnataka; Wynad district of Kerala.
- Moderately dry conditions experienced in few districts of Jharkhand; Punjab; Himachal Pradesh; Shonitpur, Hailakandi districts of Assam; Aizwal district of Mizoram; South Dinajpur district of West Bengal; Bolangir, Malkangiri, Kandhamal, Sambalpur, Sonepur districts of Odisha; Nawada, Sheikhpura districts of Bihar; Farrukhabad, Kanpur Dehat, Kushi Nagar, Mainpuri districts of Uttar Pradesh; Kaithal district of Haryana; Barmer, Hanumangarh districts of Rajasthan; Bilaspur, Surguja district of Chhattisgarh; Tiruvallur, Puducherry districts of TamilNadu & Puducherry; Dakshin Kannada, Chikmagalur, Hassan, Kodagu districts of Karnataka; Cannur, Malappuram, Kasargod districts of Kerala.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

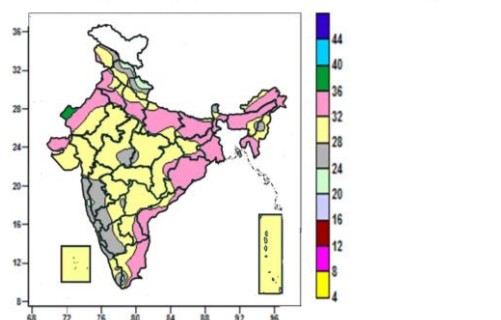
Soil Moisture Index for the week ending on 3rd August 2016



- Soil Moisture Index indicates moderately wet condition in many parts of Jammu & Kashmir, Tamil Nadu, Punjab, some parts of Gujarat, Rajasthan, Haryana, North-East Region and Coastal Andhra Pradesh. Rest of the country shows severely wet condition.

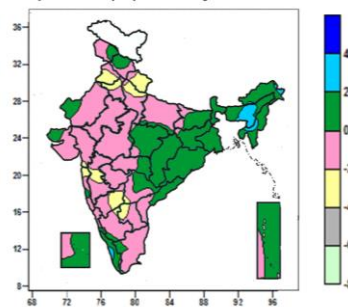
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 03.08.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 03.08.2016



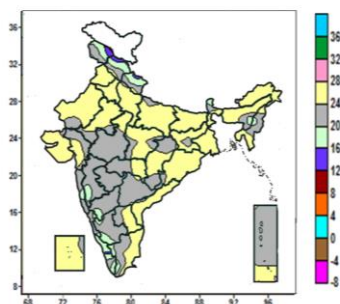
- Mean maximum temperature was between 36 to 40°C over some parts of West Rajasthan.
- Mean maximum temperature was between 28 to 36°C over rest of the country except Sikkim, Konkan & Goa, Coastal Karnataka, many parts of Himachal Pradesh, Uttarakhand, Madhya Maharashtra, South Interior Karnataka, some parts of Jammu & Kashmir, West Madhya Pradesh, North Interior Karnataka, Kerala and isolated pockets of Assam, Nagaland, Manipur, East Madhya Pradesh, Tamil Nadu where it was between 20 to 28°C.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 03.08.2016



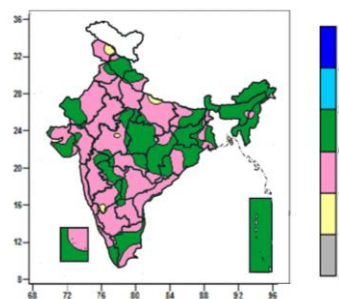
- Mean maximum temperature was above normal by 2 to 4°C over some parts of Assam & Meghalaya and isolated pockets of Arunachal Pradesh, Manipur, Mizoram, Tripura and Kerala.
- It was normal to near normal over rest of the country except many parts of Uttarakhand, Punjab, some parts of Haryana, West Uttar Pradesh, Konkan Madhya Maharashtra, North Interior Karnataka, Rayalaseema and isolated pockets of West Rajasthan, Gujarat Region, Marathwada, Telangana and South Interior Karnataka where it was below normal by 2 to 4°C.

Actual Mean Minimum Temperature (°C) in India for the week ending 03.08.2016



- Mean minimum temperature was between 12 to 20°C over many parts of Sikkim, Jammu & Kashmir, Himachal Pradesh, Kerala, some parts of Uttarakhand and isolated pockets of Assam, Manipur, Konkan, Madhya Maharashtra, Karnataka and Tamil Nadu.
- Mean minimum temperature was between 20 to 28°C over rest of the country.

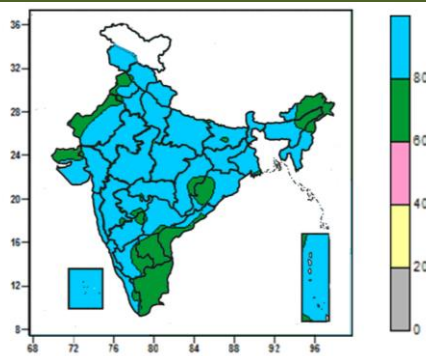
Mean Minimum Temperature (°C) Anomaly in India for the week ending 03.08.2016



- Mean minimum temperature was normal to near normal over the country except some parts of Jammu & Kashmir and isolated pockets of East Uttar Pradesh, West Madhya Pradesh and Interior Karnataka where it was below normal by 2 to 4°C.

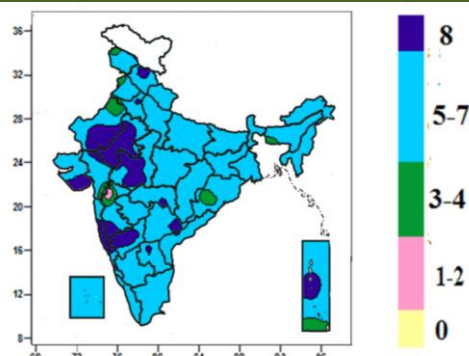
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 03.08.2016

Relative Humidity (%) over India for the week ending 03.08.2016



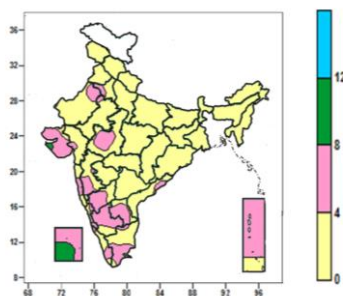
- Mean Relative Humidity was above 80% over the country except Tamil Nadu, many parts of Arunachal Pradesh, Nagaland, Kutch, Rayalaseema, Coastal Andhra Pradesh, some parts of Punjab, West Rajasthan, Assam, Odisha, Chhattisgarh, South Interior Karnataka and isolated pockets of Himachal Pradesh, Haryana, Bihar, Gangetic West Bengal, Gujarat Region, Madhya Maharashtra, Vidarbha, Marathwada, Telangana, North Interior Karnataka, Kerala and Andaman & Nicobar Islands where it was between 60 to 80%.

Cloud amount (okta) over India for the week ending 03.08.2016



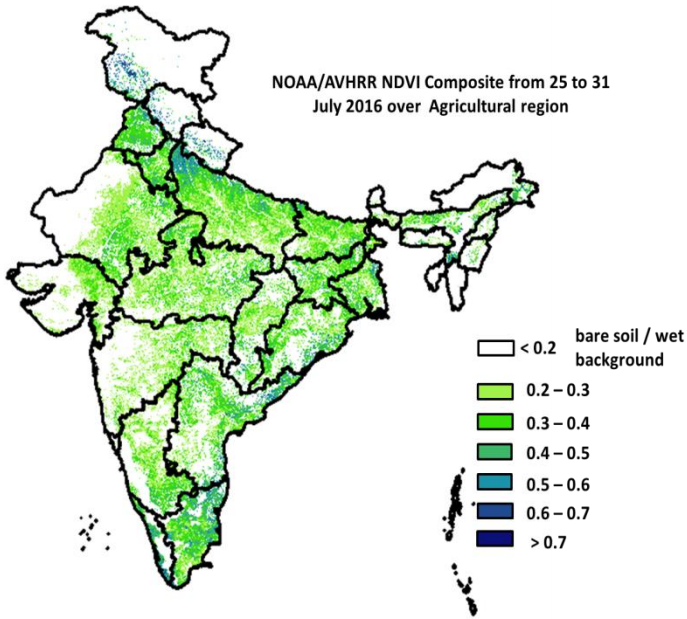
- Sky remained overcast (8 okta) over many parts of East Rajasthan, Konkan & Goa, Saurashtra, some parts of Himachal Pradesh, West Rajasthan, West Madhya Pradesh, Madhya Maharashtra, North Interior Karnataka, Andaman & Nicobar Islands and isolated pockets of Haryana, Telangana, Vidarbha, Rayalaseema and Coastal Karnataka.
- Sky remained generally cloudy (5-7okta) over rest of the country except some parts of West Rajasthan, Madhya Maharashtra, Odisha, Andaman & Nicobar Islands and isolated pockets of Jammu & Kashmir, Punjab, Assam & Meghalaya, Gujarat Region, Haryana, where it was partly cloudy/mainly clear (3-4/1-2 okta).

Wind speed (knots) over India for the week ending 03.08.2016



- Mean wind speed was between 8 to 12 knots over some parts of Lakshadweep and isolated pockets of Saurashtra and Tamil Nadu.
- Mean wind speed was between 0 to 4 knots over rest of the country except many parts of Saurashtra & Kutch, Interior Karnataka, Rayalaseema, Lakshadweep, Andaman & Nicobar Islands, some parts of Haryana, West Rajasthan, West Madhya Pradesh, Konkan, Madhya Maharashtra, Coastal Karnataka, Kerala, Tamil Nadu and isolated pockets of East Rajasthan, Gujarat Region, Coastal Andhra Pradesh, where it was between 4 to 8 knots.

INSAT 3A CCD NDVI COMPOSITE from 25th to 31st July 2016 OVER AGRICULTURAL REGION OF INDIA



- Agricultural vigour is good in most parts of Kerala, North Tamil Nadu, Coastal Andhra Pradesh, some patches in north west Uttar Pradesh where NDVI varies from 0.5 to 0.7. NDVI is moderate in Bihar, Haryana, Gujarat, parts of West and East Uttar Pradesh, East Rajasthan, East Madhya Pradesh, Telangana, Andhra Pradesh, Tamil Nadu, Odisha, West Bengal and Jharkhand (NDVI 0.3 to 0.5). Agricultural growth was below the moderate (< 0.3) over some patches of west Rajasthan, central Madhya Pradesh, north interior Karnataka and some patches in Maharashtra.

Monsoon Watch

- Southwest monsoon was vigorous over Gangetic West Bengal and active over Rajasthan, West Madhya Pradesh, Gujarat region, Konkan & Goa, Madhya Maharashtra and Telangana.

Weather Forecast for next 5 days valid upto 0830 hours of 10th August 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.

5 Day Rainfall Forecast (MID DAY) 5th August 2016

Met Sub-divisions	05 Aug	06 Aug	07 Aug	08 Aug	09 Aug
1. Andaman & Nicobar Islands	WS	WS	WS	WS	WS
2. Arunachal Pradesh	FWS	FWS	WS	FWS	FWS
3. Assam & Meghalaya	WS	WS	WS	WS	FWS
4. N.M.M. & T.	FWS	WS	WS	FWS	FWS
5. S.H. West Bengal & Sikkim	FWS	WS	WS	WS	WS
6. Gangetic West Bengal	FWS	FWS	WS	WS	WS
7. Odisha	WS	FWS	WS	WS	FWS
8. Jharkhand	FWS	FWS	WS	WS	WS
9. Bihar	SCT	FWS	FWS	WS	WS
10. East Uttar Pradesh	SCT	FWS	WS	WS	WS
11. West Uttar Pradesh	SCT	SCT	WS	WS	WS
12. Uttarakhand	WS	WS	WS	WS	WS
13. Haryana, Chd & Delhi	SCT	FWS	WS	WS	WS
14. Punjab	SCT	FWS	WS	WS	FWS
15. Himachal Pradesh	SCT	WS	WS	WS	WS
16. Jammu & Kashmir	ISOL	FWS	WS	WS	FWS
17. West Rajasthan	SCT	SCT	SCT	SCT	ISOL
18. East Rajasthan	FWS	FWS	FWS	FWS	FWS
19. West Madhya Pradesh	WS	WS	WS	FWS	FWS
20. East Madhya Pradesh	WS	WS	WS	WS	FWS
21. Gujarat Region	WS	WS	FWS	SCT	SCT
22. Saurashtra & Kutch	WS	WS	SCT	ISOL	ISOL
23. Konkan & Goa	WS	WS	FWS	FWS	FWS
24. Madhya Maharashtra	FWS	FWS	SCT	SCT	SCT
25. Marathwada	FWS	SCT	ISOL	ISOL	ISOL
26. Vidarbha	WS	WS	FWS	SCT	SCT
27. Chhattisgarh	WS	FWS	FWS	FWS	SCT
28. Coastal Andhra Pradesh	SCT	SCT	SCT	SCT	SCT
29. Telangana	FWS	SCT	SCT	ISOL	ISOL
30. Rayalaseema	ISOL	ISOL	ISOL	ISOL	ISOL
31. Tamil Nadu & Puducherry	ISOL	ISOL	ISOL	ISOL	SCT
32. Coastal Karnataka	WS	WS	FWS	FWS	SCT
33. North Interior Karnataka	FWS	FWS	SCT	SCT	ISOL
34. South Interior Karnataka	FWS	FWS	SCT	SCT	SCT
35. Kerala	FWS	FWS	SCT	SCT	SCT
36. Lakshadweep	FWS	SCT	SCT	SCT	SCT

% Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

Weather Warning during next 5 days

- 05 August (Day 1):** Heavy to very heavy rain very likely at a few places over Chhattisgarh; at isolated places over Madhya Pradesh, Vidarbha, Odisha, Gujarat, Madhya Maharashtra and Konkan & Goa; heavy at isolated places over Uttarakhand, East Rajasthan, Jharkhand, Assam & Meghalaya, North Interior Karnataka and Coastal Karnataka.
- 06 August (Day 2):** Heavy to very heavy rain very likely at a few places over Uttarakhand and West Madhya Pradesh; at isolated places over Himachal Pradesh, East Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Gujarat and Konkan & Goa; heavy at isolated places over East Rajasthan, Vidarbha, Chhattisgarh, Jharkhand, Odisha, Arunachal Pradesh, Nagaland, Manipur, Mizoram

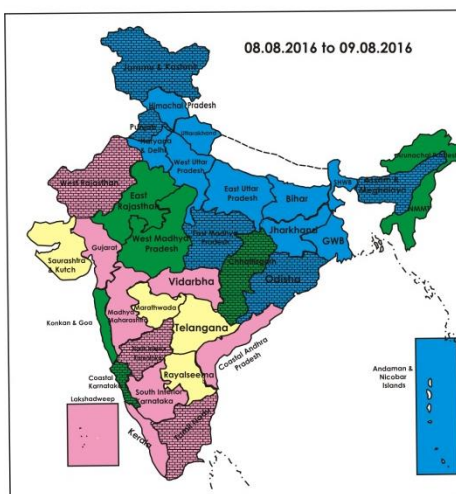
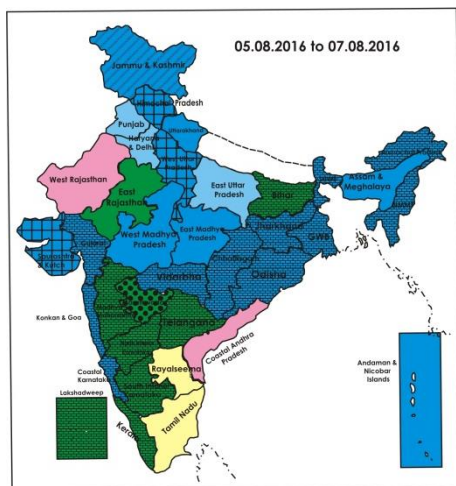
& Tripura, Madhya Maharashtra, North Interior Karnataka and Coastal Karnataka.

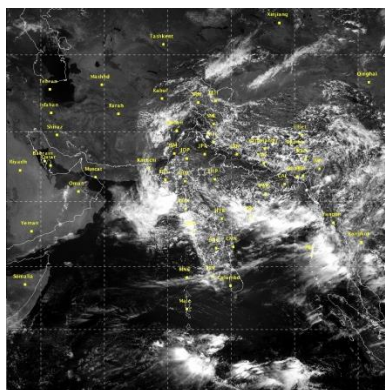
- **07 August (Day 3):** Heavy to very heavy rain very likely at a few places over Himachal Pradesh; at isolated places over Uttarakhand, Punjab, Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya; heavy at isolated places over Jammu & Kashmir, Haryana, Chandigarh & Delhi, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Gangetic West Bengal, Odisha, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura and Konkan & Goa.
- **08 August (Day 4):** Heavy to very heavy rain very likely at isolated places over West Uttar Pradesh, Bihar and Gangetic West Bengal; heavy at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, East Uttar Pradesh, East Rajasthan, Madhya Pradesh, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Odisha, Arunachal Pradesh and Assam & Meghalaya.
- **09 August (Day 5):** Heavy to very heavy rain very likely at a few places over Bihar; at isolated places over Haryana, Chandigarh & Delhi and West Uttar Pradesh, Gangetic West Bengal; heavy at isolated places over Himachal Pradesh, Uttarakhand, Punjab, East Uttar Pradesh, Jharkhand and Sub-Himalayan West Bengal & Sikkim.

Weather Outlook for subsequent 2 days from 10th to 12th August 2016

- Rain at most places very likely over northeastern states, West Bengal & Sikkim and along west coast.
- Rain at many places very likely over northwest & adjoining central India.
- Rain at a few places very likely over peninsular & rest east India and at isolated places over remaining parts of the country.

Weather Forecast Map (valid upto 0830 hours of 10th August, 2016)





Salient Advisories

- As there is continuous rainfall in entire **Maharashtra** during last three days and rain is very likely at most places during next 48 hours in Konkan and Vidarbha region, at many places in Madhya Maharashtra region during next 48 hours and in Marathwada region during next 24 hours, farmers are advised to drain out excess water and maintain adequate drainage in standing crop fields to avoid water stagnation.
- In **Assam**, due to heavy rain during last week flooding was reported in many districts. Farmers are advised the following contingency measures in flood affected areas:
 - Undertake direct sowing of very short duration varieties like Luit, Kapilee, Kolong and Disang (90 to 100 days duration) up to 8-10 September in case of flood up to August.
 - Late and staggered planting with the old seedlings (50-60 days old seedlings) of the varieties like Profulla and Gitesh (If the field is heavily damaged).
 - Wet seeding with sprouted seeds @ 75-80 kg/ha of short to medium duration varieties like Disang, Luit, (100 days) Kapili, Kalong (120 days).
 - Direct seeding with the photo insensitive short duration variety like Luit.
 - Adoption of submergence tolerance varieties like Swarna Sub 1 Jalashree and Jalkuwari for repeat flood prone areas.
- In Nagaon and Marigaon districts of Central Brahmaputra Valley Zone of **Assam**, continue land preparation and sowing of green gram and black gram, arhar and sesame after receding of flood water at optimum soil moisture conditions.
- In **Sub-Himalayan West Bengal**, continue gap filling in rice in flood affected areas. If nursery is available, undertake re-transplanting of rice seedling in more affected area or undertake direct sowing of rice by selecting short duration rice varieties. In Darjeeling district, drain out excess water from turmeric, ginger, large cardamom and in Mandarin orange gardens. Avoid water stagnation in round chilli. Continue transplanting of rice at optimum water level.
- In **Gujarat**, drain out excess water from transplanted rice and pulses fields in Navasari, Dangs and Valsad districts of South Gujarat Heavy Rainfall Zone. Drain out excess water from cotton fields and banana orchards in Surat, Narmada and Tapi districts.
- In **Saurashtra & Kutch**, complete sowing of pigeon pea and castor in Porbandar and Junagadh districts of South Saurashtra Zone with realised rainfall. Carry out intercultural operations in groundnut and cotton. Continue sowing of castor and pigeon pea in Amreli, Rajkot, Surendranagar and Jamnagar districts of North Saurashtra Zone with realised rainfall.
- Normal agricultural activities is continued in rest part of the country utilising the realised and expected rainfall.

Detailed Zonewise Agromet Advisories

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



Banana



Rice



Sugarcane



Red gram

- **Realised Rainfall:** Rainfall occurred in Alappuzha, Kannur, Ernakulam, Idukki, Kasargod, Kottayam, Palakkad, Pathanamthitta and Wynad districts of Kerala, all districts of Coastal Karnataka, Belagavi, Bidar, Kalaburgi, Raichur, Vijayapura and Yadgir districts of North Interior Karnataka, all districts of South Interior Karnataka except Chamaraajnagar and Chitradurga, all districts of Coastal Andhra Pradesh except Nellore, Prakasam and Vizianagaram, in all districts of Rayalaseema and Telangana, in Ariyalur, Dharmapuri, Krishnagiri, Nilgiris, Perambalur, Salem, Thiruvannamalai, Trichy and Vellore districts of Tamil Nadu. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Coastal Karnataka from 5th to 8th, over Kerala and Interior Karnataka on 5th & 6th and over Telangana on 5th August, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Undertake rain water harvesting.
 - As heavy rain is very likely at isolated places over Coastal Karnataka and North Interior Karnataka on 5th & 6th August, provide adequate drainage in standing crop fields to avoid water stagnation.
 - **Kerala:**
 - In Kerala, complete sowing of rice (Uma, Jyothy, Vytila-6 varieties) in Alappuzha and Kottayam districts and ensure proper drainage in areas where sowing has already been completed.
 - In Pathanamthitta district, drench turmeric plants with Bordeaux mixture to prevent rotting of plants, continue inter cropping with banana, colocasia and vegetables etc in coconut gardens, crown cleaning, phytosanitation, provision for proper drainage and regulation of shade to prevent mid-whorl yellowing in coconut and tapping of rubber in Thiruvananthapuram district.
 - In Kasaragod, Kannur, Malappuram and Kozhikode districts, ensure complete field sanitation in banana and black pepper fields and continue planting of banana cultivars like Poovan, Palayankodan, Robusta etc.
 - Bacterial leaf blight is noticed in rice in many of the padasekharams in Kuttanadu. To prevent the spread of the disease from one field to another field, it is recommended to place bleaching powder at the entrance of irrigation channels @ 2 kg/acre as small packets. Spray supernatant solution of fresh cowdung (20/lit of water) when the initial symptoms noticed.
 - In Alappuzha and Kottayam districts, monitor for incidences of stem borer, leaf roller and rice thrips in rice. To control stem borer and leaf roller, place trichocards in the fields 20 days after sowing. For controlling the attack of rice thrips, apply 250 ml of DDVP 100 EC/AF formulation and 1.25 kg carbaryl 50 WP/ ha after current spells of rain.
 - In Kannur, Kasaragod, Malappuram and Kozhikode districts, yellowing and related wilt diseases are seen in black pepper. For effective management of these diseases, apply Ferterra® @ 10 kg/ha on a non rainy day.
 - In Palakkad, Ernakulam and Thrissur districts, prevailing weather conditions are congenial for incidence of fruit rot disease in nutmeg and splitting of fruit before ripening due to the deficiency of Potassium and Boron in the rainy season. To control fruit rot disease, apply 1% Bordeaux mixture and apply Borax @ 5g/litre of water to prevent splitting of the fruit after current spells of rain.
 - In Thiruvananthapuram district, prevailing weather condition is congenial for incidence of pseudo stem weevil in all varieties of bananas (except Nendran variety). To control pseudostem weevil, drench the leaf axils with Chlorpyrifos 4g/litre of water after current spells of rain.
 - **Karnataka:**
 - Continue transplanting of rice in Uttar Kannada district. Carry out weeding in maize and cotton.
 - Continue transplanting of ragi, rice in Chikmagalur, Hassan, Shivamogga districts of Southern Transition Zone. Carry out intercultural operations in already sown maize, groundnut and red gram fields.
 - Continue transplanting of rice in Bidar district of North East Transition Zone. Drain out excess water from ginger fields.
 - Carry out intercultural operations in soybean, green gram, black gram, sorghum, maize, cotton and groundnut crops in Dharwad, Belagavi and Haveri districts of North Transition Zone. Take up Foliar Spray of 0.5 % Ferrous Sulphate or 0.5 % Zinc Sulphate to correct Iron or Zinc deficiency in groundnut crop.
 - Continue transplanting of rice in Ballari, Kalaburgi, Koppal, Raichur and Yadgir districts of North East Dry Zone.

Take up spraying of 2 % urea to control yellowing of leaves in green gram, black gram and soybean crops to control yellowing of leaves.

- Carry out sowing of short duration crops like ragi, maize and cowpea in Bengaluru Rural, Bengaluru Urban, Ramnagara, Chickaballapura and Kolar districts of Eastern Dry Zone with realised rainfall. Carry out intercultural operations in groundnut, red gram and maize crops to conserve soil moisture on a non rainy day.
- Complete sowing of short duration varieties of ragi in Chitradurga, Davengere and Tumakuru districts of Central Dry Zone with realised rainfall.
- Continue transplanting of rice and ragi in Kodagu, Mandya, Mysuru and Chamrajnagar districts of Southern Dry Zone. Intercultural operations in already sown cowpea and maize crops to control the weeds and to conserve soil moisture in Mandya, Mysuru and Chamrajnagar districts and new planting of pepper in Kodagu district may be carried out.
- Complete sowing of bajra, sunflower, cotton, relay cropping of cotton in groundnut and fodder crops in medium black to deep black soils and sowing of bajra, pigeonpea, spreading groundnut, setaria (Navane), horsegram, groundnut + pigeonpea (4:2), bajra + pigeonpea (2:1) in shallow and red soils in Vijayapura and Bagalkote districts. Complete sowing of pearl millet, sunflower, castor, Bt. Cotton, horsegram, Savi/navane, sunflower + castor and fodder crops in shallow to medium black and sand mixed red soils and sowing of desi cotton in medium deep, deep black soils and sand mixed loamy soils in Gadag district of North Dry Zone.
- Cloudy weather with light rain and temperature around 25-27 °C is favorable for incidence of Pytophthora blight in pigeon pea in North East Transition Zone and North East Dry Zone; if noticed, remove and destroy the affected plants and apply Mancozeb 2.5g/litre of water around infected plant and spray to other plants on a non rainy day.
- Due to prevailing weather conditions there are chances of occurrence of jassids/thrips/aphids in cotton in North Transition Zone; spray Imidacloprid 17.8SL @0.5 ml or Oxydemton Methyl 25 EC @ 1.5 ml or Acetamiprid 20SP @ 0.2 g or Thiomethoxam 25 WG @ 0.2 g/litre of water for control on a non rainy day.

▪ **Andhra Pradesh:**

- In Srikakulam, Vizianagaram and Vishakapatnam districts, continue nursery sowing and direct sowing of rice, and planting of rainfed sugarcane. Undertake pre-emergence spraying of Pretilachlor with safener @ 400 ml/acre within three days of sowing to control weed problem in direct sown rice.
- In East Godavari district, drain out excess water from rice and groundnut fields and continue transplanting of rice. In West Godavari, Krishna, Prakasam, Guntur and Krishna districts, continue nursery sowing of rice, sowing of millets, maize, red gram, black gram, green gram and cotton.
- In Rayalaseema, as the cut-off date for sowing of groundnut is 31st July and there will be a considerable reduction in yield under delayed sowings during August month, undertake sowing of the following contingency crops-sorghum(CSH-9,CSH-13,CSH-14,PSV-15,PSV-19),bajra(ICTP 8203,PBH 3),Korra(Prasad, Krishnadevaraya, Narashimharaya, Srilakshmi, Surya nandi),cowpea(C 152 GC3 C0-4 CO-5), sunflower(NDSH1 KBSH1 KBSH 44 DRSH 1), green gram(LGG 407 LGG 450 LGG 460 MGG 295 ML 267) and field bean(TFB-1 TFB-5).
- In Chittoor district, undertake transplanting of rice and continue sowing of red gram(L.R.G-30, L.R.G-41, T.R.G-22 varieties) and go for either monocropping (@ 4-5 kilo seed/acre) or intercropping with red gram + groundnut in 7:1 ration or 11:1 ratio.
- In Kadapa district, prevailing weather condition (partially cloudy with light to moderate rains is congenial for incidence of viral diseases in banana and papaya. To control, spray Dimethioate @ 2 ml or Metacystox @ 2 ml or imidachloprid @ 0.3 ml/litre of water .
- In Srikakulam, Vizianagaram and Vishakapatnam districts, prevailing weather conditions(high humidity and heavy rains) are congenial for incidence of alternaria leaf spot and stem blight in sesamum. To control, drench with Copper Oxy Chloride @ 3 g/litre of water, when noticed.
- In Anantapur and Kurnool districts, thrips incidence was noticed in cotton in few parts of the district.To control, undertake stem application of cotton i.e. Monocrotophos: water (1:4) @ 30, 45 DAS or Imidachloprid: water(1:20) @ 60 DAS on a non rainy day.

▪ **Telangana:**

- In Karimnagar, Nizamabad and Khammam districts (North Telangana Zone), undertake nursery sowing of extra short duration varieties of rice (Prathyumna, Varalu, Anjana) up to first fortnight of August.
- In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), drain out excess water from the fields of rainfed crops where heavy rainfall has been received and continue nursery sowing of short duration varieties of rice, red gram and castor. To prevent seed borne diseases, treat the seeds with fungicides before sowing and drench vegetable nursery bed with Copper-Oxy-Chloride @ 3 g/litre of water.
- In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), incidence of downy mildew and stem borer is noticed in maize and prevailing weather conditions are congenial for further spread of the diseases. To control downy mildew, spray Ridomil MZ @ 1.5 g per litre of water at 2-3 times in 15 days interval and apply Carbofuran 3G @ 4 kg per acre in the whorls to control stem borer on a non rainy day.
- In Karimnagar, Nizamabad and Khammam districts (North Telangana Zone), spodoptera exigua and stem girdler incidence was noticed in soyabean. Spray Chlorpyrifos @ 2.5 ml/litre or Quinalphos @ 2.0 ml/litre or Acephate @ 1.0 g/litre of water to control spodoptera exigua and Acephate @ 1.5g/litre or Profenophos @ 2 ml or Triazophos @ 2 ml/litre of water to control stem girdler incidence on a non rainy day.

▪ **Tamil Nadu:**

- In Ariyalur, Nagapattinam, Perambalur, Thanjavur, Thiruvarur and Trichy districts, continue land preparation for sowing of *Samba* rice (varieties CR 1009 and ADT 50) .
- In Coimbatore, Tiruppur, Erode districts, due to anticipated rainfall along with wind speed of more than 18 km, provide support to banana crop of more than 8 months old to prevent lodging and continue land preparation and sowing for irrigated winter Combodia cotton.
- In Nammakal, Salem, Dharmapuri and Krishnagiri districts, undertake transplanting of tomato seedlings and continue green gram cultivation (Co-8, VBN-2 varieties).
- In Kanyakumari district, provide pot irrigation/hose irrigation for newly planted seedlings and newly planted banana trees, since there is no significant rainfall during the coming five days
- In the Southern Zone(Kanniwadi), tikka leaf spot incidence was found in groundnut.To control, spray Carbendazim 1ml/litre or Mancozeb 2 ml/litre of water.
- In Tuticorin, Virudhunagar and Toothukudi districts, leaf hopper is noticed in bhendi. To control leaf hopper, spray Monocrotophos 36% WSC @ 2 ml/litre (or) Dimethoate 30% @ 2 ml/litre of water on a non rainy day.
- In Nilgiris district, undertake seed treatment with 10 grams of Paciliomyces, 10 grams of Trichoderma and 10 grams of Pseudomonas per kg of seed in cabbage crop, to avoid root knot nematode infestation.
- Suitable varieties for sowing are given in Annexure II.

❖ **Animal Husbandry**

- In the Western Zone of Tamil Nadu, vaccinate animals to prevent foot and mouth disease.
- In the Southern Zone of Tamil Nadu, due to low temperature, animal may avoid intake of water. Keep monitoring and provide adequate amount of good drinking water.
- Maintain proper ventilation for free circulation of air in the sheds, vaccinate the cow against the foot and mouth disease (FMD) and Black Quarter in Karnataka.

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



Banana



Rice



Groundnut



Jute

- **Realised Rainfall:** Rainfall occurred in Changlang, Lower Dibang Valley, Tawang and Upper Siang districts of Arunachal Pradesh, Cachar, Chirang, Dhubri, Dibrugarh, Golghat, Hailakandi, Jorhat, Kamrup(Rural), Karimganj, Kokrajhar, Lakhimpur and Udalgiri districts of Assam, East Garo Hills, East Khasi Hills, Ri-Bhoi and West Garo Hills districts of Meghalaya; Aizwal and Saiha districts of Mizoram; Imphal East district of Manipur and all districts of Tripura. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As rain/thundershowers likely at most/many places over Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram and Tripura during the period, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
- As heavy/heavy to very heavy rain likely at isolated places over Assam & Meghalaya from 5th to 8th, heavy rain likely at isolated places over Arunachal Pradesh from 6th to 8th and over Nagaland, Manipur, Mizoram and Tripura from 6th & 7th August, provide adequate drainage in standing crop fields to avoid water stagnation.

▪ **Assam, Meghalaya & Arunachal Pradesh:**

- In Lower Bramhapurtra Valley Zone of Assam, continue transplanting of Sali rice. For normal planting (July-August) farmers should maintained 2-3 seedlings per hill and 4-6 cm depth for all varieties. Replanting of dead hills should be done within 7-10 days of transplanting with seedlings of same age. For flood affected areas farmers are advised the following contingency measures:
 - Raising of community nursery for late planting with old seedlings of the varieties like Profulla and Gitesh (If more than 50% damaged).
 - Nursery raising of the photo insensitive short duration variety like Luit for replanting (in case of total damage).
 - Wet seeding of sprouted seeds (@75-80 kg/ha) of short to medium duration varieties like Disang, Luit, (100 days) Kapili, Kalong (120 days).
 - Late and staggered planting with the old seedlings (50-60 days old seedlings) of the varieties like Profulla and Gitesh (If the field is heavily damaged).
 - Direct seeding with the photo insensitive short duration variety like Luit.

- Adoption of submergence tolerance varieties like Jalashree, Jalkuwari, and Swarna Sub 1 for repeat flood prone areas.
- In partially affected fields, drain excess water and apply 1/3rd N + 50% K₂O as top dressing during the tillering stage.
- In Nagaon and Marigaon districts of Central Brahmaputra Valley Zone of Assam, continue land preparation and sowing of green gram and black gram, arhar and sesame after receding of flood water at optimum soil moisture conditions. Undertake harvesting of early and timely sown olitorius jute.
- In Karimganj, Hailakandi and Cachar districts of Barak valley Zone of Assam, continue transplanting of Sali rice and banana sucker.
- In Karbi Anglong and NC Hills districts of Hill Zone of Assam, continue sowing of arhar, sesame, radish and nursery sowing of early cauliflower. Complete transplanting of Sali rice at the earliest. Replanting of dead hills or gap filling with seedlings of similar age should be done within 7-10 days of transplanting. Proper drainage system should be maintained in orchards, vegetable, ginger and turmeric fields to avoid yellowing of plants. To avoid damping off of seedlings of cauliflower, the seed beds should be drenched with 0.01% Captan or 4% Formalin solution before sowing. Seed treatment with Captan or Brassicol @ 3g/kg of seed should be done.
- In Dhemaji, Darrang, Lakhimpur and Sonitpur districts of North Blank Plain Zone of Assam, undertake land preparation for sowing of green gram and black gram. Undertake direct sowing of very short duration varieties like Luit, Kapilee, Kolong and Disang (90 to 100 days duration) up to 8-10 September in case of floods up to August.
- In East Garo Hills, East Khasi Hills, Jaintia Hills, Ri-Bhoi, South Garo Hills, West Garo Hills and West Khasi Hills districts of Meghalaya, continue transplanting of Sali/kharif rice. Undertake replanting of dead hills or gap filling with seedlings of similar age within 7-10 days of transplanting. Continue harvesting of matured cobs of maize.
- In Arunachal Pradesh, for management of soft rot in ginger, undertake drenching of Metalaxyl-8% + Mancozeb 64% WP @ 2.5 g per litre of water. For control of stem borer/black bug/gundhi bug in Wetland rice at transplanting stage, spray Triazophos 40 EC @ 4ml/litre water with sticker (@1ml/litre) after current spells of rain.
- In Hill Zone of Assam, there is chance of infestation of rice hispa in Sali rice at tillering stage. Spray Quinalphos @ 10 ml /5 litres of water after current spells of rain.
- In North Blank Plain Zone of Assam, weather is conducive for the attack of rice hispa, leaf folder, case worm etc in Sali rice. Spray Chloropyriphos 20EC or Monocrotophos 40 EC @ 1.5ml per litre of water to control the attack.
- In Barak valley Zone of Assam, due to high relative humidity, there is chance of Panama disease or Panama wilt in banana. Drench with Bavistin 1gm per litre of water. Drenching may continue at 15 days interval.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Dimapur, Kephire, Kohima, Longleng, Mokokchung, Mon, Paren, Phek, Tuensang, Wokha and Zunheboto districts of Nagaland, continue transplanting of TRC/WRC rice. Continue sowing of soybean. Avoid water logging in ginger fields to prevent rhizome rot.
- In Bishnupur, Chandel, Churachandpur, Imphal East, Imphal West, Senapati, Tamenglong, Thoubal and Ukhrul districts of Manipur, continue transplanting of main *kharif* rice, cow pea and nursery raising of early cauliflower. Complete sowing of soybean.
- In Aizwal, Champhai, Chhimtuipui, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts of Mizoram, continue planting of khasi mandarin/acid lime. Continue harvesting of pre-kharif maize in clear weather.
- In Dhalai, North Tripura, South Tripura and West Tripura districts of Tripura, complete transplanting of Aman rice and sowing of kharif vegetables like ladies finger, cucurbits. Avoid flooding in SRI fields. Undertake direct sowing of rice in areas where transplanting of rice could not be carried out.
- In Mizoram, weather is conducive for attack of rice yellow stem borer in pre-kharif rice. Apply insecticide like Imidacloprid @ 0.5 ml or Phosolone @ 1.5 ml or Dimethoate 2 ml/litre of water. Apply insecticide like Imidacloprid 0.5 ml or Phosolone 1.5 ml or Acephate 1.0 g or Dimethoate 2 ml/litre of water against aphid and bug in kharif pulses like green gram, black gram and rajma. Undertake plant protection measures after current spells of rain.
- In Tripura, due to cloudy and humid weather, there is chance of infestation of gundhi bug in *Aus* rice. To manage the attack of gundhi bug, apply Cypermethrin + Propenophos 1.5ml or Cartap Hydrochloride @ 1.5 gm per litre of water or manage through bio agent like *Verticilium Lecanii* or *Bauveria Basiana* @ 6gm per litre of water in case solid formation or 6ml per litre of water for liquid formation. Also spray of Fipronil (Regent) 1 gm per litre of water against yellow stem borer in *Aman* rice. Undertake plant protection measures after current spells of rain.
- Suitable varieties for sowing are given in Annexure II.
- ❖ **Animal Husbandry**
- In Lower Brahmaputra Valley Zone of Assam, in flood affected areas, farmers are advised to keep their live-stock in upland areas and feed the animal with non-submergence grasses or tree leaves.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Groundnut



Rice



Red gram

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, Marathwada and Vidarbha, all districts of Madhya Maharashtra except Dhule, all districts of Gujarat Region except Patan, all districts of Saurashtra & Kutch except Kachchh, Morbi and Surendrnagar.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Konkan & Goa during the period, over Gujarat Region on and Vidarbha from 5th to 7th, over Marathwada on 5th, over Madhya Maharashtra and Saurashtra & Kutch on 5th & 6th August, postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy/heavy to very heavy rain very likely at isolated places over Gujarat, Madhya Maharashtra and Vidarbha on 5th & 6th and over Konkan & Goa from 5th to 7th August, provide adequate drainage in standing crop fields.
 - **Maharashtra:**
 - As there is continuous rainfall in entire Maharashtra during last three days and rain is very likely at most places during next 48 hours in Konkan and Vidarbha region, at many places in Madhya Maharashtra region during next 48 hours and in Marathwada region during next 24 hours, farmers are advised to drain out excess water and maintain adequate drainage in standing crop fields to avoid water stagnation.
 - In Konkan, as rain is likely to occur at most places, farmers are advised to undertake intercultural operations, application of fertilizers and plant protection measures in rice and finger millets fields, mango and cashew orchards after current spells of rain. Farmers are advised to maintain water level upto 5 cm in rice fields by bunding the fields.
 - In Madhya Maharashtra, complete transplanting of rice in Nasik, Kolhapur, Pune and Ahmednagar districts during first week of August. Farmers are advised to maintain water level of 3-5 cm in already transplanted rice fields. Farmers are also advised to continue planting of *adsali* sugarcane on *vapsa* condition.
 - In Marathwada, continue planting of *adsali* sugarcane on *vapsa* condition in Aurangabad and Nanded districts.
 - Farmers are advised to undertake intercultural operations, application of fertilizers and plant protection measures in soybean, cotton, red gram and green gram after current spell of rain.
 - In Vidarbha, maintain 2-3 cm water level in already transplanted rice fields in Nagpur, Bhandara, Gondia, Chandrapur and Gadchiroli districts. Farmers are advised to undertake intercultural operations, application of fertilizers and plant protection measures in soybean, cotton, red gram and green gram after current spell of rain. Areas which are not sown so far can be accommodated with suitable crops/crop varieties (as mentioned below).
 - Pigeon pea (AKT 8811 and Vipula with 60x30 cm spacing; PKV- Tara and BSMR-736 with 90x20 spacing).
 - Intercropping systems include pigeon pea + soybean (1:2 / 2:4), sunflower + pigeon pea (2:1) or in soybean after every 6 or 9 rows one row of pigeon pea may be sown.
 - Due to cloudy weather conditions in Madhya Maharashtra region, there is possibility of incidence of *sigatoka* disease in banana; spray @ 25 g Dithane M-45 or @ 25 g copper oxychloride + mineral oil @ 100 ml + good quality sticker in 10 litres of water after current spells of rain.
 - **Gujarat:**
 - Drain out excess water from transplanted rice and pulses fields in Navasari, Dangs and Valsad districts of South Gujarat Heavy Rainfall Zone. Drain out excess water from cotton fields and banana orchards in Surat, Narmada and Tapi districts. Complete sowing of castor.
 - Carry out hand weeding and intercultural operations in cotton to conserve soil moisture at vapsa condition in Kutch district.
 - Complete sowing of pigeon pea and castor in Porbandar and Junagadh districts of South Saurashtra Zone with realised rainfall. Carry out intercultural operations in groundnut and cotton.
 - Continue sowing of castor and pigeon pea in Amreli, Rajkot, Surendranagar and Jamnagar districts of North Saurashtra Zone with realised rainfall. Carry out intercultural operations and mulching in pulses and pearl millet to remove weeds and to conserve soil moisture and thinning in pearl millet.
 - In Banaskantha, Mehsana, Gandhinagar, Patan and Sabarkantha districts, undertake sowing of sorghum (S-1049, GFS-4 and GFS-5) and continue sowing of castor with realised and expected rainfall. Complete transplanting of vegetable crops like chilli and brinjal, and sowing of bhindi, cluster bean and cowpea. Continue planting of fruit crops.
 - Undertake transplanting of rice, sowing of cotton and fodder sorghum in Bhavnagar and Ahmedabad districts with

realised rainfall. Continue transplanting of vegetable crops like chilli and brinjal, sowing of bhindi, cluster bean and cowpea.

- Maintain 5 cm water level in transplanted rice field. Carry out intercultural operations in green gram, red gram and black gram at vapsa condition in Dahod, Panchmahals, Kheda, Vadodara and Anand districts. Take pigeon pea, guar as intercrop in pearl millet.
- Due to cloudy weather condition incidence of *kathiri* is observed in sesame in South Saurashtra Zone, for control, spray Dicophol @ 20 ml or Ethion @ 20 ml in 10 litres of water on a non-rainy day.
- Due to prevailing weather condition there is chance of incidence of leaf spot disease in groundnut in North Saurashtra Zone; spray Hexaconazole @ 10 ml or Tebuconazole @ 7 ml in 10 litres of water on a non-rainy day.
- In North Gujarat Zone, pink bollworm is observed in cotton; for control, spray Quinolphose @ 20 ml in 10 litres of water and install 8-10 pheromon traps per ha after current spells of rain.
- Suitable varieties for sowing are given in Annexure II.
- ❖ **Animal Husbandry**
- In Konkan, keep animals inside the animal house during heavy rain.
- Provide 30-35 g minerals mixture in daily diet of animals. Care should be taken for cattle on rainy days, keep fodder in safe place to avoid spoilage due to rainfall in Gujarat.

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



Red gram



Okra



Maize



Rice

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands except Nicobar, all districts of Sub-Himalayan West Bengal & Sikkim except Malda, South Dinajpur and West Sikkim, all districts of Gangetic West Bengal except Howrah and Murshidabad, in all districts of Bihar except Banka, Bhabua, Bhagalpur, Gaya, Kathiar, Khagadia, Monghyar, Muzaffarpur, Nawada, Saharsha, Sheikpura and Supaul, all districts of Jharkhand except Chatra, Garhwa, Giridih, Koderma, Pakur and Sahebganj, all districts of Odisha.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Andaman & Nicobar Islands, West Bengal & Sikkim, Odisha and Jharkhand during the period and over Bihar from 6th to 9th August, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy/heavy to very heavy rain very likely at isolated places over Odisha on 5th to 7th, over Sub-Himalayan West Bengal & Sikkim from 6th to 9th, heavy rain very likely at isolated places over Jharkhand from 6th to 9th, over Bihar on 7th and over Gangetic West Bengal from 7th to 9th August, provide adequate drainage in standing crop fields.
 - **Odisha:**
 - In East and South Eastern Coastal Plain Zone, continue transplanting of rice and beushaning of direct seeded rice in medium and low land if past 21 days stage. Continue sowing of green gram, black gram, cow pea and sesame in uplands after current spells of heavy rain.
 - In Koraput and Nawarangpur districts, continue sowing of maize and other non paddy crops in upland condition.
 - In Mayurbhanj and Keonjhar districts, complete sowing of groundnut, ragi, arhar, maize, green gram, black gram and sesame and planting ginger and turmeric in uplands areas. Complete sowing of green gram and black gram in fallow uplands. Continue sowing of rainy season vegetables like Bhindi (Lady's finger), Bean, French bean, and nursery raising of Tomato, Cauliflower, Cabbage etc.
 - Continue transplanting of medium duration rice varieties in medium land and medium late duration varieties in low land in Naupara and Kalahandi districts. Continue transplanting kharif rice in Malkangiri, Balasore, Bhadrak and Jajpur districts.
 - In East and South Eastern Coastal Plain Zone, fruit and shoot borer has been found in brinjal. To control it install Pheromone traps and spray Sevin WP @ 4 g or Malathion @ 2 ml in 1 litre water alternatively. Also to control fruit fly in bitter gourd, spray Sevin WP @ 3 ml in 1 litre of water after current spells of rain.
 - In Western Undulating Zone, there may be attack of early shoot borer in sugarcane crop at tillering stage. Spray Triazophos/Profenophos @ 2ml/litre of water after current spells of rain.
 - In Kalahandi and Nuapara districts of Western Undulating Zone, sucking pests like aphids, jassids may infest the cotton crop at two to four week stage. At initial stage of infestation, spray neem oil 600ml/acre @ 3ml/litre of water.

- In Kalahandi and Nuapara districts of Western Undulating Zone, stem borer attack occurs at 3-4 week stage of Maize crop. If damage is noticed, spray Traizophos 400ml in 200 litre water per acre after current spells of rain.
- In Angul and Dhenkanal districts of Mid Central Table Land Zone, to minimize infestation of Early shoot borer on sugarcane crop, spray Triazophos 40 EC @ 2ml/litre of water after current spells of rain.
- **West Bengal:**
- In Sub-Himalayan West Bengal, continue gap filling in rice in flood affected areas. If nursery is available, undertake re-transplanting of rice seedling in more affected area or undertake direct sowing of rice by selecting short duration rice varieties.
- In Darjeeling district of Hill Zone, drain out excess water from turmeric, ginger, large cardamom and in Mandarin orange gardens. Avoid water stagnation in round chilli. Continue transplanting of rice at optimum water level.
- In South Dinajpur and Malda districts of Old Alluvial Zone, continue transplanting of *Aman* rice in the main fields. Continue transplanting for early cabbage, brocolli etc after current spells of heavy rain. Use Furadon 3G @ 4 Kg/Bigha (Soil application) as preventive or to reduce initial infestation on rice crop.
- In Purba Medinipur and South 24 Parganas of Coastal Saline Zone, continue transplanting of *Aman* rice. Farmers are requested to keep some seedlings in seed bed in case of low land so that they can re-transplant the seedlings if there is damage due to flood. Continue nursery sowing for tomato and brinjal
- In Burdwan, Hooghly, Howrah, Murshidabad, Nadia, North 24 Parganas of New Alluvial Zone, continue transplanting of *Aman* rice.
- In New Alluvial Zone due to cloudy weather and high humid condition, attack of leaf and collar rot are prevalent in betelvine. Spray Blitox 4 gram per litre of water. Also there is chance of fungal collar-rot in surankand/elephant foot yam. Keep the field weed-free and clean. Apply Carbendazim (1 gm) and Thiram (2 gm) together per litre of water. Undertake plant protection measures after current spells of rain.
- In Old Alluvial Zone, to Control of Bacterial leaf blight (BLB) disease of rice, spray Copper Oxy Chloride @ 4 gram/ litre of water at morning or evening hour after current spells of rain.
- In Jalpaiguri, Cooch Behar and North Dinajpur of Terai Zone, apply Thiamethoxam @1g/3litre or Acetamiprid @1ml/litre of water against aphid, white fly, jassid, mosaic in legume vegetable after current spells of rain.
- **Andaman and Nicobar Islands:**
- In Andaman and Nicobar, keep the rice field bund open at 15 cm height.
- In Andaman and Nicobar, undertake planting of pineapple suckers/arecanut seedlings on the outside area of embankment of pond and BBF.
- **Bihar:**
- In South Bihar Alluvial Zone, continue transplanting of brinjal, tomato, chilli, cauliflower and cabbage. Farmers who want to establish new orchard are advised to plant the mango, litchi and guava plants in already opened pits.
- In Araria, Katihar, Khagaria, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, continue transplanting *kharif* rice. Prepare drainage channel to remove excess water from the field of *kharif* maize, pulses, jute and oilseed. Continue planting of horticulture crops like mango, litchi, guava and papaya.
- In Begusarai, Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, continue planting of planting of mango and banana. Continue transplanting of *kharif* onion, nursery sowing of chilli, cauliflower and sowing of radish.
- In North East Alluvial Zone, in the present weather situation, there is chance of attack of stem borer in *kharif* rice. Spray Imidacloprid 0.5ml/litre or Chlorpyrifos 20EC @ 2-3 L/ha of water in evening. To control cutworm or white grub in *kharif* maize, apply 10 kg Phorate 10G / ha. Undertake plant protection measures after current spells of rain.
- In South Bihar Alluvial Zone, there is chance of stem borer in maize. Spray of Carbrayl @ 2 gm/litre of water after current spells of rain if infestation is above ETL.
- **Jharkhand:**
- In Saraikela, East & West Singhbhum districts in South Eastern Plateau Zone of Jharkhand, complete transplanting of rice in low and medium lands. In fallow uplands, undertake sowing of low water requiring crops viz. maize, pigeon pea, pulses, oilseeds and in slopy land undertake sowing of niger, lobia, rice bean, urd bean, moong bean, guar, sesame, linseed and castor upto 2nd week of August.
- In Western Plateau Zone, complete transplanting of rice in low and medium lands by second week of August. Undertake Inter-culture operation to control weeds in different *kharif* crops like Rice, Urd, Groundnut, Arhar, Maize, Mung etc. in uplands. After weeding, broadcast urea as per the requirement of the crop.
- In Central and North Eastern parts of Jharkhand, continue transplanting of rice and complete sowing urad, sesame and undertake cultivation of improved varieties of sweet potato Birsakarkand-1 and Sri Bhadra with ridge and furrow method. Continue transplanting of marua and plantation of new trees. Repair the broken bunds of the field to conserve rain water and incorporate, daincha or sunhemp in soil for green manuring in the standing crop.
- In South Eastern Plateau Zone, in cucurbitaceous crops, if attack of red pumpkin beetle is found, spraying of Diclorvos 76 EC (DDVP) @ 1 ml/litre of water is advised after current spells of rain.
- In South Eastern Plateau Zone, presently weather is conducive for the occurrence of pests like hairy caterpillar on groundnut crop. So, in early stage of caterpillar, apply Dichlorvos @ 0.5 ml per litre of water after current spells of rain. For control of adult caterpillar, provide bamboo perch in the fields for predatory birds.
- Suitable varieties for sowing are given in Annexure II.

❖ **Animal Husbandry**

- In Coastal Saline Zone of West Bengal, there may be attack of foot and mouth disease in Cattle due to rainy weather. Wash the wound with Potassium per Manganate solution.
- In North East Alluvial Zone of Bihar, provide vaccination against Anthrax, Black Quarter and Galghontu disease to animals.
- In Old Alluvial Zone of West Bengal, carry out deworming in cattle and poultry.
- In Andaman and Nicobar Islands, carry out deworming in all the livestock followed by mineral mixture supplement @ 1% of the feed.

CENTRAL INDIA [M.P., CHHATTISGARH]



Maize



Rice



Okra



Red gram

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh except Panna and Rewa, all districts of West Madhya Pradesh except Guna, all districts of Chhattisgarh except Balrampur, Durg and Jashpur.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Madhya Pradesh during the period and over Chhattisgarh from 5th to 8th August, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy to very heavy rain very likely at a few/isolated places over Chhattisgarh from 5th to 7th, at a few places over West Madhya Pradesh on 6th and at isolated places over East Madhya Pradesh on 6th, heavy rain at isolated places over Madhya Pradesh on 5th, 7th and 8th August, provide adequate drainage in standing crop fields.
 - **Madhya Pradesh:**
 - In East Madhya Pradesh, drain out excess water from already sown maize and soybean crop fields. Continue transplanting of vegetables.
 - In Indore and Ujjain districts, continue transplanting of vegetables. Undertake intercultural operations in soybean and maize after current spells of rain.
 - In Morena and Gwalior districts, continue transplanting of vegetables. Undertake intercultural operations in red gram, green gram, black gram and bajra after current spells of rain. Undertake transplanting of orchard crops.
 - In Hoshangabad and Narsinghpur districts, drain out excess water from soybean and red gram fields. Undertake intercultural operations in rice, soybean, red gram and vegetable fields after current spells of rain.
 - In Jhabua, Alirajpur and Dhar districts, continue transplanting of vegetables. Provide adequate drainage in crop fields.
 - In Vindhya Plateau Zone, due to cloudy weather there are chances of attack of sucking pests in brinjal, tomato and chilli, spray Thiamethoxam @ 0.35 g/litre of water after current spells of rain.
 - In Bundelkhand Zone, due to humid weather there are chances of attack of semi lopper in soybean crop, spray Triazophos 40 E.C. @ 1.5 ml/litre of water after current spells of rain.
 - **Chhattisgarh:**
 - In North Chhattisgarh, continue planting of orchard crops like Papaya, Guava, Mango, Litchi and Pomegranate. Continue nursery sowing of brinjal, tomato, chilli and onion in upland areas after current spells of heavy rain. Undertake intercultural operations in *kharif* crops after current spells of rain.
 - In Central Chhattisgarh, continue nursery preparation for vegetables. Undertake intercultural operations in rice, sugarcane and vegetables after current spells of rain. Continue planting of orchard crops like papaya, mango, guava etc.
 - In South Chhattisgarh, continue transplanting of rice. Continue raising of saplings of papaya and custard apple for planting in orchards. Undertake intercultural operations in standing crops after current spells of rain.
 - In South Chhattisgarh, due to humid weather there are chances of attack of sucking pests in vegetables like tomato, brinjal, cabbage etc. spray Dimethoate 40 EC @ 1.5ml/litre of water after current spells of rain.
 - In Central Chhattisgarh due to cloudy weather there are chances of attack of leaf caterpillar in soybean, spray Triazophos @ 2ml/acre.
 - Suitable varieties for sowing are given in Annexure II.
- ❖ **Animal Husbandry**
 - In Madhya Pradesh, vaccinate cattle for control of FMD and HS disease.
 - In Chhattisgarh, farmers are advised to carry out vaccination of their animals against Black Quarter, HS and Anthrax disease.

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



Groundnut

Maize

Rice

Okra

- **Realised Rainfall:** Rainfall occurred in Anantnag, Doda, Jammu, Kathua, Kulgam, Pulwama, Rajouri, Ramban, Reasi, Samba, Srinagar and Udhampur districts of Jammu & Kashmir, all districts of Himachal Pradesh except Kinnaur and Lahaul & Spiti, all districts of Uttarakhand, Gurdaspur, Ropar, Mohali and Tarn Taran districts of Punjab, Bhiwani, Chandigarh, Faridabad, Gurgaon, Jhajar, Karnal, Mewat, Palwal, Panchkkula, Panipat, Rewari, Sonapat and Yamunanagar districts of Haryana, all districts of Delhi except East Delhi, all districts of East Uttar Pradesh except Basti, Deoria, Kannauj, Kaushambi, Kushinagar and Sant Kabirdasnagar, all districts of West Uttar Pradesh except Auraiya, GB Nagar, Ghaziabad and Mainpuri, all districts of East Rajasthan, in Churu, Jodhpur, Nagaur and Pali districts of West Rajasthan. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As rain/snow is very likely at most places over Uttarakhand during the period, over Himachal Pradesh and Jammu and Kashmir from 6th to 9th, rain/thundershowers is very likely at most/many places over East Rajasthan during the period, over west Uttar Pradesh from 7th to 9th, over East Uttar Pradesh, Punjab, Haryana, Chandigarh & Delhi from 6th to 9th August, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
- As heavy/heavy to very heavy rain very likely at a few/isolated places over Uttarakhand during the period and Himachal Pradesh from 7th to 9th, heavy rain likely at isolated places over west Uttar Pradesh from 7th to 9th, over East Rajasthan on 5th, 6th & 8th, over East Uttar Pradesh from 7th to 9th, over Punjab from 7th to 9th and over Haryana, Chandigarh & Delhi on 8th & 9th August, provide adequate drainage in standing crop fields to avoid water stagnation.
- **Jammu & Kashmir:**
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, strengthen and raise the height of field bunds of already transplanted paddy to retain optimum water level. Drain out excess water from the maize, mash, fodder and vegetable fields. Apply 2nd dose of nitrogenous fertilizer as top dressing in normal transplanted rice crop if the crop is 25-30 days in clear weather.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, apply first dose of Urea to paddy at mid tillering stage and to maize after 30-45 days. Drain out excess water in maize field as maize crop is very sensitive to water logging. Do weeding at regular intervals in the field of maize crop at least up to 40 days after sowing to avoid yield loss.
 - In Srinagar, Badgam, Kupwara and Baramulla districts of Valley Temperate Zone, apply first dose of Nitrogen @ 3.35kg Urea per kanal after 15-18 days of transplanting of paddy. Open drainage channels to avoid water stagnation in maize, pulses and saffron fields.
 - In Leh district of Cold Arid Zone, continue harvesting of turnips, knolkhol, lettuce, kale, Chinese cabbage, broccoli, summer squash and radish in clear weather. Farmers are advised to apply third top dressing with Nitrogenous fertilizers in tomatoes in green houses. Proper irrigation should be applied at regular intervals of time.
 - In Kathua, Samba and Reasi districts of Sub Tropical Zone, weather is favourable for incidence of stalk rot in maize and brown spot and blast in paddy, spray Mancozeb @ 0.25% to control stalk rot and tricyclazole @ 0.06% to control brown spot and blast, if symptoms appears.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, weather is congenial for attack of stem borer and blast on paddy crop. To control stem borer, apply Carbofuran 3G @ 20kg/ha in standing water and do not drain or irrigate the field for 72 hrs of application. To control blast, spray Tricyclazole (beam) @ 0.06% in clear weather.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, there may be chances of early & late blight and leaf curl on tomato, jassid and white fly attack on brinjal and attack of Jassid on okra crop as these crops are in fruiting stage in the region. Monitor the crops and take plant protection measures if incidence is noticed.
- **Uttarakhand:**
 - In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, undertake top dressing of Nitrogen fertilizers in maize crop. Make drainage channel in maize, rice, sugarcane and vegetable fields. Avoid stagnation of water in pulse crops.
 - In Udham Singh Nagar district of Bhabar and Tarai Zone, undertake late sowing of maize, sowing of *Kharif* fodder crops like jowar, lobia, maize, bajra, cluster bean (Guar) and complete it till 15th of August. Tie 5-6 sugarcane of

each row with dry leaves at the height of 1.5 to 2 feet from the ground to avoid damage due to heavy rain and high wind. Undertake sowing of urad and moong in the regions which are free from water logging. Raddish varieties like Pusa Chetki, Japani Safed and Pusa Rashmi and cucurbits class crops should be sown during the week. Proper drainage should be arranged in the field where early variety of cabbage has been transplanted.

- In Nainital district of Bhabar and Tarai Zone, apply Urea @ 1.25 Kg/nali as top dressing in the Chetki/ Jethi variety of Paddy in clear weather. Undertake sowing of French bean after treating the seed with 2gThirum+ 1g Carbendazim/Kg of seed. Undertake sowing of early varieties of pea like- Arkil, V.L.-7, P-89 may be sown in mid hills. Drain out excess water from the vegetable fields. Complete transplanting of cabbage and knoll-khol and sowing of radish and turnip in hilly regions.
- In Tehri Garhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, drain out excess water from vegetable crops. Do the hoeing & weeding in paddy, barnyard millet, soybean, urad, rice bean, ginger, pigeon pea & vegetable crops. Undertake sowing of radish, spinach & coriander as early as possible. Undertake sowing of fodder sorghum specially Pusa chari9, Pusa chari 6 varieties.
- In Nainital district of Bhabar and Tarai Zone, due to prevailing weather, if Parnjalak insects appears in Amaranth crop, spray the solution of Methyl-O- Dematon or Dimethoate @ 1ml/litre of water after current spells of rain.
- In Udham Singh Nagar district of Bhabar and Tarai Zone, during this weather conditions there is chance of attack of sap sucking insects like white fly, aphids, thrips on chilli crop. To control, spray Copper-Oxichloride @ 0.25% at 15 days interval after current spells of rain.
- In Tehri Garhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, farmers are advised for constant monitoring of finger millet crops against blast disease, if the population is above ETL then spray Tilt 2.0 ml/litre of water after current spells of rain.
- In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, there is possibility of stem borer in maize and paddy crop. Apply carbofuran 3% granules @ 20 kg/ha to maize and quinalphos 25 EC 20 ml in 10 litres of water to paddy crop to prevent the infestation of stem borer after current spells of rain.
- **Himachal Pradesh:**
 - In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, complete transplanting of paddy. Continue sowing of *kharif* pulses mung, mash, soybean, cowpeas and kulthi. In mid hill areas, complete transplanting of tomato, brinjal, chilli and capsicum. Continue sowing of cucurbits such as cucumber, bitter melon, bottle gourd and summer squash, ageti okra, French bean and radish. Complete planting of ginger, turmeric.
 - In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Bilaspur, Solan, Shimla and Sirmour districts, complete sowing of bhindi, cucurbits, French bean, moong and mash and nursery raising and transplanting of tomato, chilli, capsicum and brinjal. Continue sowing of fodder crops like maize, cowpea and soybean.
 - In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, continue sowing of oat. Continue nursery sowing of vegetables.
 - In Kullu and Mandi districts of Mild Hills Sub-Humid Zone, weather is conducive for attack of bacterial blight in apple, for control spray Copper-Oxychloride @ 500 gm + Streptomycin @ 6 gm in 200 litres of water after current spells of rain.
 - In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, weather is conducive for attack of mite and jassids in okra, chilli and cucurbitaceous, for control spray Phosmite @ 1.5 to 2 ml per litre of water for control mite and spray Dimethoate 30 EC @ 2 ml per litre of water for control of jassids after current spells of rain.
 - In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, weather is conducive for attack of blast and brown spot in paddy crop, for control spray Carbendazim @ 2.0 gram per litre of water on a non rainy day.
 - In Sub-Montane and Low Hills Sub-Tropical Zone, weather is conducive for attack of shoot and fruit borer in brinjal and tomato crops, for control spray Spinosad 48 EC @ 1 ml per 4 litres of water after current spells of rain.
 - In Sub-Montane and Low Hills Sub-Tropical Zone, prevailing weather is conducive for attack of red pumpkin beetle in cucurbitaceous crops, for control spray Dichlorvos 76 EC (DDVP) @ 1 ml per litre of water after current spells of rain.
 - In Mild Hills Sub-Humid Zone, weather is conducive for attack of aphid in pomegranate, for control spray Emidacloprid @ 60 ml per 200 litres of water after current spells of rain.
 - In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, present weather is conducive for attack of leaf spot in cauliflower, tomato and cabbage, for control spray Indofil M45 @ 0.25 % or Blitox 50 @ 0.30 % and repeat if necessary at 10-15 days interval after current spells of rain.
- **Rajasthan:**
 - In East Rajasthan, Bhilwara, Chitorgarh, Rajsamand, Sirohi, Udaipur districts of Sub Humid Southern Plain and Aravali Hill Zone, continue sowing of short duration varieties of kharif crops along with intercropping like Maize-Urd (2:2), Maize-Moong/Cowpea (1:1) or Maize-Cluster bean (2:2). Continue sowing of maize for fodder. Continue nursery sowing of brinjal, tomato, rainy onion, cauliflower and chilli with realized and expected rainfall. Undertake weeding and hoeing operation in maize, cotton, groundnut crops.
 - In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, undertake

weeding and thinning operation in timely sown sorghum, pearl millet, sesame and groundnut crops on clear days. Complete sowing of sorghum, pearl millet, guar, sesame, mung, urad, maize. For late sowing prefer early maturing varieties of green gram, moth bean and urd. Continue sowing of dhaincha for green manuring. Undertake sowing of early maturing varieties of moong. Treat seed with Carbendazim @ 2g /kg followed by Rhizobium before sowing.

- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, undertake hoeing & weeding operation in pearl millet, sorghum, maize. Continue sowing of khira, bottle gourd, ridge gourd, bitter gourd, cucumber & cluster bean.
- In Jhalawar, Kota, Bundi, Baran of Southeastern Humid Plain Zone, continue transplanting of paddy. Continue sowing of soybean, maize, urad, mung.
- In Arid Western Plain Zone, in Jaisalmer and Bikaner districts, continue sowing of bajra, mung, cluster bean, moth, bhindi and pearl millet and sorghum as green fodder crops. In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, continue sowing of short duration bajra variety and moth, moong, sesame, groundnut and cucurbitaceous.
- In Dungarpur and Banswara districts of Southern Humid Plain Zone, apply top dressing of urea in maize, cotton and direct seeded rice (DSR), Continue transplanting of rice in Banswara district.
- In Irrigated North Western Plain Zone, complete transplanting of rice. Continue sowing of guar, bajra, sesame, mung, moth, and castor in Hanumangarh district with realised rainfall.
- In Dungarpur and Banswara districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of stem fly/Semiloopers /girdle beetle in soybean and jassids in cotton for control of stem fly/Semiloopers /girdle beetle in soybean spray Triazophos 40 EC or Profenophos 50 EC @ 1.25 litres per hectare or Dimethoate 30 EC @ 1 litre per hectare and spray Emidachloprid 17.8 SL @ 200 ml per hectre for control of jassids in cotton on a non rainy day.
- In Arid Western Plain Zone, in Jaisalmer and Bikaner districts, prevailing weather condition is congenial for attack of sucking pests as jassids and thrips in early sown cluster bean, for control spray Emidachloprid 17.8 SL @ 300 ml per hectre on a non rainy day.
- In Arid Western Plain Zone, in Jaisalmer and Bikaner districts, prevailing weather condition is congenial for attack of root/collar rot and termite in standing groundnut crop, for control apply Carbendazim (as drenching) @ 2.0 kg per hectare mixed with soil at the time of rains or along with irrigation water for root/collar rot and apply Chlorpyriphos @ 2.5 litres per hectare mixed with soil at the time of rains or along with irrigation water for control of termite on a non rainy day.
- In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, prevailing weather condition is congenial for attack of termite in groundnut, for control apply Chlorpyriphos 20 EC @ 4 litres per hectare along with irrigation on a non rainy day.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of yellow mosaic in okra, for control spray Malathion 50 EC @ 1 ml per litre of water before & after flowering on a non rainy day.
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganaganagar, prevailing weather condition is congenial for attack of spotted bollworm in Desi cotton, for control spray Quinalphos 25 EC @ 2 ml or Fenveret 20 EC @ 1 ml per litre of water on a non rainy day.
- In Irrigated North Western Plain Zone, prevailing weather condition is congenial for attack of white fly in Narma cotton for control spray mixture of Nimbesidin + Taral soap 5 ml @ 1 ml per litre of water or Triazophos 40 EC @ 2.5 ml per litre of water after current spells of rain.
- In Irrigated North Western Plain Zone, Hanumangarh and Sriganaganagar, prevailing weather condition is congenial for attack of sap sucking pest as whitefly, jassids in guar for control spray Triazophos @ 2.5 ml or Acetamiprid @ 0.4 gm. per litre of water after current spells of rain.
- **Punjab, Haryana and Delhi:**
- In Punjab, in Fazilka, Ferozepur and Faridkot districts, complete the transplanting of short duration varieties of rice and sowing of cotton. Continue sowing of okra, maize and planting of sugarcane. Continue transplanting of chilli and cucurbits on the ridges. Complete the sowing of moong.
- In Moga, Bhatinda, Barnala, Mutsar, Sangrur and Mansa districts, continue transplanting of chilli, tomato, bell pepper. Continue sowing of cucurbits, round gourd, sponge gourd, okra, and cluster bean. Complete sowing of cotton, transplanting of paddy and undertake sowing of fodder crops. Drain out the excess water from the cotton fields.
- In Central Plain Zone of Punjab, complete the transplanting of basmati varieties and undertake sowing of fodder crops.
- In Gurdaspur district of Punjab, complete transplanting of rice and continue sowing of maize. Drain out excess water from field of maize, sugarcane, pulses and vegetables. Undertake planting of ever green fruit crops like citrus, mango, litchi, guava, etc.
- In Ajitgarh, Rupnagar and SBS Nagar, continue sowing of maize, mash, okra, cucurbits, cowpea, sesame and nursery raising of early varieties of cauliflower, brinjal and tomato.
- In Western Zone of Haryana, continue transplanting of rice, sowing of arhar, green gram and black gram. Complete the sowing of guar/bajra and sowing of leafy vegetables, bottle gourd, cucumber, ridge gourd summer radish. Undertake intercultural / hoeing operations in cotton crops for conserving the moisture and removing the

weeds on a non rainy day. Undertake planting the fruits crops.

- In Eastern Zone of Haryana, continue transplanting of rice and continue sowing of fodder crops such as guar, maize and bajra.
- In Western Semi-Arid Zone of Delhi, drain out water from nurseries of vegetables, pulse crop, maize and vegetables. Continue sowing of sweet corn, baby corn and fodder crops such as sorghum, bajra, cluster bean and maize. Undertake transplanting of early cauliflower, tomato, chilli and brinjal on raised bed and sowing of Radish, Spinach and Coriander. Undertake transplanting of onion seedling in the prepared fields.
- In Western Plain Zone of Punjab, there is chance of top borer in the sugarcane fields, apply 10 kg Ferterra 0.4 GR or 12 kg carbofuran encapsulated 3G or Phorate encapsulated 10G at the base of the shoots on a non rainy day .
- In Western Zone of Punjab, sheath blight may be noticed in rice. Check by spraying Amistar Top 325 SC @ 200 ml or Nativo 75 WG @ 80 g or Lustre 37.5 SE @ 320 ml or Folicure/Orius 25 EC @ 200 ml or Bavistin 50 WP @ 200 g or Tilt/Bumper 25 EC or Monceren 250 SC 200 ml in 200 litres of water.
- In Undulating Plain Zone of Punjab as weather is congenial for the infection sheath blight in rice, keep the water channels & ridges free from weeds to prevent initial infection.
- Due to variable weather and high moisture level in the environment, monitor the insect/pest and disease in the crop. For control of leafhopper infestation, spray 600 gram Carbaryl or 600 ml Quinalphas 25 E.C. or 800 ml Linden (Kenoden) 20 E.C. with 150-175 liter water per acre, after current spells of rain.
- In Western Semi-Arid Zone of Delhi, monitor the cucurbitaceous crops against attack of fruit fly, use 'Methyl Eugenol trap, if symptoms seen, spray Rogor @ 2 ml + 10 g sugar or jaggary/litre water at 50 litres/ha after current spells of rain.

▪ **Uttar Pradesh:**

- In Central Plain Zone of East Uttar Pradesh, continue transplanting of paddy. Complete transplanting of early mature paddy. Continue sowing of sorghum maize, arhar, urad, mung, moth, soybean, sesame, groundnut, kharif sunflower. Continue sowing of bhindi, lobia and cucurbits and transplanting of early maturing varieties of brinjal, chilli, cauliflower. Continue sowing of spinach, lobia, louki, torai and tinda.
- In Central Plain Zone of East Uttar Pradesh, undertake intercultural operation in mung, urad, soybean crop.
- In Eastern Plain Zone of East Uttar Pradesh, complete transplanting of scented paddy. Continue sowing of arhar, jowar, bajra, urad, mung, maize.
- In North Eastern Plain Zone of East Uttar Pradesh, complete transplanting of paddy and continue sowing of kharif maize, pigeon pea, urad, mung, sesame, groundnut, jowar and cowpea.
- In Western Plain Zone of West Uttar Pradesh, continue transplanting of paddy and sowing of pigeon pea, maize. Continue transplanting of tomato, chilli and sowing of bhindi, cucurbits and sowing of sunflower, urad, mung.
- In Bundelkhand Zone of West Uttar Pradesh, complete sowing of long duration varieties of groundnut, soybean, jowar, arhar, maize, urad, bajra, mung and sesame. Continue nursery sowing of early maturing varieties of tomato, cabbage, brinjal, chilli, cauli flower and transplanting of brinjal, chilli, tomato, cabbage, cauli flower. Complete transplanting of paddy in irrigated areas.
- In Western Plain Zone of West Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of mite and jassids in okra, chilli and cucurbitaceous, for control mite spray Phosmite @ 1.5 to 2 ml per litre of water and for control of jassids spray Dimethoate 30 EC @ 2 ml per litre of water after current spells of rain.
- In Bundelkhand Zone of West Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of yellow mosaic in urad, mung and groundnut, for control spray Monocrotophos @ 1.5 litres in one hectare after current spells of rain.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of leaf roller in standing crop of maize, for control spray Fenitrothion 50 EC @ 500 to 700 ml or Quinalphos 25 EC @ 2 litres in 700 to 800 litres of water per hectare after current spells of rain.
- In Central Plain Zone of East Uttar Pradesh due to moisture or humid weather condition, there may be chances of attack of stem borer in maize, for control, spray Dimethoate 30 EC @ 1 litre or Quinalphos 25 EC @ 1.5 litres in 700 to 800 litres of water per hectare after current spells of rain.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of fruit borer/leaf sheath in vegetables, for control, spray Neem oil @ 1.5 ml to 2 ml per litre of water, 3 to 4 times at 8 to 10 days of intervals after current spells of rain.
- Suitable varieties for sowing are given in Annexure II.

❖ **Horticulture:**

- In Central and Eastern Plain Zone of East Uttar Pradesh and Bundelkhand Zone of West Uttar Pradesh continue planting of new orchard of mango, guava, ber, lichi, aonla, lemon, ber, papaya.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of red rust disease and sooty mould in Mango and Litchi for control spray Blitox 0.3% @ 3 gm. per litre of water on a non rainy day.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhapur districts of Flood Prone Eastern Plain Zone, undertake preparation of pits by applying manure and fertilizers for planting of guava, pomegranate, lime, aonla, ber, papaya.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, undertake plantation of mango, litchi, guava, citrus, laquat and amla.

- In Una, Hamirpur, Kangra and Chamba districts of Himachal Pradesh, weather is conducive for citrus canker on citrus plants, for control spray Malathion @ 10 ml or Metasystox @ 10 ml per 10 litres of water on a non rainy day.
- In Nainital district of Bhabar and Tarai Zone of Uttarakhand, in the Polyhouse, undertake planting of evergreen fruit plants like mango, guava, lemon, papaya during the month.
- In Udham Singh Nagar district of Bhabar and Tarai Zone of Uttarakhand, complete harvesting of late maturing varieties of Mango like Fazli, Pusa Arunima and Amrapali at the earliest.
- ❖ **Animal Husbandry**
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone of Rajasthan, animals may be attacked by external & internal parasites. To control internal parasites give Albendazole or Fenbendazole under the guidance of Veterinary Doctor. To control attack of external parasites like ticks, flies, mosquitoes etc. spray Butox on animal surrounding & body.
- In Tarai Zone of Uttarakhand, to save the poultry birds from Ranikhet disease, vaccination (R B 2) should be done when they attained the age of 6-8 weeks. Deworming doses should be given to the poultry birds on the recommendation of veterinarian because worms in the poultry birds lessen the production capacity of eggs. If there is an infestation of lice in animals, 1% Sumithione should be sprayed.
- In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, there is possibility of foot and mouth diseases and lagria in cow and buffaloes. Give vaccination to the animals to protect the animals from these diseases.
- ❖ **Apiculture:**
- In Himachal Pradesh, to control mites attack on honeybees, dust Sulphur on sealed brood in the colony and not on larvae. Also insert empty frame /combs for egg laying to the queen as the population starts builds up.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, kill wasps with a wooden flap and dusting or spraying with insecticides. Keep colonies in stand to give protection against ants. Check ants by placing legs of bee hive stand in water in water pots.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, for the protection of honey bee colonies from ants, farmers are advised to put the legs of apiary into water so that ants could not attack apiary. Farmers are advised to not open the honey bee colonies during rainy day/cloudy weather conditions. Artificial feeding may be given to honey bee colonies in case of insufficient nectar or honey in the apiary.

Districtwise realised rainfall and % departure for past three weeks is given below in Annexure I

Annexure I

Week by week Rainfall Distribution

Sub-Divisions	20.07.16		27.07.16		03.08.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	131.0	27	199.0	83	35.4	-39
Dibang Valley	**	**	**	**	**	**
East Kameng	36.4	-51	72.8	-17	26.7	-59
East Siang	311.4	25	611.5	173	5.3	-97
Kurung Kumey	**	**	**	**	**	**
Lohit	195.5	20	318.4	86	16.6	-85
Lower Dibang Valley	516.6	727	903.3	1531	58.8	28
Lower Subansari	**	**	**	**	**	**
Papumpare	204.9	42	171.0	64	19.0	-82
Tawang	147.0	-16	111.2	-28	88.0	-33
Tirap	86.4	-60	189.4	-10	15.6	-89
Upper Siang	137.8	4	197.8	42	49.0	-61
Upper Subansari	65.0	18	61.2	58	26.0	-13
West Kameng	145.3	-17	43.6	-72	14.4	-89
West Siang	80.4	-45	115.4	-24	16.3	-78
Assam&Meghalaya						

Assam						
Baksa	159.0	3	229.2	51	19.8	-83
Barpeta	117.3	-24	253.1	67	8.1	-93
Bongaigaon	165.0	4	262.6	60	27.0	-73
Cachar	136.0	7	77.9	-34	66.3	-36
Chirang	274.0	73	551.6	236	39.8	-59
Darrang	**	**	**	**	**	**
Dhemaji	**	**	**	**	**	**
Dhubri	126.5	15	132.0	-11	95.4	-3
Dibrugarh	74.8	-39	154.3	35	32.2	-65
Goalpara	104.0	4	183.3	73	28.4	-68
Golaghat	52.6	-33	42.1	-39	68.0	38
Hailakandi	51.2	-47	66.5	-33	57.8	-44
Jorhat	143.6	50	49.6	-28	66.0	-23
Kamrup(Rural)	122.5	47	103.5	87	35.7	-42
Kamrup(Metro)	137.3	65	38.9	-30	8.2	-87
Karbi Anglong	5.7	-87	48.6	-22	8.9	-84
Karimganj	103.1	-27	133.6	-4	77.3	-29
Kokrajhar	164.3	0	210.0	14	62.6	-58
Lakhimpur	291.5	130	162.3	36	95.1	-10
Morigaon	102.0	32	127.8	68	0.0	-100
N.C.Hills	24.0	-58	29.6	-58	3.1	-91
Nagaon	58.5	-28	80.5	8	8.5	-87
Nalbari	116.7	11	230.6	157	22.4	-70
Sonitpur	64.0	-29	80.1	6	18.4	-74
Sibsagar	92.8	32	99.1	24	13.4	-83
Tinsukia	66.8	-43	212.9	74	14.8	-83
Udalgiri	73.6	-10	116.6	102	62.2	-9
Meghalaya						
East Garo Hills	433.0	211	447.8	350	81.8	-22
East Khasi Hills	1000.4	203	921.7	199	45.9	-82
Jaintia Hills	24.0	-89	11.0	-97	4.0	-99
Ribhoi	72.7	-27	107.2	37	33.8	-68
South Garo Hills	8.0	-97	6.0	-95	6.0	-94
West Garo Hills	131.8	30	82.2	-27	114.0	23
West Khasi Hills	277.0	141	109.0	-58	13.0	-91
NMMT						
Mizoram						
Aizwal	17.3	-84	90.2	-13	39.2	-64
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	69.0	-28	47.0	-54	118.0	17
Serchhip	66.8	-34	96.5	-9	0.3	-99
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**

Churachandpur	**	**	**	**	**	**
Imphal east	59.5	-12	64.5	-14	34.9	-33
Imphal west	121.5	142	105.0	94	0.0	-100
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	**	**	**	**
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	59.6	139	35.7	40	10.5	-77
Kephire	**	**	**	**	**	**
Kohima	63.0	-19	37.1	-58	23.6	-72
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Paran	**	**	**	**	**	**
Phek	122.0	56	59.0	-33	6.0	-93
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	66.5	-8	44.6	-43	67.4	-33
NorthTripura	27.5	-68	33.9	-63	30.5	-61
SouthTripura	181.9	57	46.4	-55	80.4	-23
West Tripura	155.1	79	36.9	-58	78.4	-3
Himachal Pradesh						
Bilaspur	27.2	-65	44.7	-45	55.1	-28
Chamba	47.5	-71	41.5	-74	90.2	-34
Hamirpur	52.7	-51	39.9	-59	96.2	-3
Kangra	103.5	-30	139.3	-9	179.9	7
Kinnaur	15.7	-19	1.3	-93	8.4	-51
Kullu	42.6	-11	20.7	-56	65.6	39
Lahaul and Spiti	1.9	-95	8.0	-82	4.7	-88
Mandi	55.3	-47	70.3	-37	106.7	-6
Shimla	54.3	-9	41.8	-29	85.7	58
Sirmaur	140.8	16	84.3	-36	181.0	52
Solan	39.9	-57	52.3	-41	97.9	15
Una	23.6	-67	57.8	-21	38.8	-50
Punjab						
Amritsar	93.2	73	39.4	-26	9.6	-84
Barnala	5.0	-85	0.0	-100	0.0	-100
Bhatinda	23.9	-17	0.0	-100	4.5	-83
Faridkot	32.6	-8	8.6	-66	0.0	-100
Fatehgarh Sahib	22.7	-49	28.8	-36	15.7	-72
Ferozpur	22.0	-24	7.3	-77	0.0	-100
Gurdaspur	87.6	7	102.0	26	88.5	3
Hoshiarpur	4.2	-94	18.4	-65	14.9	-81
Jalandhar	40.8	-8	13.0	-73	5.1	-90
Kapurthala	42.7	3	65.7	46	4.5	-88
Ludhiana	27.0	-42	32.0	-21	9.4	-81

Mansa	58.0	78	0.0	-100	0.0	-100
Moga	0.0	-100	52.8	102	0.0	-100
Muktesar	47.0	75	0.0	-100	11.4	-50
Nawashahar	37.2	-34	21.2	-65	11.3	-86
Patiala	12.2	-76	25.2	-51	15.2	-74
Ropar	38.7	-41	64.9	4	53.5	-36
Sangrur	26.9	-30	24.3	-37	18.2	-53
Mohali	0.0	-100	124.0	144	33.0	-52
TarnTaran	12.5	-61	37.0	7	36.0	-6
Haryana,Chd,Delhi						
Haryana						
Ambala	26.7	-56	82.7	10	15.1	-79
Bhiwani	73.4	143	0.8	-98	33.5	11
Chandigarh	22.4	-64	65.1	3	33.5	-53
Faridabad	125.7	124	9.0	-84	187.5	281
Fatehabad	33.7	50	0.0	-100	20.3	-20
Gurgaon	84.6	63	14.4	-64	51.5	37
Hissar	48.6	87	2.9	-92	28.2	14
Jhajar	83.0	88	0.1	-99	41.3	15
Jind	24.3	-31	4.5	-85	25.0	-16
Katihah	8.3	-74	14.0	-57	16.8	-44
Karnal	33.0	-34	4.0	-89	71.0	65
Kurukshetra	3.7	-92	23.7	-42	14.8	-69
Mahendragarh	66.3	71	7.2	-84	29.5	-5
Mewat	79.0	85	23.5	-46	32.4	-11
Palwal	90.5	113	12.3	-70	45.7	31
Panchkkula	8.1	-89	68.5	-15	42.9	-51
Panipat	13.8	-67	30.0	-23	30.9	-27
Rewari	131.6	200	3.4	-92	42.4	8
Rohtak	47.4	-16	4.2	-91	13.7	-67
Sirsa	1.8	-93	0.0	-100	0.0	-100
Sonepat	36.7	-13	2.8	-94	44.0	-16
Yamunanagar	208.9	212	58.3	-30	65.0	-19
Delhi						
Central Delhi	123.0	108	16.0	-72	99.0	77
East Delhi	4.0	-93	0.0	-100	0.0	-100
New Delhi	142.2	141	3.2	-94	69.1	23
North Delhi	113.2	92	14.3	-75	106.3	90
North East Delhi	30.0	-49	59.0	4	100.0	79
North West Delhi	11.0	-81	0.0	-100	30.0	-46
South Delhi	61.7	4	15.6	-73	148.8	166
South West Delhi	103.3	75	4.6	-92	174.9	212
West Delhi	144.0	144	5.0	-91	96.0	71
Jammu & Kashmir						
Anantnag	24.3	22	14.8	-37	32.0	66
Badgam	13.8	-4	11.8	-41	28.6	82
Bandipore	**	**	**	**	**	**
Baramula	7.0	-68	0.0	-100	27.6	31
Doda	29.4	-15	24.0	-25	62.6	82

Ganderbal	19.1	28	4.6	-74	14.5	-6
Jammu	105.0	46	190.5	101	206.7	121
Kargil	**	**	**	**	**	**
Kathua	66.3	-17	148.5	21	47.1	-58
Kistwar	**	**	**	**	**	**
Kulgam	7.8	-61	41.6	76	36.6	90
Kupwara	7.2	-47	22.2	-8	20.8	39
Ladakh(Leh)	1.4	-53	0.9	-55	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	11.6	-42	10.8	-46	43.2	135
Rajouri	65.8	19	63.2	-15	54.2	-29
Ramban	19.1	-45	14.7	-54	48.0	40
Reasi	77.7	-38	158.4	8	139.0	-16
Samba	144.7	101	83.6	-12	136.9	46
Shopian	**	**	**	**	**	**
Srinagar	1.9	-87	11.4	-35	43.3	181
Udhampur	124.3	0	77.0	-48	143.8	-13
East Madhya Pradesh						
Anuppur	67.5	-28	68.8	-12	80.9	-3
Balaghat	41.8	-66	78.8	-21	71.6	-35
Chhatarpur	91.8	24	59.0	-22	72.3	-13
Chindwara	22.2	-65	71.2	17	92.0	32
Damoh	75.2	-13	33.3	-59	50.3	-55
Dindori	76.7	-27	59.6	-29	123.3	37
Jabalpur	11.9	-84	88.6	13	62.4	-38
Katni	51.8	-36	115.4	59	46.6	-56
Mandla	71.6	-27	51.5	-48	79.4	-18
Narsingpur	31.4	-60	105.8	37	68.0	-29
Panna	84.5	-10	127.0	68	22.9	-75
Rewa	45.4	-42	54.3	-19	28.2	-66
Sagar	37.9	-53	86.6	13	51.5	-49
Satna	91.3	27	49.3	-28	46.6	-47
Seoni	37.3	-53	101.1	29	70.9	-13
Shahdol	28.0	-66	102.0	53	44.2	-38
Sidhi	188.2	138	72.2	16	70.8	-12
Singrauli	50.4	-27	91.2	48	122.0	78
Tikamgarh	31.3	-54	64.5	0	51.5	-26
Umaria	46.2	-48	31.0	-54	96.8	3
West Madhya Pradesh						
Agar	5.2	-96	88.9	-33	194.2	44
Alirajpur	22.4	-59	32.7	-57	133.7	111
Asoknagar	15.5	-81	76.3	-13	70.0	12
Badwani	14.9	-69	30.6	-39	50.9	16
Betul	9.3	-85	66.0	-13	118.7	66
Bhind	108.9	104	25.6	-55	78.4	61
Bhopal	43.3	-34	152.4	74	106.7	30
Burhanpur	24.0	-50	98.7	75	96.7	60
Datia	24.5	-61	52.9	-18	96.9	64

Dewas	9.2	-87	52.7	-32	89.7	9
Dhar	17.9	-72	52.3	-24	71.2	5
Guna	17.3	-75	119.7	21	26.2	-66
Gwalior	67.4	6	59.4	-11	104.8	78
Harda	5.0	-94	73.4	-17	121.4	44
Hosangabad	26.4	-70	87.4	-5	217.8	91
Indore	14.5	-77	67.9	-4	55.0	-13
Jhabua	15.5	-73	90.9	54	154.1	167
Khandwa	18.0	-69	85.3	29	75.9	13
Khargone	25.7	-51	46.1	-19	35.6	-41
Mandsaur	17.6	-72	48.6	-35	163.9	117
Morena	94.5	63	32.4	-56	68.8	17
Neemuch	17.8	-71	50.8	-28	156.2	134
Raisen	31.1	-60	91.2	-5	84.9	-7
Rajgarh	19.5	-67	47.4	-45	69.5	-8
Ratlam	10.7	-84	66.3	-21	112.8	31
Sehore	31.6	-58	114.3	28	144.2	47
Shajapur	30.0	-49	98.3	17	49.7	-44
Sheopur Kalani	96.0	52	5.0	-94	109.5	133
Shivpuri	59.9	-7	68.7	-9	101.0	51
Ujjain	5.0	-91	21.4	-72	167.1	140
Vidisha	22.4	-71	68.6	-24	109.5	25
Chhattisgarh						
Bastar	66.1	-16	33.0	-64	54.5	-36
Bijapur	48.9	-51	61.3	-50	44.9	-63
Bilaspur	100.1	15	62.5	-15	44.1	-48
Dantewara	29.4	-75	29.8	-74	56.6	-43
Dhamtari	77.8	-12	32.4	-55	44.4	-53
Durg	49.0	-34	51.0	-25	11.8	-85
Janjgir	173.5	101	95.1	16	46.0	-52
Jashpurnagar	131.5	28	78.2	-13	9.8	-90
Kanker	23.6	-71	109.0	33	240.3	124
Korba	131.3	20	91.8	-8	92.4	-11
Koriya	130.0	35	25.3	-67	72.9	-12
Kawardha	**	**	**	**	**	**
Mahasumund	62.9	-9	142.9	92	51.1	-46
Narayanpur	26.3	-72	84.3	-19	92.0	-6
Raigarh	138.2	57	75.8	3	108.3	18
Raipur	50.3	-38	98.0	47	32.5	-60
Rajnandgaon	41.4	-45	60.3	-25	60.5	-23
Surguja	114.3	9	63.3	-30	158.6	60
East Uttar Pradesh						
Allahabad	58.7	-16	16.7	-66	87.5	27
Ambedkar Nagar	44.0	-50	4.0	-94	48.0	-40
Azamgarh	240.9	142	34.4	-49	70.4	7
Bahraich	217.2	120	97.1	26	75.3	-8
Ballia	168.6	116	31.4	-45	35.4	-49
Balrampur	172.3	46	74.6	-16	42.4	-49
Banda	190.8	191	43.4	-14	86.0	19

Barabanki	81.0	-5	76.0	6	62.9	-16
Basti	124.4	37	44.3	-47	16.1	-79
Chandauli	76.0	-12	39.0	-41	63.0	5
Deoria	238.0	177	18.5	-74	17.1	-76
Faizabad	102.9	7	121.7	57	151.0	76
Farrukhabad	26.2	-60	23.7	-57	43.6	-20
Fatehpur	41.4	-28	21.5	-58	89.8	37
Gazipur	144.8	114	103.5	71	82.3	16
Gonda	102.5	4	112.4	32	129.1	53
Gorakhpur	182.7	76	67.7	-14	65.1	-34
Hardoi	89.4	26	53.8	4	96.6	55
Jaunpur	79.7	-6	13.8	-75	40.8	-31
Kannauj	20.7	-69	12.4	-77	15.5	-75
Kanpur City	65.2	20	8.7	-84	85.2	47
Kanpur Dehat	41.6	-33	0.4	-99	50.8	-12
Kaushambi	34.7	-45	5.2	-89	28.8	-55
Kheri	135.4	103	129.2	77	150.4	116
Kushi nagar	87.5	-11	11.0	-85	17.0	-81
Lucknow	82.5	35	37.7	-31	77.6	17
Maharajganj	196.8	79	56.0	-39	82.5	-16
Mau	209.5	124	12.0	-85	60.5	-20
Mirzapur	286.9	261	17.5	-66	105.1	49
Pratapgarh	83.8	17	10.3	-83	93.3	33
RaiBareilly	46.3	-17	11.9	-76	49.3	-29
Sahuji Maharajnagar	84.5	36	9.5	-83	94.0	44
Sant Kabirnagar	218.0	112	28.7	-62	22.0	-76
Sant Ravidas Nagar	101.0	17	37.0	-44	84.0	40
Shrawasti	201.3	104	101.8	32	60.1	-27
Sidharthnagar	86.8	-7	71.8	-13	40.1	-52
Sitapur	88.3	25	40.7	-35	99.8	73
Sonbhadra	120.3	66	90.6	48	68.6	15
Sultanpur	74.5	4	47.9	-26	127.3	93
Unnao	55.6	-20	35.5	-29	68.6	10
Varanasi	113.7	26	42.2	-26	107.0	72
West Uttar Pradesh						
Agra	166.5	212	19.9	-67	119.4	124
Aligarh	179.5	235	14.5	-73	95.7	51
Auraiya	62.2	11	63.6	9	27.8	-50
Badaun	139.6	166	45.0	-18	110.0	46
Baghpat	45.2	-14	54.9	28	37.9	-24
Bareilly	157.6	119	200.4	195	181.8	147
Bijnor	208.3	169	153.1	59	111.6	28
Bulandsahar	80.3	48	20.1	-62	67.8	4
Etah	212.4	346	20.1	-58	86.2	79
Etawah	216.7	303	12.7	-78	56.7	-6
Firozabad	176.3	206	0.0	-100	44.6	-4
GBNagar	30.0	-38	0.0	-100	21.0	-55
Ghaziabad	23.5	-57	6.2	-88	29.3	-50

Hamirpur	120.3	102	53.7	-19	123.0	105
Jalaun	66.0	16	89.7	53	79.0	38
Jhansi	34.4	-43	62.4	-5	70.1	6
Jotiba Phule Nagar	92.0	50	111.5	61	112.5	61
Kanshiramnagar	233.0	343	14.0	-76	30.0	-44
Lalitpur	39.5	-43	58.0	-37	41.5	-40
Mahamaya Nagar	158.0	191	65.5	19	109.5	108
Mahoba	60.0	7	67.6	10	69.2	2
Mainpuri	91.6	85	0.0	-100	25.0	-46
Mathura	268.4	426	0.0	-100	44.5	1
Meerut	99.2	65	38.8	-40	72.7	4
Moradabad	71.8	15	153.6	128	61.8	-22
Muzzaffarnagar	101.7	79	18.0	-71	90.5	39
Pilibhit	94.1	25	55.6	-31	90.7	9
Rampur	54.9	-30	128.7	67	79.3	-6
Saharanpur	134.3	122	32.3	-44	34.0	-54
Shahjahanpur	133.7	82	61.8	-2	79.9	20
Uttarakhand						
Almora	210.4	190	35.9	-54	59.7	-16
Bageshwar	168.3	132	137.0	75	71.2	1
Chamoli	172.9	148	60.8	-23	67.0	-15
Champawat	97.2	-11	192.5	64	123.3	26
Dehradun	199.9	14	118.2	-33	111.1	-32
Garhwal Pauri	110.3	9	166.3	51	119.6	1
Garhwal Tehri	130.5	32	164.1	88	62.0	-41
Haridwar	332.3	410	125.6	69	30.5	-69
Nainital	290.2	132	70.2	-41	122.2	-5
Pithorgarh	178.5	46	109.6	-21	101.6	-28
Rudraprayag	247.0	86	194.8	26	146.3	-11
Udham Sing Nagar	66.4	-29	129.3	45	54.2	-46
Uttarkashi	136.0	35	113.3	23	101.7	8
Bihar						
Araria	298.4	163	250.5	146	95.2	1
Arwal	134.7	143	27.3	-50	64.5	37
Aurangabad	185.8	148	31.8	-48	37.0	-35
Banka	79.6	22	25.6	-52	22.9	-64
Begusarai	109.4	79	48.9	9	36.5	-58
Bhabua	169.4	112	76.3	14	25.5	-59
Bhagalpur	59.8	-4	22.3	-64	6.1	-91
Bhojpur	112.6	37	40.7	-40	81.2	10
Buxar	87.0	31	81.4	38	63.8	12
Darbhanga	181.0	171	59.6	0	48.6	-36
East Champaran	124.4	46	31.7	-63	70.2	-14
Gaya	187.6	153	36.4	-42	13.1	-79
Gopalganj	156.7	125	57.0	-9	31.1	-55
Jahanabad	107.8	64	20.3	-60	91.8	62
Jamui	52.7	-30	12.6	-80	32.1	-46
Kathihar	102.7	21	40.8	-42	10.5	-86
Khagadia	64.2	-5	36.8	-33	9.4	-87

Kishanganj	281.4	105	327.7	149	94.2	-12
Lakhisarai	71.1	5	17.9	-71	50.8	-30
Madhepura	105.1	15	85.1	19	44.3	-43
Madhubani	126.7	44	40.9	-49	96.9	28
Monghyar	**	**	20.0	-68	11.4	-84
Muzaffarpur	124.2	49	21.4	-65	26.5	-65
Nalanda	150.9	114	44.0	-21	46.5	-28
Nawada	69.3	-5	19.6	-60	21.7	-68
Patna	134.5	54	19.3	-65	41.0	-46
Purnea	132.7	20	71.9	-14	64.9	-28
Rohtas	188.5	179	94.7	68	58.7	-8
Saharsha	165.0	67	32.8	-68	0.0	-100
Samstipur	161.8	94	96.3	55	47.9	-26
Saran	112.9	49	48.3	-24	51.3	-32
Sheikpura	61.2	-19	0.0	-100	22.5	-65
Sheohar	135.8	47	4.2	-96	56.8	-34
Sitamarhi	109.8	19	30.6	-67	44.5	-49
Siwan	156.4	96	22.6	-69	139.6	97
Supaul	127.4	46	105.1	31	29.1	-60
Vaishali	140.0	54	25.1	-68	40.5	-50
West Champaran	157.2	54	127.7	14	146.1	45
Jharkhand						
Bokaro	57.1	-27	27.9	-61	37.0	-51
Chatra	45.5	-44	47.3	-31	26.8	-60
Deoghar	72.3	9	34.8	-50	48.5	-25
Dhanbad	40.1	-51	41.3	-42	51.1	-42
Dumka	95.1	15	51.0	-27	47.1	-36
East Singbhum	130.4	77	104.1	82	69.7	-15
Garhwa	105.0	49	33.0	-54	27.0	-66
Giridih	77.6	-6	21.5	-71	26.3	-66
Godda	44.7	-27	23.1	-66	50.2	-13
Gumla	126.1	56	72.3	-15	63.4	-23
Hazaribagh	83.5	10	47.6	-34	37.1	-49
Jamtara	109.9	35	122.3	72	52.3	-34
Khunti	115.0	31	35.7	-57	51.0	-44
Koderrna	73.3	10	16.8	-70	12.1	-79
Latehar	138.9	62	52.3	-35	31.5	-61
Lohardagga	97.3	35	57.7	-13	89.6	8
Pakur	75.4	-13	59.1	-28	25.7	-66
Palamau	131.5	68	41.4	-43	55.7	-21
Ramgarh	49.6	-41	18.6	-75	65.0	-14
Ranchi	90.0	11	30.5	-59	58.3	-26
Sahebganj	26.4	-64	117.8	24	21.4	-69
Saraikela	66.1	-7	57.5	-25	77.4	-9
Simdega	100.5	-8	70.5	-39	63.7	-32
West Singbhum	23.8	-66	34.6	-47	45.4	-43
East Rajasthan						
Ajmer	39.3	-27	20.7	-54	117.1	296
Alwar	120.4	129	21.3	-63	62.7	50

Banswara	29.4	-53	65.1	-10	95.8	35
Baran	78.2	10	66.8	-33	94.8	58
Bharatpur	189.9	288	12.5	-76	85.3	91
Bhilwara	47.1	-9	50.7	-13	154.0	256
Bundi	124.2	108	27.1	-67	152.8	184
Chittorgarh	44.8	-20	71.5	8	155.6	159
Dausa	174.8	129	30.2	-52	74.8	80
Dholpur	177.3	225	24.2	-57	114.0	129
Dungarpur	19.9	-60	39.4	-24	101.3	95
Jaipur	80.4	17	20.2	-65	114.5	206
Jhalawar	18.7	-69	68.5	-20	125.8	80
Jhunjhunu	108.8	135	8.0	-80	45.0	42
Karauli	208.8	227	29.3	-59	73.7	73
Kota	43.9	-27	35.2	-63	91.6	63
Pratapgarh	16.6	-72	75.2	9	182.8	137
Rajsamand	60.9	35	43.4	2	67.1	83
Sawai Madhopur	186.9	150	18.7	-76	113.8	136
Sikar	39.5	-24	11.0	-76	67.5	126
Sirohi	35.9	-57	30.0	-61	151.4	76
Tonk	141.5	113	30.3	-53	140.1	246
Udaipur	34.8	-28	81.0	72	121.5	137
West Rajasthan						
Barmer	0.2	-99	13.0	-30	8.0	-52
Bikaner	23.0	-9	5.3	-77	21.9	39
Churu	53.0	68	10.5	-71	44.5	83
Hanumangarh	20.7	-13	2.1	-92	1.4	-93
Jaisalmer	2.9	-83	8.0	-44	11.9	7
Jalore	7.1	-84	18.6	-45	25.1	-26
Jodhpur	1.9	-94	8.3	-69	67.2	247
Nagaur	7.3	-85	11.0	-71	110.0	482
Pali	13.6	-73	23.8	-44	179.1	427
Sri Ganganagar	3.6	-83	0.7	-97	29.3	102
Gujarat Region						
Ahmedabad	48.0	-19	6.4	-86	35.3	-25
Anand	40.0	-38	4.2	-93	64.5	2
Banaskantha	17.8	-66	23.9	-46	36.6	-34
Baroda	18.1	-77	13.0	-82	91.3	37
Broach	61.0	-3	12.6	-79	42.1	-32
DNH	219.4	10	103.3	-44	629.7	226
Dahod	22.2	-66	36.9	-44	110.1	45
Daman	165.6	-17	93.4	-49	589.2	205
Dangs	125.1	-22	37.6	-81	258.3	43
Gandhinagar	51.2	-31	5.3	-90	67.0	10
Kheda	49.6	-30	8.3	-87	42.6	-39
Mehsana	27.1	-58	7.5	-83	50.0	-14
Narmada	56.5	-40	12.6	-85	126.5	29
Navsari	133.0	-21	69.8	-57	245.1	75
Panchmahal	34.7	-54	52.7	-28	106.5	38
Patan	25.1	-59	22.3	-39	20.6	-59

Sabarkantha	31.5	-54	30.8	-44	38.2	-48
Surat	59.6	-46	45.8	-56	142.6	46
Tapi	59.0	-52	27.0	-80	103.8	-23
Valsad	160.0	-23	99.0	-44	563.8	223
S K & Diu region						
Amreli	15.2	-73	10.6	-71	50.1	59
Bhavnagar	18.2	-61	20.7	-42	83.3	147
Diu	32.1	-54	2.2	-95	176.4	231
Jamnagar	39.8	-48	6.2	-84	102.0	182
Junagarh	100.9	-3	5.8	-92	119.7	151
Kutch	27.5	-44	0.8	-98	10.2	-61
Porbandar	95.2	42	1.9	-96	65.9	142
Rajkot	16.2	-77	1.5	-97	91.6	94
Surendranagar	11.1	-75	10.3	-73	11.2	-67
Maharashtra						
Konkan & Goa						
Mumbai City	192.4	13	73.2	-45	310.5	108
Mumbai Suburban	176.0	-18	118.2	-29	407.0	136
North Goa	224.4	-19	252.8	-9	195.3	-23
Raigad	308.8	8	176.6	-30	547.1	99
Ratnagiri	321.7	15	313.5	16	483.0	73
Sindhudurg	233.4	-7	329.8	21	247.1	8
South Goa	236.8	-6	293.1	17	151.1	-31
Thane	251.6	8	105.4	-47	465.6	133
Madhya Maharashtra						
Ahmednagar	5.7	-76	50.1	118	64.6	199
Dhule	6.9	-80	11.0	-73	17.2	-54
Jalgaon	32.5	-24	38.0	-13	52.2	6
Kolhapur	61.5	-63	61.2	-63	150.6	3
Nandurbar	28.7	-60	18.6	-73	59.9	-12
Nasik	55.4	-23	32.6	-54	236.5	203
Pune	40.3	-43	16.8	-74	140.3	94
Sangli	14.4	-61	33.2	7	45.8	36
Satara	26.7	-57	22.0	-59	161.1	168
Solapur	3.6	-85	92.9	267	38.8	48
Marathwada						
Aurangabad	8.3	-77	39.5	1	63.1	51
Beed	17.4	-43	80.0	127	34.9	2
Hingoli	9.3	-82	95.8	68	79.5	17
Jalna	3.2	-91	108.2	158	56.2	31
Latur	10.7	-74	106.0	71	158.2	154
Nanded	15.0	-69	98.2	48	103.2	53
Osmanabad	16.3	-49	87.6	122	57.9	40
Parbhani	12.3	-69	82.6	42	81.3	36
Vidarbha						
Akola	18.5	-68	86.1	52	75.7	55
Amraoti	27.4	-55	121.4	108	72.0	13
Bhandara	37.7	-58	58.5	-27	68.9	-23

Buldhana	12.7	-71	106.3	135	78.7	58
Chandrapur	27.1	-66	101.8	19	79.9	-14
Gadchiroli	46.6	-54	81.7	-23	74.3	-36
Gondia	59.9	-40	50.7	-44	85.0	-13
Nagpur	49.2	-32	107.4	68	72.0	2
Wardha	29.0	-53	93.7	50	103.2	54
Washim	23.7	-58	120.9	113	90.4	50
Yeotmal	33.1	-46	79.5	29	82.4	29
Odisha						
Angul	95.2	21	64.6	-12	92.6	28
Balasore	51.0	-32	99.2	49	42.5	-49
Bargarh	58.8	-28	60.0	-30	60.6	-30
Bhadrak	48.1	-33	70.0	15	70.2	-4
Bolangir	50.8	-50	37.4	-53	32.0	-64
Boudh	63.5	-16	17.4	-73	30.9	-60
Cuttack	83.9	15	83.4	-1	72.9	-13
Deogarh	89.1	-9	86.2	2	86.1	-22
Dhenkanal	141.1	73	99.0	22	76.8	-2
Gajapati	36.6	-36	53.6	-17	63.5	7
Ganjam	56.5	8	40.6	-24	41.0	-31
Jagatsingpur	39.5	-39	76.6	-3	103.1	15
Jajpur	73.4	1	77.2	24	82.8	-7
Jharsuguda	55.9	-46	76.6	-2	85.4	-2
Kalahandi	98.5	7	49.6	-35	32.2	-66
Kandhamal	37.7	-50	55.9	-12	42.8	-44
Kendrapara	33.3	-49	47.2	-24	89.0	47
Keonjhar	44.0	-38	103.9	47	96.6	43
Khurda	46.3	-43	73.5	-3	67.4	-18
Koraput	31.7	-59	101.5	4	142.9	45
Malkangiri	87.0	-15	27.0	-76	90.0	-17
Mayurbhanj	54.7	-36	98.0	20	80.2	10
Nawapara	72.6	-6	68.5	-8	61.0	-17
Nawarangpur	39.5	-60	122.8	25	74.7	-22
Nayagarh	74.0	-11	65.2	-14	56.6	-26
Puri	42.3	-24	92.5	52	106.4	29
Rayagada	31.4	-59	80.1	1	56.1	-23
Sambalpur	69.3	-29	84.6	0	101.6	-8
Sonepur	59.9	-33	31.6	-58	74.3	-32
Sundargarh	112.8	31	55.2	-32	70.9	-18
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	22.9	-66	53.6	-29	16.5	-73
North & Middle Andaman	23.0	-77	29.8	-72	186.2	75
South Andaman	61.1	-40	41.5	-56	166.5	77
GWB						
Bankura	40.5	-41	87.6	25	78.7	13
Birbhum	96.3	39	71.8	6	37.9	-47
Burdwan	60.1	-14	48.3	-26	57.2	-21

East Midnapore	24.3	-55	140.5	109	106.0	27
Hooghly	43.5	-37	67.5	-5	39.1	-46
Howrah	18.6	-77	114.7	65	18.6	-80
Kolkata	24.7	-69	132.7	70	54.5	-43
Murshidabad	74.4	12	43.9	-45	18.5	-69
Nadia	77.6	42	76.4	12	62.4	18
24 Pargana (N)	49.2	-28	128.2	75	88.9	12
Purulia	42.1	-42	66.3	30	70.1	-2
24 Pargana (S)	119.8	33	123.8	16	199.4	64
West Midnapore	73.8	-1	120.7	64	90.1	7
SHWB & Sikkim						
Cooch Behar	213.6	13	421.2	142	158.7	5
Darjeeling	277.1	48	529.2	226	66.8	-61
East Sikkim	181.9	89	165.1	36	40.8	-68
Jalpaiguri	307.0	47	614.9	211	85.9	-44
Malda	88.8	28	54.0	-33	23.3	-66
North Dinajpur	76.4	11	41.5	-55	**	**
North Sikkim	132.3	22	159.1	41	136.5	21
South Dinajpur	74.4	-7	31.5	-67	0.0	-100
South Sikkim	198.1	106	165.4	37	79.1	-38
West Sikkim	0.0	-100	**	**	0.0	-100
Karnataka						
Coastal Karnataka						
Dakshina Kannada	132.5	-51	182.5	-69	105.0	-60
Udupi	153.0	-53	178.0	-47	99.5	-62
Uttara Kannada	89.8	-65	151.8	-37	76.9	-64
NI Karnataka						
Bagalkote	16.5	1	23.0	26	21.0	2
Belagavi	11.8	-75	29.8	-31	53.2	37
Bidar	21.0	-54	99.8	87	90.9	110
Dharwad	7.8	-78	26.4	-13	29.9	-3
Gadag	4.1	-74	20.3	20	27.7	44
Haveri	3.7	-91	44.3	33	23.8	-30
Kalaburgi	31.4	-11	137.6	253	72.2	55
Koppal	10.4	-40	31.3	37	24.5	19
Raichur	21.0	-16	49.6	64	51.2	65
Vijayapura	10.1	-48	50.5	108	52.4	98
Yadgir	28.2	-20	76.4	70	62.5	54
SI Karnataka						
Ballari	0.0	-100	24.0	12	33.2	57
Bangalore Rural	29.7	31	134.2	422	51.4	93
Bangalore Urban	24.0	9	70.9	203	85.4	225
Chamarajanagar	17.5	24	27.4	53	21.1	66
Chikaballapur	54.6	179	83.2	243	68.5	197
Chikkamagaluru	35.3	-75	34.8	-75	76.6	-44
Chitradurga	1.6	-87	41.2	184	17.0	23
Davangere	3.4	-87	51.8	109	34.7	41
Hassan	3.3	-93	18.7	-57	45.0	9
Kodagu	48.9	-73	66.4	-65	79.9	-52

Kolar	13.2	-19	84.3	307	64.4	239
Mandya	20.5	83	47.5	252	65.3	478
Mysuru	16.9	-3	24.9	14	34.2	103
Ramanagara	36.0	85	42.5	82	96.1	353
Shivamogga	51.0	-64	88.0	-31	79.8	-39
Tumakuru	22.7	47	58.9	208	61.7	246
Kerala						
Alappuzha	75.2	-34	68.9	-37	38.1	-60
Kannur	100.8	-54	62.1	-73	52.3	-72
Ernakulam	141.3	-1	121.6	-20	62.9	-45
Idukki	76.8	-51	93.7	-46	84.4	-48
Kasaragod	178.9	-26	85.8	-67	116.7	-44
Kollam	26.9	-66	62.9	-28	23.9	-68
Kottayam	66.3	-48	74.3	-38	33.6	-69
Kozhikode	131.3	-35	90.2	-58	24.1	-86
Malappuram	79.9	-50	45.9	-73	22.3	-84
Palakkad	68.1	-43	51.8	-61	35.0	-67
Pathanamthitta	49.3	-58	63.7	-42	46.5	-53
Thiruvananthapuram	2.1	-96	34.1	-28	4.0	-91
Thrissur	75.4	-54	85.8	-50	23.6	-82
Wyand	29.5	-86	49.8	-79	55.3	-73
Tamil Nadu						
Ariyalur	16.2	8	28.5	13	46.6	195
Chennai	20.9	-22	5.4	-80	14.4	-47
Coimbatore	11.4	40	19.0	56	16.1	109
Cuddalore	12.7	-23	24.5	4	21.4	36
Dharmapuri	51.1	181	63.7	169	41.5	163
Dindigul	46.2	298	19.0	11	8.2	-26
Erode	11.5	34	38.5	237	14.5	110
Kanchipuram	39.7	41	7.0	-77	16.2	-36
Kanyakumari	0.0	-100	13.2	-36	0.5	-97
Karikal	8.7	20	1.0	-96	9.5	-16
Karur	16.0	95	39.3	309	22.9	295
Krishnagiri	35.7	117	80.6	307	65.7	301
Madurai	28.6	67	56.6	235	14.1	1
Nagapattinam	7.4	-40	9.9	-45	3.0	-78
Namakkal	21.3	50	76.2	268	21.7	55
Nilgiris	46.0	-12	42.1	-29	35.9	-28
Perambalur	16.0	32	15.3	-4	65.5	536
Puducherry	1.4	-91	16.1	-45	0.2	-99
Pudukottai	6.2	-69	24.8	21	10.1	-6
Ramanathapuram	6.1	-30	10.2	5	6.8	-5
Salem	21.8	-3	64.6	146	50.2	195
Sivaganga	43.2	154	46.1	114	5.7	-59
Thanjavur	24.3	85	20.0	0	16.6	21
Theni	13.5	98	24.8	167	8.8	46
Tirunelveli	0.6	-93	5.8	-31	8.2	19
Tirupur	6.2	35	9.0	27	3.2	-25
Tiruvallur	17.4	-36	11.0	-59	9.9	-58

Tiruvannamalai	27.3	9	45.6	74	42.3	102
Tiruvarur	4.5	-62	15.6	-26	13.4	6
Toothukudi	0.6	-87	1.8	-55	9.8	151
Trichy	44.4	236	37.8	162	32.5	277
Vellore	45.6	90	60.3	93	47.6	108
Villupuram	28.0	39	72.5	205	17.6	-23
Virudhunagar	17.6	83	23.8	123	18.4	254
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	35.3	-22	75.9	50	68.8	65
Guntur	37.0	17	7.4	-81	35.9	2
Krishna	45.8	6	24.7	-57	34.7	-29
Nellore	17.9	-13	19.2	-27	12.6	-29
Prakasam	19.6	-15	11.2	-59	15.8	-30
Sirkakulam	42.9	-2	55.3	15	43.7	0
Visakhapatnam	12.1	-70	82.1	79	49.1	24
Vizianagram	37.5	-4	75.5	68	24.8	-41
West Godavari	43.9	-12	82.4	31	52.6	7
Rayalaseema						
Anantapur	9.5	-36	39.2	124	47.0	205
Chittoor	38.1	56	38.4	35	66.1	244
Cuddapah	23.9	-7	42.8	47	73.5	217
Kurnool	13.6	-45	60.6	94	49.1	66
Telangana						
Adilabad	17.4	-74	117.7	47	68.1	-10
Hyderabad	36.6	-6	68.4	31	56.7	19
Karimnagar	13.7	-74	102.5	60	77.9	29
Khammam	91.7	54	44.5	-39	48.2	-35
Mehabubnagar	286.9	686	53.6	26	47.8	11
Medak	674.0	1235	58.5	-4	68.3	14
Nalgonda	464.6	1149	67.5	57	39.0	8
Nizamabad	115.2	104	83.6	10	115.6	54
Rangareddy	148.1	249	54.8	8	75.9	62
Warangal	200.7	253	117.0	63	52.3	-13

Legends

	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall	**	Data not available

Annexure II

Assam

Sali rice: Ranjit, Bahadur, Satyaranjan, Basundhara, Kushal, Mahsuri, Bhogali, Rangilee, Ketekijoha.

Satyaranjan and Basundhara (in double cropping areas having crop duration of 130-135 days).

Jalashree, Jalkunwari, Plawan (for flood affected areas).

Ranjit, Gitesh, Bahadur, Kushal, Piolee (long duration).

Satyaranjan, Bosundhora, T.T.B.-404, Mulagabharu, Kanaklata, Joymoti, IR-36, IR-64 etc and Disang, Luit, Kapilee, Dikhow (medium duration).

Capsularis jute: JRC 321 and UPC 94.

Olitorious jute: Navin (JRO 524), Basudev(JRO 7835), Baisakhtissa(JRO 632), Bahagi (sel-2) and Tarun.

Okra: Pusa Sawani, Arka Anamika, Parbhdani Kranti.

Ridge gourd: Pusa Nashdar or other local varieties like AAU-1, AAU-2, AAU-3 etc.

Sponge gourd: Pusa Chikni or other local varieties.

Banana: Dwarf Cavendish, Jahaji (Dwarf Cultivar), Cheni Champa, Malbhog, Chenichampa, Malbhog , Barjahaji (Medium Tall cultivars).

Papaya: Washington, Haflong, Rasi, KorgHoney Dew, Co-1, Co-2, Pusa Delicious, Pusa Majesty.

Guava: Alahabad Safeda, Lucknow-49, Chittidar, Seedless.

Fodder crops : Hybrid Napier, Setaria and Guinea.

Meghalaya

Sali/ kharif rice: Shahsarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1- 411 & local varieties like Mendri, Manipuri.

Groundnut: ICGS 76, JL 24.

Soybean: JS 335, Bragg, Ankur, Pusa Soubean-1, Local JS 2.

Nagaland

Low land rice: CAU R1, CAU R3, RCM-9 and RCM-11 (Short to medium duration), Gitesh (short duration variety).

Tripura

Groundnut: TAG 24, TG 37A, ICGS 76.

Maize : DMH- 849, 117, HQPM 1, BQPM 9.

West Bengal

Coconut: Eastcoastal, Hazari

Banana : Mortoman, Chapa, Kathali, Singapuri,

Mustard: Varuna, Sita and Bhagirathi.

Jute : Chaitali, Basudev, Naveen, Sonali, Sobujsona, Shyamali etc.

Aman rice: Medium duration MTU-7029, MTU1001, Pratiksha, and for long duration CR1017, CR1018, Cr1019, Sabita.

Paddy : IET-4094, 2233, Ratna, Bikash, Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002.

Odisha

Maize: Navjot, Shakti, Decan-107, Decan-109,

Hybrid: Megan-G, Megan, MM-1107, Highshell, Prabal, Proagro 4643, Bio9681, Pinnacle, DMH-7705,

Rice: Early: Jogesh, Siddant, Hazaridhan, Mandakini, Jyotirmayee, Virendra

Medium: Pratikshya, Manaswini, Tapaswini MAS, Konark, Surendra, Kharavela, Naveen, Abhisek

Late: Barsadhan, Ranidhan, Pooja, Mrinalini, RGL-2837, Moti, Ketakijoha, Padmini, Kanchana, Mahanadi, Jagabandhu

Hybrid varieties: CR Dhan 701, NK 5251, JKRH 401, Ajay, Rajalaxmi, Arize 6444G

Cotton: Suraj, Supriya, B.S.-30, B.S.-279, Surabhi, Sujata

Hybrid: Bunny, Diana, Bhaskra, Namaskara, Tulasi, Sigma, Chiruta, Takat

Mango: Grow Baiganpalli, Totapuri, Bombay green, Suvarnarekha, Neelam, Himsagar,, Langra, Dusheri, Amrapalli, Mallika, Ratna, Ramkella, Rummani, Sindhu, Alphanso and Keshar, etc.

Bihar

Kharif onion: Agri Found Dark Red (ADR), N-53, Bhima super, Arka kalian.

Turmeric: Rajendra Sonia and Rajendra Sonali.

Ginger : Maran and Nadia.

Kharif Paddy: Seeta, Santosh, Saroj, Rajshri, Prabhat, Rajendra suvasni, Rajendra kasturi and Rajendra bhagwati.

Jute : JRO 8432, JRO 66, JRO 128 JRO 204 and JRO 66.

Bottle gourd: Pusa Naveen, Pusa Samridhi,

Bitter gourd: Pusa Visesh, Pusa-2 mosumi, Pumpkin- Pusa Visvash, Pusa Vikash,

Ridge gourd: Pusa Chikni,

Cucumber: Pusa Uday, Pusa Barkha

Jharkhand

Rice: Birsa Dhan 108, Birsa Vikash Dhan 109, 110, 111, Sahbhagi and Vandana, IR 36, 64, Lalat, Naveen, Sahbhagi, BR 10, Kanak, Rajendra Dhan 202, Sughanda, Birsa Vikash Sugandh Dhan 2, Birsa Vikash Dhan 203.

Maize: Suwan Composite 1(100 days) and hybrid variety- HQPM 1 (100 days), Composite variety- Birsa Makka 1 (80-85 days) and hybrid variety- Kanchan (80-85 days), Birsa vikash Makka 2(70-80 Days).

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

Groundnut: AK 12-24, Birsa moongfali 1, 2, 3 and bold type – Birsa bold (BAU 13).

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

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

Jammu & Kashmir

Paddy (Sub Tropical Zone): Basmati370, Ranbir Basmati, China-1039,K-39,K-343,Giza-1.

Maize: Vivek-25,Vivek QOM-9 HM-5 and HQPM-1.

Uttarakhand

Sugarcane: Pant 84211, Co-238, Co-241, Co Pant 3220, COS-8436, COS-88230 etc. and medium to late sown varieties like Co Pant 90223, Co Pant-96219, COS-97222, COS-767, COS-1148, COS-96268 etc.

Okra(Bhabar and Tarai Zone): Uphar, Punjab Padmini, Punjab-1, Punjab-7, Arka, Anamika, Abhay, Parbhani Kranti

Paddy: Sharbati, Pusa 1121, Pusa 1, Pusa 44, NDR 359.

Groundnut: TA-64, Chandras, Kaushal, Prakash, Ambar.

Dwarfs variety of paddy: Narendra-118, Narendra-97, Pant Sankar Dhan-1 and Pant Sankar Dhan-10.

Pigeon pea: Pant Arhar-3, Pant Arhar-291, UPAS-120, Pusa-992.

Maize: Tarun, Navin, Kiran, Navjot, Pratap maize-1, Pusa sankul-3& 4 Kg seed of chilly crop.

Soyabean: P.S.-1042, P.S.-1241, P.S.-1347, P.S.-1225, P.S.-19.

Groundnut: TA-64, Chandras, Kaushal, Prakash, Ambar.

Okra: Uphar, Punjab Padmini, Punjab-1, Punjab-7, Arka, Anamika, Abhay, Parbhani Kranti.

Radish: Pusha Chetki.

Himachal Pradesh

Cauliflower: snowball and Giant snowball.

Radish: Japanese white, Chinese pink and mino early white

Turnip: PTWG-1

Carrot: Pusakesar

Fenugreek : I.C. 74, kasoori.

Peas : Mater ageta-6 (early variety).

Cabbage: Pride of India, golden achor and hybrid

East Uttar Pradesh

Kharif Maize: ganga-11, sartaj, H.Q.P.M.-5, H.Q.P.M.-8, Pro-316, Bio-9681, Wai-1402 K, Prabhat, hybrid varieties G-1, 5 and selective varieties of Tarun, Navin, Kanchan, Sweta and Jaunpuri for early sowing.

Rice: Narendra-359, Malvia dhan-36, Narendra dhan-2026, Narendra dhan-2064, Narendra dhan-2065, Narendra dhan-3112, Sarju-52, Pant dhan-4, seeta, Jalamagna, jalandhi, jalparia, chakia 59.

Hybrid varieties : Pro. Agro-6444(2001) Eraese, P.H.B.-71, Narendra sankar dhan-2,3, K.R.H.-2, P.R.H.-10, U.S.-312, R.H.-312, V.S.R.-202, R.H.-1531,

Scented varieties: Type-3, Pusa basmati-1, Malvia sugandh-105, Malvia sugandh-4-3, Narendra sugandh or Narendra usar dhan-1, Narendra usar dhan-2, C.L.R.-10, or Narendra usar dhan-2008

Turmeric: Kasturi, Paspu, Amlapuram, Madhukar, Sugna, Rajendra

Ginger -suprabha, suruchi, surbhi and Himgiri

Urad Bean: Pant U-19, Azad URD-1, KU 91-2, Shekhar-1, KU-301

Arahar: Bahar, Amar, Narendra Arahar-1,2, pusa-2001, pusa-991, pusa-992, paras manak, UPAS 120.

Moong: Type-27, 56

West Uttar Pradesh

Ladies finger: VRO-6, VRO-5.

Sugarcane: ko.sha 88230, ko.sha 8436, ko 0238, ko.sha 07250 or U.P. 0512.

Barseem: V.L.1, V.L.10, maskavi, jai, K-8027, K-9565, Mandakini.

Onion: pusa red, pusa white.

Sugarcane: The mid and late maturing varieties of sugarcane: CO Pant 211, Co Sa 687 and Co Sa 8436.

The varieties recommended in areas with poor water drainage: B.O.54 and B.O.91.

Baby corn: M.H.-4.

Punjab

Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), COH-119, CoJ-88, CoS-8436 for and CoJ-89, CO118, COJ85, COJ64.

Rice: Pusa-44, T.R-112 and T.R-113.

Onion: Punjab Naroya, Punjab White and PRO 6.

Radish: Punjab Pasand and Japanese white.

Turnip: L-1.

Carrot: Punjab Black Beauty, Punjab Carrot Red and PC-34.

Tomato: TH-1, Punjab Ratta, Punjab NR 7, Punjab Chhuhara, Punjab Upma, Castle Rock.

Rice: Hybrid varieties: K. R. H 2, PHB 71, Pant hybrid Dhan1, Narendra hybrid dhan 1, P R H 10

High yielding varieties: Pusa 44, Pant Dhan-4, Pant Dhan-10, Pusa-834, Pusa basmati-1, Pusa basmati-1509, Pusa improved basmati, Pusa sugandha-5, Pusa sugandha-4 (Pusa 1121), Ranvir basmati and Taravadi basmati.

Pigeon pea: Pusa 2001, Pusa 992, Paras, Manak.

Maize: PMH1, Parbhat, PMH2

Paddy : PR-124, PR-123, PR-121, PR-122, PR-114, PR 113,PR-126,PR-115.

Okra: Punjab-8 and Punjab-7

Delhi

Oat : J.H.O-822, O.L.-9, Pusa oat-5.

Barseem:Vardan, Buland Barseem-1, Masakavi, J.B-3;

Radish:Japani White, Hill queen, French Radish;

Spinach: PusaBharti.

Amaranths: PusalalChaulai, PusaKiran.

Ladyfinger: Pusa A-4.

Radish:Japani White, Hill queen, French Radish.

Spinach:All Green, PusaBharti;

Fenugreek:PusaKasuri;

Coriander:PantHaritama, Hybrids.

Turnip:Pusa Swati, Local Red variety.

Bottle Gourd- Pusa Naveen, PusaSamridhi

Bitter Gourd- PusaVisesh, Pusa-2 mosumi

Pumpkin- PusaVisvash, PusaVikash

Ridge Gourd- PusaChikni

Cucumber- PusaUday, PusaBarkha

East Rajasthan:

pearl millet: HHB 67, HHB 60, Raj 171, ICMH 356 and ICTP 8201(improved varieties)

Raj-171, ICTP-8203, RHB-173, RHB-177, RHB-121, HHB-67(improved varieties)

Sorghum: CSH-6, CSH-9, CSV-10, CSV-15.

TG37-A, DH-86, Pratap Mungfali-1.

Rice: P.R. 106, B.K.190, Mahisugandha(Basmati)

kharif onion: N-53 & Agrifound dark red

Maize: Aravali Makka-1, Pratap Makka-1, Pratap Makka-5, Pratap Hybrid Maize-1, Pratap Hybrid Maize-2 and bio-9637.

Hybrid varieties are-Mahi Dhawal, PEHM- 2, Pratap Hybrid Maize-1, Pratap Makka-3, Pratap Makka-5, Bio-9637, Bio-9681, Pratap

HQPM-1, Pratap Hybrid Maize-3, Pratap Makka-9

Ageti-76, Bassi Selected, Mahi Kanchan

Greengram:RMG-62, RMG-268. RMG-492 & RMG-344, IPM-02-3.

Cowpea: FS-68, RC-19 and RC-101.

Moth: RMO-40, IPCMO-912, RMO-257, RMO-225, RMO-435 (Vikash) (improved varieties)

West Rajasthan

Green fodder: Jwar/Bajra mixed with guar. popular varieties for Jwar are Raj Chari-1, Raj Chari -2, MP Chari, SSG 59-3, MSFH-3, MSFH-4 and Hara Sona; for Bajra: Raj Bajra Chari-2, Co -8, AvikaBajra Chari-19 and Giant bajra; for Guar: RGC-986, Bundel guar-1, Bundel Guar-2 and Bundel Guar-3.

Pearl millet: R.H.B.-177, ICTP-8203, RHB-121, RHB-173, RHB-154, GHB-538, HHB-67(improved varieties)

Bhindi: Ark Anamika, varshauphar, Parbhanikranti, pusamakhmali.

Groundnut: HNG-123, HNG-69, ICHG-00440, HNG-10, TG-37 A, Girnar-2, R.G.-425, GG-20, TG-39.

Sorghum: Girnar-2, RG-425, HNG-10, GG-20, TG-37-A, TG-39.

Narma cotton:R.S.T.-9, R.S.-810, R.S.-2013, Bikanerinarma, R.S.875, MaruVikas(Raj. H.H.16)

BT Narma cotton:M.R.C.H.6304, M.R.C.H.6025, R.C.H.650, Bioseed-6588, Bioseed-6488, R.C.H.-314, J.K.C.H. 1947, M.R.C.-7017 (BG-II) or N.E.C.H.6.

Madhya Maharashtra

Soybean:Phule kalyani, Phule agrani (K D S 344), J S 335, M A C S 11188.

Sorghum:Hybrid varieties – C S H 5, C S H 9, C S H 13, C S H 14, C S H 16, C S H 21, C S H 25,

Improved varieties – S P V 462, C S V 13, C S V 15, C S V 17, C S V 23.

Groundnut:Phule morana, Phule pragati, Phule vyas, Phule unnati, Phule R H R G 602.1.

Rice:Halava : Karjat 184, Ratnagiri 1, Karjat 4, Ratnagiri 711, Phule Radha.

Nimgarva : Jaya, Phule Maval, Phule samruddhi, Phule R G -N-6.

Garva : Ratnagiri 2, Karjat 2, Daranna, Suvarna.

Scented paddy : Basmati 370, Indrayani, Prabhavati, Sughandha.

Hybrid : Sahyadri 1, Sahyadri 2, Sahyadri 3, Sahyadri 4, Sahyadri 5, K R H 2.

Gujarat

Rice: NAUR-1, GNR-2 (Costal area), GNR-3 (N/V), GNR-4 (long duration), Jaya, Ghujari, GR-5, 7, 8, 9 (Oran) IR-28 and GAR-13).

Cotton: Bg-II GCH-8, 12 Jay Bt, Solar-66, 76, Sarju, Bg- II GCH-6, Mallika;hybrid cotton: G. cot. 6, 8, 10, Agritop-333, 777, 444,

Jay, Beejdhan-2, Atom, Bhakti; Swapna.

Groundnut: GG-20 & 22, GUG-10, GG-2, 11, 13, TAG- 24, TAG-37 A, TPG-41, TLG-45; semi-spread - GG.20 or erect GG-2,

GG.5, GG.7 and TG-26.

Greengram: GM-4, GM-4, K-851

Blackgram: T-9, GU-1.

Cowpea: Gujarat Cowpea-1,2,4, Pusa Falguni.

Pigeonpea: BDN-2, GT-100, GTH-1, Vaishali, GTH-1, BHSR-711 .

Sesame: GT-1, 2, GT-3, 10.

Pearl millet: GHB-528, GHB-577, GHB-316 GHB-183; late maturity - GBH-558, GBH-732 and for moderate maturity - GBH-744, GBH-905 and for early maturity - GHB-757, GHB-719, GHB- 538.

Bottle Gourd:Pusa Naveen, Pusa Samridhi.

Bitter Gourd:Pusa Visesh, Pusa-2 mosumi.

Pumpkin: Pusa Visvash, Pusa Vikash.

Ridge Gourd: Pusa Chikni.

Madhya Pradesh

Soybean: JS 335, JS 93-05, JS 95-60, JS 72-52, JS 90-41, JS 20-29.

Red gram: Jawahar -4, Ahsa (ICPL-87119), JKM-7,189,ICPL 88039, Pusa 2001,2002,992.

Rice: short duration (JR, 305, JR 201,Poornima,JD 201, JRH-5, JRH-8, Danteshwari).

medium duration (IR 64, IR 54,IR 36, Madhuri, Kranti, Mahamaya, Pusa Basmati).

Maize: JM-8, JM-12, JM-216,Vivek-17, Navjot, HQPM-1,5, HM-4,10,11.

Sesame: TKG-21, TKG-22, TKG-55, TKG-306, JTS-8, RT-46.

Groundnut:AK 12-24, TG 124,TG 26, Jyoti, JL 24, UF70-103, JGN -3, GG 2, Ganga Puri .

Chhattisgarh

Rice: Abaya, Mahamaya, Danteswari, Samleswari,Chandrasahini, Indira Sona (Hybrid), Karma, Mashuri, Jaldoobi.,Pusa Basmati-1, Madhuri, Indira Sughandith Dhan-1.

Soybean:J.S. 335, Indira soya-9, J.S. 80-21, J.S.93-05.

Sesame:T.K.G. -21, T.K.G-22, T.K.G-55, and T.K.G - 8.

Tomato: Pusa early dwarf, Sweet 72, Pusa rubi, Pusa Gurab, Mangala, Naveen,Laxmi 5005 & NS 815.

Brinjal:Punjab Shadabahar, K S 331, P H 5, P H 6 ,KS224 ,A R B H -543.

Karnataka

Ragi: Indaf -9, ML-365, GPU-66, Indaf-5, GPU-28, MR-6, PR-202, HR-911, And KMR-301.

Maize: Hybrids – DMH-2, Arjun, GH-0727, Renuka (G-25) and Private hybrids, Ganga-11, Decon-101, VijayaComposit, N.A.C-6002, N.A.C-6004, Nithyashree, N.A.H-1137.

Sunflower: Morden, KBSH-1, 41, 42 & 44.

Cowpea: C-152, KM-5 and PKB-4.

Andhra Pradesh

Sorghum: CSH-9,CSH-13,CSH-14,PSV-15,PSV-19

Bajra: ICTP 8203,PBH 3

Korra: Prasad, Krishnadevaraya, Narashimharaya, Srilakshmi, Surya nandi

Cowpea: C 152 GC3 C0-4 CO-5

Sunflower: NDSH1 KBSH1 KBSH 44 DRSH 1

Green gram: LGG 407 LGG 450 LGG 460 MGG 295 ML 267

Field bean: TFB-1 TFB-5

Tamil Nadu

Samba rice: CR 1009 and ADT 50.

Telangana

Cotton:American Cotton varieties,Desi Cotton varieties (G. arboreum. L and G. herbaceum. L, Intra/Inter – specific Cotton hybrids,Bt. cotton.