



National Agromet Advisory Service Bulletin

based on

Extended Range Weather Forecast

Valid for 3rd to 16th July, 2015

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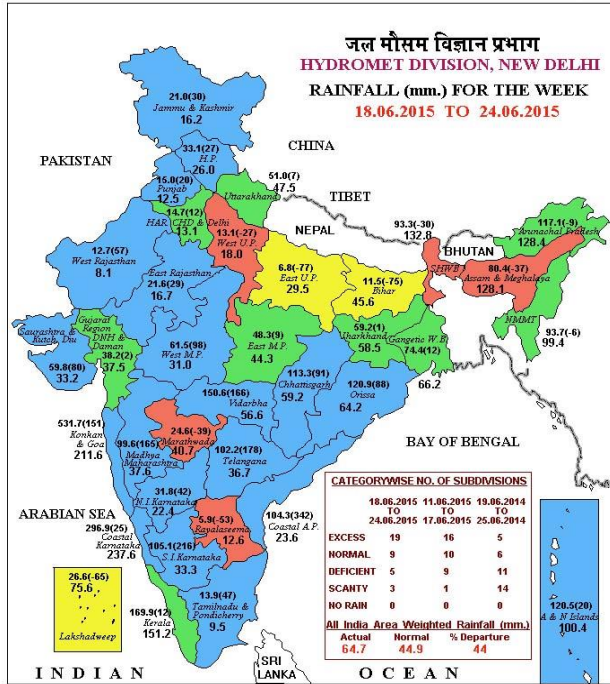
&

Indian Council of Agricultural Research
AICRPAM, CRIDA, Hyderabad

Realized Rainfall

(18th June to 1st July 2015)

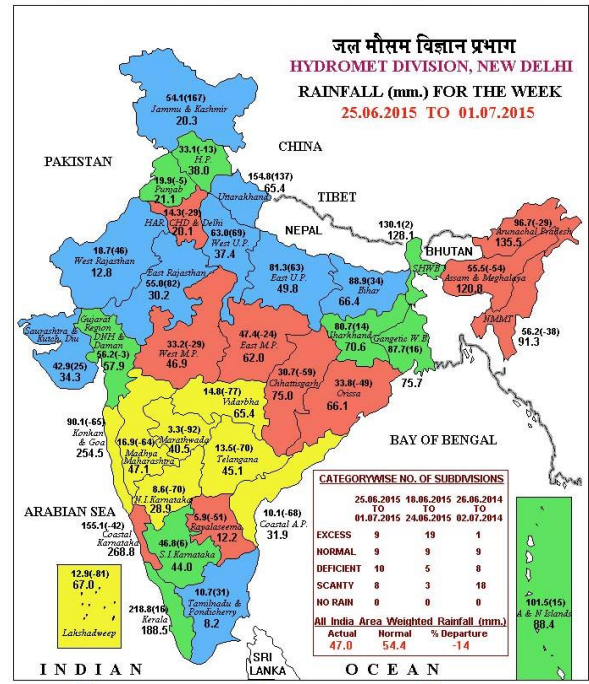
भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



LEGEND: ■ EXCESS (+20% OR MORE) ■ NORMAL (+19% TO -19%) ■ DEFICIENT (-20% TO -59%)
■ SCANTY (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.

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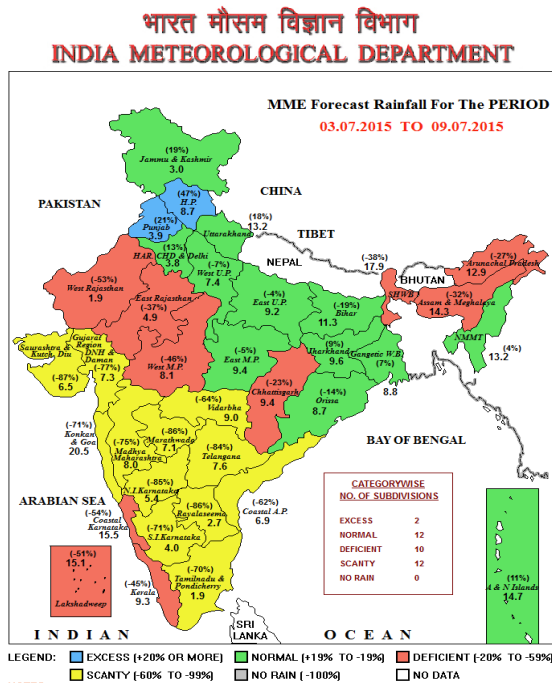
NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.

- Normal or above normal rainfall occurred during last two weeks in Kerala, South Interior Karnataka, Tamil Nadu, Gujarat State, Gangetic West Bengal, Jharkhand, Punjab, Himachal Pradesh, Jammu & Kashmir, Uttarakhand and Rajasthan.
- Normal or above normal rainfall occurred in either of the last two weeks in Konkan & Goa, Coastal Karnataka, North Interior Karnataka, Coastal Andhra Pradesh, Telangana, Madhya Maharashtra, Vidarbha, Madhya Pradesh, Odisha, Chhattisgarh, Bihar, Arunachal Pradesh, Nagaland, Manipur, Tripura, Mizoram, Sub-Himalayan West Bengal, Uttar Pradesh, Haryana & Delhi,
- Below normal rainfall occurred in the last two weeks over remaining parts of the country.

Extended Range Forecast System

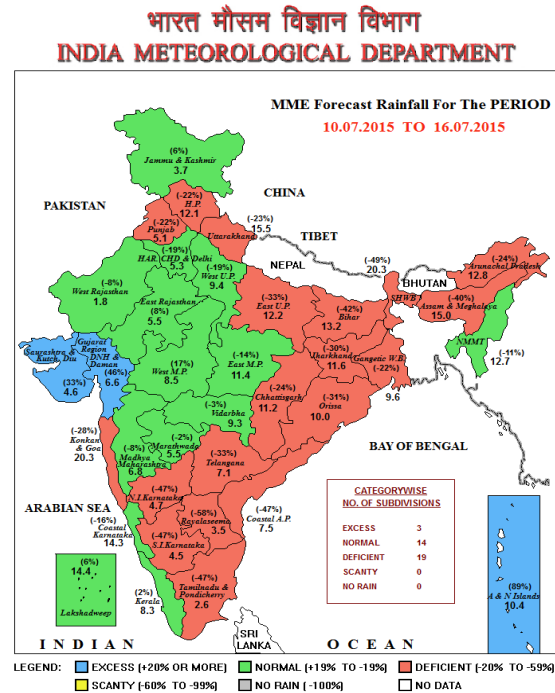
Subdivisionwiseraainfall forecast map for the next 2 weeks (IC =1 July)

Rainfall forecast (mm/day) (3 - 16 July, 2015)



Notes:

- (a) Rainfall figures are based on MME forecast
- (b) Bold figures indicate forecast Normal rainfall (mm/day)
- (c) Percentage Departures of Rainfall are shown in Brackets



Notes:

- (a) Rainfall figures are based on MME forecast
- (b) Bold figures indicate forecast Normal rainfall (mm/day)
- (c) Percentage Departures of Rainfall are shown in Brackets

- Normal or above normal rainfall would occur in next fortnight over Jammu & Kashmir, Haryana & Delhi, West Uttar Pradesh, East Madhya Pradesh, Nagaland, Manipur, Mizoram and Tripura.
- Normal or above normal rainfall would occur in either of the next two weeks in Kerala, Coastal Karnataka, Madhya Maharashtra, Marathwada, Vidarbha, West Madhya Pradesh, Gujarat, Rajasthan, Punjab, Uttarakhand, Himachal Pradesh, East Uttar Pradesh, Odisha, Bihar, Jharkhand and Gangetic West Bengal.
- Below normal rainfall occurred in the last two weeks over remaining parts of the country.

Agromet Advisories for land preparation and sowing of *kharif* crops

Good rainfall occurred mainly over southern peninsula, northwestern states, Gujarat, Gangetic West Bengal and Jharkhand during last fortnight. Occurrence of rainfall is likely over Northern and eastern states during 3 to 9 July and rainfall is likely to decrease over southern, western, central and northeast India. Rainfall belt may shift towards western parts of the country during 10-16 July. In view of the above, following agricultural activities are suggested for different parts of the country.

Information on seed selection and required inputs like seeds of crops and varieties, sources of seeds etc. can be collected from KVKs, State Departments of Agriculture in the Districts, SAUs, Kisan Call Centre, seed dealers and other NGOs or agencies.

Kerala

- Sowing of upland rice and dry seeding of *virippu* rice; wet seeding of rice variety Uma.
- Transplanting of *virippu* rice.
- Nursery preparation for rice (Athira and Kanchna) in High Altitude Zone.
- Transplanting of rice and vegetable seedlings in Northern Zone.
- Planting of cucurbitaceous vegetables like bitter gourd, snake gourd and bottle gourd.
- Planting of cardamom, coconut, arecanut, pepper (High Altitude Zone), tapioca, banana (Poovan, Robusta and Kannan varieties in Problem Area Zone and Robusta, Palayankodan, Njalipoovan in Southern and Northern Zones), mango, cocoa, turmeric and transplanting of brinjal.
- Planting of new rubber seedlings.
- Inter cropping in coconut gardens.
- Due to intermittent rainfall, maintain 2-3 cm water level in rice field.

Karnataka

Coastal Karnataka

- Transplanting of *kharif* rice (Intan, Abhilash, Mugad Siri-1253 and Hemavati for low land, Amrut and Prasanna for upland), direct sowing of rice in uplands, sowing of cotton (DHH-11, NCH-145, NHH-44, DHB-105 and Sahana), maize (DMH-2, Arjun and other hybrids), planting of ginger and turmeric and transplanting of arecanut seedlings in Coastal Karnataka.

South Interior Karnataka

- Nursery sowing of rice, direct sowing and transplanting of ragi (GPU- 28, MR -01, 02 and 06, KMR-301), sowing of cotton, jowar, maize, pulses viz., cowpea, red gram, green gram, black gram, horse gram and oil seed crops like sesamum, groundnut and sowing of vegetables like cowpea, cluster bean, radish, cauliflower, chilli, brinjal and tomato in South Interior Karnataka.
- Red gram: TTB-7, BRG-1 and Hyd-3c @ 15kg/ha and treat the seeds with rhizobium culture @ 500gm/ha before sowing. Spacing of 60 cm x 23 cm is recommended.
- Groundnut: Bunch type of varieties, JL-24 and TMV-2 (Use 125 kg seeds/ha). Recommended spacing is 30cm (Row) x 10 cm (Plant).
- Arrangement for irrigation in view of likely occurrence of less rainfall during next two weeks.
- Intercultural operations and mulching in red gram and groundnut to conserve soil moisture.

North Interior Karnataka

- Nursery sowing of rice and ragi, sowing of green gram (BGS-9, Sel-4), black gram (DU-1, TAU-1), sorghum (Hybrids – CSH-14, CSH-16, CSH-18 and other varieties – CSV-15, DSV-3, DSV-6 and DSV-2) and soybean (JS-335, DSb-21), red gram (Maruthi, Asha, TS-3, BSMR 736), sunflower, maize (DMH-2 and Arjun), cotton (DHH-11, NCH-145, NHH-44, DHB-105 and Sahana), bajra, sesamum and groundnut (Bunch type: GPBD-4, JL-24 and TMV-2, Spreading: DSG-1 and JSP-39) and also intercropping like bajra + groundnut (bunch) (2:4), bajra + redgram (2:1), groundnut (bunch) + red gram (3:1 or 4:2), red gram + sesamum (1:2 or 2:4) in light and medium black soils, planting of fruit trees in North Interior Karnataka.

- In view of subdued rainfall during next two weeks, application of irrigation in sugarcane (grand growth stage) in North Interior Karnataka.
- Bunch type groundnut: Opening of furrow after every 8th row for conservation of soil moisture.
- Adoption of soil moisture conservation techniques such as compartment bunding, ridges and furrows across the slope for medium and deep black soils spared for *rabi* sowings in Northern Dry Zone.
- Due to less rainfall, maintenance of 2-3 cm water level in rice field.
- Mulching in already sown crops for conservation of soil moisture.
- Animals: Vaccination against Black Quarter and foot & mouth diseases.

Andhra Pradesh

Coastal Andhra Pradesh

- Nursery sowing and transplanting of rice (Pushkala, Rasi, IR64).
- Sowing of finger millet, sesame, groundnut, maize, pulses, cotton, black gram and planting of rainfed sugarcane.
- Nursery raising of finger millet and sowing of bajra in Vishakhapatnam district.
- Due to less rainfall, maintenance of 2-3 cm water level in rice field.
- Mulching in already sown crops for conservation of soil moisture.

Rayalaseema

- Sowing of *kharif* groundnut and transplanting of rice in Chittoor and Kadapa districts.
- Transplanting of rice in Nellore district.
- Sowing of irrigated cotton, rainfed groundnut (Kadiri-6, Kadiri-9, Narayani and dharani), castor (PCH-111, PCH-222, Kranti, GCH-4, Haritha), maize, cluster bean, red gram (intercropped with jowar/ bajra @ 1:2 ratio) and korra in Anantpur district.
- Sowing of jowar and Korra (Surya Nandi, Sri Lakshmi, SIA-3085, Krishnadevaraya) in black soil, irrigated maize, castor (PCH-111, PCH-222, Kranti, GCH-4, Haritha), medium and long duration varieties of turmeric in Kurnool district.
- Sowing of maize, finger millet and rice in High Altitude Tribal Zone.
- Nursery sowing of brinjal.
- Due to less rainfall, maintenance of 2-3 cm water level in rice field.
- Mulching in already sown crops for conservation of soil moisture.

Telangana

- Nursery sowing and transplanting of rice, sowing of rainfed crops like cotton (black soil: MCU-5, LRA 5166, Narasimha, NA 1588, hybrids: JKHY 1, ADBHY 1, NHH 44), maize, groundnut (black soil: Kadiri 3, ICGS 44, JL 24, JCS 88, TG 26, Vemana, red soil: JCG 88, Vemana, Kadiri 4, Kadiri 6, ICGS 11, ICGS 44, Abhaya, Prasuna, TAG 24, Kadiri 9, Narayani), jowar (CSH 5, CSH 6, CSH 9, CSH 12, NTJ 4, CSV 216 R, Moti), soybean, pulses like red gram (black soil: ICPL 85063, MRG 66, WRG 27), horse gram (Palem 1, Palem 2), green gram, castor (Aruna, Kranti, Haritha, Kiran, PCH 111, DCH 177) and sesame (Gowri, Madhavi, YLM 11, YLM 17, Chandana, Swetha-Thil, Hima, Rajeshwari) etc.
- Nursery raising of fine grain variety of rice (RNR 15048) after 10th July due to its photosensitive character.
- Sowings of Soybean upto 15th July.

- Planting of new saplings in the orchards.
- Maintain 2-3 cm water level in rice field.
- Intercultural operation and mulching in already sown crops for conservation of soil moisture.

Tamil Nadu & Pondicherry

- Transplanting of *kuruvai* rice (ADT 36, ADT 43, ADT 45 and Co 51) in Nagapattinam, Thanjavur, Thiruvavur and Trichy districts and also transplanting of rice by SRI technique (with 25 x 25 cm spacing) with irrigation.
- Sowing of groundnut, maize, sorghum and millets in North Western Zone.
- Sowing of irrigated maize and transplanting of rice in Western Zone.
- Sowing of ragi and tomato in raised bed for nursery seedlings.
- Nursery preparation for chilli and brinjal in Southern Zone.
- Planting of wetland banana in High Rainfall Zone.
- Maintain 2-3 cm water level in rice field.
- Intercultural operation and mulching in already sown crops for conservation of soil moisture.

Arunachal Pradesh

- Transplanting of normal *kharif* rice.

Assam

- Sowing of *sali* / *kharif* rice (Long duration high yielding varieties: Ranjit, Gitesh, Pankaj, Bahadur, Kushal, Piolee), medium duration rice varieties Satyaranjan, Bosundhora, T.T.B.-404, Mulagabharu, Kanaklata, Joymoti, IR-36, IR-64 etc. within first week of July in North Bank Plain Zone.
- Rice varieties Manohar Sali, Biraj, Solpona etc. are recommended for post flood transplanting. Jalashree and Jalkunwari recommended for chronically flood affected areas.
- Transplanting of medium duration rice varieties within mid of July in Upper Bramhaputra Valley Zone.
- Sowing of arhar (T-21).
- Planting of guava, seedlings of papaya in the main field. The recommended varieties are Coorg Honey Dew, Washington, Halflong, Ranchi etc.
- Sugarcane: The crop is in grand growth stage. Present weather is favourable for stem borer infestation. Make frequent visits in the field to destroy the egg masses. Stem borer infestation may also be checked by burying or burning the infested canes.
- Ginger and turmeric: If earthing up is done, ensure a certain level of slope in the field so that water does not stagnate near the rhizome. Withhold Urea and MOP application in turmeric due to rain in the ensuing 5 days.
- Animals: Go for vaccination against Foot & Mouth disease and other bacterial diseases in bovine population (cattle, goat, buffalo etc.).
- Fishery: Prepare the fingerling rearing tanks and nurseries by applying agricultural lime and manure. Select appropriate fingerling which are healthy and of size 2 to 3 inches in length and release such fingerlings @ 1000-1100 per bigha. It is desirable to apply fish feed @ 2 per cent of the total weight of fingerlings on each day after the release.

Meghalaya

- Nursery sowing of *sali* / *kharif* rice (HYVs like Shahsarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1-411 & local varieties like Mendri, Manipuri).

- Transplanting of *kharif* rice. Replanting of dead hills or gap filling with seedlings of similar age should be done within 7-10 days of transplanting.
- Sowing of soybean (JS 335, Bragg, Ankur, Pusa Soyabean-1, Local JS 2).
- Sowing of groundnut (ICGS 76, JL 24), black gram, green gram and red gram (HYVs like UPAS-120, ICPL 87 (short duration), WB 20, Pusa 9 & Sarita (long duration)) and planting of ginger and turmeric.

Nagaland

- Transplanting of rice (2-3 seedlings / hill for short duration and 2 seedlings / hill for medium and long duration varieties).
- Sowing of maize varieties DA 61A, RCM-75, RCM-76 and HQPM-1.

Manipur

- Transplanting of *kharif* rice.
- Sowing of *kharif* maize, soybean (*JS-335*), groundnut (ICGS-76) and black gram.
- Nursery raising of early cauliflower.

Mizoram

- Transplanting of rice, sowing of maize, okra, colocasia and transplanting of brinjal and tomato.
- Nursery sowing of *khasi* mandarin, transplanting of passion fruit in polythene bags.
- Land preparation and planting of ginger and turmeric.

Tripura

- Nursery sowing of *aman* rice (Gomati, Ranjeet, Swarna, Naveen).
- Sowing of groundnut (TAG 24, TG 37A, ICGS 76).
- Sowing of maize (DMH- 849, 117, HQPM 1, BQPM 9) in upland and medium upland by first fortnight of July.
- Planting of banana.

Maharashtra

Konkan

- Transplanting of *kharif* rice and finger millet.
- Completion of direct sowing of rice in uplands by 1st week of July.
- Sowing of finger millet, pulses and vegetables.

Madhya Maharashtra

- Transplanting of *kharif* rice in Kolhapur region, Western Ghat region (Nashik) and Pune (western parts).
- Direct sowing of rice in Kolhapur region.
- Sowing of *kharif* jowar, bajra, soybean (in Kolhapur region), cotton, green gram, black gram, red gram, groundnut and sunflower.
- *Kharif* jowar: Use recommended varieties like S.P.V. 462, 475, 946, S.S.V. 84, Phule Amruta.
- Bajra: Use Hybrid varieties Shradha (I.H.R.B.H.-8609) Saburi (I.H.I.B.H-8924) Improved varieties W.C.C.-75, I.C.T.P-8203.
- Sunflower: Recommended varieties are E.C.68414, Modern, S.S.56, K.B.S.H.-11, S.P.S.H.-11.
- Land preparation for planting of *adsali* sugarcane.
- Maintain 2-3 cm water level in rice field.

Marathwada

- Sowing of cotton, soybean, jowar, green gram, black gram, red gram.
- Sowing of *kharif* cotton, soybean, jowar, green gram, black gram, red gram (**Beed, Latur, Osmanabad and Jalna** districts), bajra and sunflower after receipt of sufficient rain.
- For sowing of *kharif* cotton, adoption of spacing of 4 x 1.5 ft (120 x 45 cm) and seed rate 2.5 to 3.0 kg / ha.
- Undertake light hoeing and mulching in already sown crops for conservation of soil moisture.
- Arrangement for irrigation in view of prevailing subdued rainfall during last couple of weeks.

Vidarbha

- Direct sowing of rice in east Vidarbha (Gondia, Bhandara, Gadchiroli and Chandrapur districts).
- Sowing of *kharif* soybean, cotton, jowar, green gram, red gram and sunflower.
- For sorghum, sole pigeonpea and soybean, the normal sowing window still exist. Hence, no change in crops and varieties are suggested.
- Delayed sowing for short duration pulses can be done up to 7 July. Inclusion of green gram and black gram as intercrops is desirable (cotton+ green gram/black gram 1:1).
- Three tier intercropping of cotton: sorghum: pigeonpea: sorghum (6:1:1:1 or 3:1:1:1) can be taken for risk minimization.
- Cotton: normal sowing window is over (30 June). Hence, under delayed sowing conditions, early varieties of American (AKH-8828, PKV Rajat, AKH-081) and Deshi (AKA-5, AKA-7 and AKA-8) cotton are recommended.
- Protective irrigation to earlier sown crops under stress.
- Mulching in already sown crops for conservation of soil moisture.

Gujarat

Gujarat Region

- Sowing of *kharif* crops like green gram, cowpea, sesame, maize, bajra and cluster bean, intercropping of green gram, pigeon pea, guar with bajra, sowing of groundnut.
- Sowing of groundnut, cotton, soybean, pulses like black gram (T-9, GU-1), green gram (GM-3, GM-4, K-851), cowpea (Gujarat Cowpea-1, 2, 4, Pusa Falguni), pigeon pea (Vaishali, GT-100, GTH-1, BHSR-711), ginger, turmeric and vegetable crops like bhindi, beans and cucurbits in South Gujarat Heavy Rainfall Zone.
- Nursery sowing / transplanting of *kharif* rice (GNR-2 (Coastal region), GNR-3, 4, Gurjari, NAUR-1, IR-28, Jaya) in South Gujarat Heavy Rainfall Zone.
- Sowing of soybean in South Gujarat Zone.
- Sowing of rice (PUSA-44), cowpea, groundnut and pearl millet in Middle Gujarat Zone.
- Nursery sowing of vegetable crops, sowing of B.T. cotton in Bhal and Coastal Zone.
- Plantation of new orchards like mango, papaya, sapota, lemon and pomegranate.

Saurashtra & Kutch

- Sowing of *kharif* groundnut (semi spreading: GG-20, bunch: GG-2, GG-5, TAG-24, TG-37 A, TPG-41, TLG-45), cotton (GCH-6, GCH-8, Agritop-444, Solar-76, Beejdhan-2, Ajit-155, Mallika, RCH-II, Vikram-5), pulses (green gram, black gram, cowpea, pigeon pea), pearl millet (GHB-558,577,538,719,732,744), sesame (GT-1, GT-2 or GT-3) and fodder sorghum and maize in North Saurashtra Zone.
- Application of 1% urea solution on germinated cotton crop in the area where plant growth stunted due to heavy rain.
- Sowing of vegetable crops (lady's finger, cluster bean, kidney bean, cowpea, amaranthus, cucurbits), transplanting of brinjal, chilli, tomato and early cauliflower where seedlings are

ready in North Saurashtra Zone.

- Sowing of groundnut (GG-20, GG-11), soybean (Gujarat Soybean-1, 2, 3), pigeon pea (BDN-2, GTH-1), cotton (Bg-II GCH-6, 8, Mallika, Agit, Vikram-5, Uttam, etc.) in South Saurashtra Zone.
- Sowing of *kharif* crops like green gram, cowpea, sesame, maize, bajra and cluster bean; intercropping green gram, pigeon pea, guar with bajra, sowing of groundnut in North West Zone.
- Cotton: The crop is in early vegetative stage. Carry out intercultural operations, weeding and gap filling in earlier sown crops to conserve moisture and to maintain plant population. Apply 60 kg N/h as split doze after receiving sufficient rain.
- Harvesting of excess rain water for future use.
- Bunding of fields to conserve rain water.

Madhya Pradesh

West Madhya Pradesh

- Sowing of soybean (JS 9305, JS 9560, RVS 2001-4), maize (JVM 421, JM 12, JM 216), groundnut (TG 22, TG 26, JGN 3.), soybean (early: JS 95-60; medium: JS 93 -05; late- JS 335), redgram (early: TJT 501, ICPL 87; medium: JKM 189), black gram (JU 86, JU 3, T 9) and green gram (TJM 3, JM 721, HUM 1) and nursery preparation for sowing of *kharif* vegetables like tomato, chili, brinjal and *kharif* onion in Jhabua Hill Zone.
- Sowing of soybean, groundnut, red gram, black gram and green gram in Nimar Valley Zone.
- Sowing of bajra and soybean and nursery preparation for vegetables in Grid Zone.
- Sowing of vegetables like okra, cowpea and cucurbitaceous crops in Malwa Plateau Zone.

East Madhya Pradesh

- Nursery sowing and transplanting of rice, seed bed preparation for *kharif* onion, sowing of maize, sorghum, soybean, groundnut, redgram, green gram and black gram and nursery sowing and transplanting of *kharif* vegetables like tomato, chilli, brinjal, cauliflower etc.

Chhattisgarh

- Nursery sowing of rice (Purnima, Danteswari, Shabagi, MTU1010, MTU 1001, Suwarna) and vegetables and sowing of soybean (J.S. 335, Indira Soya-9, J.S. 80-21, J.S. 93-05), maize, groundnut (SB -11 (J 11), ICGS-37, ICGS-44, T.A.G- 24, T.A.G-28), moong, urd, arhar, redgram and sesame (T.K.G-21, T.K.G-22, T.K.G-55, T.K.G-8.).
- Line sowing of rice. In case farmers grow rice crop by broadcast biasi method, seed rate should be kept somewhat less @ 60-80 Kg./ ha
- Sowing of tuber crops like colcassia, elephant foot, yam and sweet potato.
- Sowing of *kharif* vegetables and nursery raising of tomato, brinjal, chilli, etc.
- Recommended rice varieties for blast sensitive regions: Mahsuri, Maheshwari.
- Recommended rice variety for blight sensitive regions: Bamleshwari.

West Bengal

- Complete sowing of wet seeded *aman* rice (medium duration: MTU-7029, MTU1001, Pratiksha; long duration: CR1017, CR1018, CR1019, Sabita) in Coastal Saline Zone. Nursery sowing of brinjal and chilli in upland through ridge furrow system.
- In New Alluvial Zone, seedbed preparation of *aman* rice. In Old Alluvial Zone, nursery sowing of *aman* rice, vegetables like early cauliflower, brinjal and onion Land preparation and sowing of soybean in Hill Zone.
- In Laterite and Red Soil Zone, sowing of direct seeded rice under upland condition.
- Sowing of soybean in Hill Zone.
- Land preparation for plantation of saplings of mango (Himsagar, Mallicka, Langra), guava

(Safeda, L-49) and coconut (Eastcoastal, Hazari).

Jharkhand

- In South Eastern Plateau Zone sowing of *kharif* crops like, urd, groundnut, arhar, maize etc. direct seeding of short duration varieties of rice like Birsa Dhan - 108, Birsa Vikas Dhan 109, 110,111 and Vandana.
- In South Eastern Plateau Zone, transplanting of long (140-150 days) duration rice varieties and finger millet and sowing of direct seeded upland rice. Varieties suitable for medium land are IR 36, 64, Lalat, Naveen, Sahbhagi, BR 10, Kanak, Rajendra Dhan 202, Sugandha, Birsa Vikash Sugandh Dhan 2, Birsa Vikash Dhan 203 and Birsamati.
- Sowing of maize (by ridge and furrow method), pigeon pea (Birsa Arhar-1 and Bahar), urd bean (T 9, Pant U 19 and Birsa Urd 1), moong bean (Pusa Vishal, S M L 668, K 885, P S 16, Pant Moong 2 and P D M 11.), groundnut (AK 12-24, Birsa Moongfali 1, 2, 3 and bold type – Birsa bold (BAU 13), soybean, sesame, sweet potato (Birsa sakarkand 1 and shreebhadra) and rainy season vegetables. 8 kg of seeds are needed for the cultivation of Urd in 1 acre.
- In South Eastern Plateau Zone, planting of turmeric, ginger and yam and raising of saplings of mango (grafting), guava and litchi (air layering).
- In North Eastern plateau Zone, nursery bed preparation for rice (medium land: Improved varieties are Anjali, Sahbhagi, Naveen, Lalat, Birsamati, Sugandha, BR-10, Pro-Agro 6444, IR-36, IR-64 etc.; low land: Improved varieties are Swarna (MTU-7029), Rajshree, Sambha Mahsuri (BPT-5204), Birsa Dhan- 202, Birsamati, Pro-Agro 6444, etc.), planting of ginger, turmeric & elephant foot yam, cultivation of high yielding varieties of maize (Birsa Maize-1, Birsa Vikas Maize-2, Suwan-1(Hybrid), HQPM (Hybrid).and sowing of vegetables like long gourd, round gourd, bitter gourd, sponge gourd and cucumber.
- In Western Plateau Zone sowing and transplanting of vegetables, sowing of upland and marua rice, maize, urd, groundnut and pigeon pea, planting of ginger, turmeric & elephant foot yam and raising of rice nursery.
- The recommended inter cropping of this region is as follows: pigeonpea + groundnut / rice / black gram: between the 2 rows of pigeonpea (75 cm between rows & 20 - 25 cm between plants), 2 rows of groundnut / rice / black gram; pigeonpea + maize : 1 row pigeonpea and 1 row maize (75 cm between row).

Odisha

- In East and South Eastern Coastal Plain Zone, nursery sowing of rice, direct seeding of rice in medium low and deep low lands, sowing of cotton, groundnut, castor and arhar in uplands.
- In Mid Central Table Land Zone, line sowing of direct seeded rice in lowlands and nursery raising of rice.
- Select rice varieties maturing at least 10 to 15 days earlier than the recommended rice varieties for medium and low land types. Go for 100-110 days rice varieties such as Sahabhagi, Khandagiri in medium land. Select rice varieties such as Lalat, Prijat, Surendra, Kharavela for medium-low land conditions. Select rice varieties such as Swarna, Mahanadi, Prachi, Ramachandi, Indravati, Jagabandhu and scented varieties like Kalajeera, Pimpudibas, Gangabal for very low and patta land situation.
- Go for SRI method of rice cultivation in irrigated medium lands, for which only 10 to 12 days

is required for raising seedlings.

- Sowing of arhar (short duration varieties: UPAS-120, ICPL-86012, ICPL-87 or medium duration varieties: Asha, Visakha, DA-11. C-11), ragi (HYV-Divyasingh, AKP-2, AKP-3, AKP-7, Godavari, Neelachal, Bhairavi, Shubhra, and Chilika), vegetables like lady's finger, cowpea, cluster bean, guar, raddish, brinjal, tomato and chillies in uplands.
- In North Eastern Ghat Zone, in upland, sowing of cotton, groundnut (HYV Ak-12-24 for direct eating as nuts and Smruti for oil), castor and pigeon pea.
- Sowing of *kharif* pulses in upland areas.
- Upland paddy can be grown with very early or early maturing varieties such as Khandagi.

Bihar

- Nursery sowing of paddy (early variety: Sahbhagi, Prabhaat, Dhanlakshmi, Richaria, saket-4, Pusa-2-21; short to medium duration: Santosh, Seeta, saroj, rajshree, prabhaat, rajendra subashni, rajendra kasturi, rajendra bhagwati kamani, sugandga; long duration: rajendra sweta, rajshree, rajendra mansuri, BPT-5204, Swarna, satyam, kishori), sowing of *kharif* maize (Suwan, Deevki, Shaktiman-1 and Shaktiman-2), fodder crops like jowar, bajra and guar, planting of foot yam, ginger and turmeric and nursery sowing of *kharif* onion (Agri Found Dark Red (ADR), N-53, Bhima Super, Arka Kalyan) in North Bihar.
- Sowing of medium duration rice varieties (Medium land: Sita, Kanak, IR 36, Rajendra, Shweta, Santosh, Shahbhagi, Medium duration (Hybrid): P.H.B.71, Pusa R.H.10, K.R.H 2, P.A.644, Pant Sankardhan for medium land) and fodder crops like jowar, bajra and guar, *kharif* vegetables (Barsati sabji) and nursery preparation for *kharif* onion in South Bihar.

Uttar Pradesh

East Uttar Pradesh

- Transplanting of long duration varieties and direct sowing of medium duration varieties of rice.
- Sowing of sunflower, jowar, bajra, moong, urad, arhar, groundnut, soybean, maize, pigeonpea, barley, bottle guard, cucumber, bitter guard, tinda, ladies finger, lobia and torai.
- Planting of banana and transplanting of brinjal, chilli and cauliflower.
- Planting of sugarcane and nursery raising of *kharif* onion.

West Uttar Pradesh

- Nursery raising of rice.
- Sowing of medium duration rice such as Narendra Dhan -359, Malviya Dhan-36, Narendra Dhan -2064, Narendra Dhan -2026, or Hybrid varieties as Arize -6444, 6201, PHB-71, KRH-2, PRH-10 and JKRH-401 etc. and nursery raising of short duration varieties like Govind, Manhar, Narandra-80, NDR-97, Pant-12, IR-50, Ashwani, Shakat -4 and Baranideep.
- Sowing of groundnut, soybean, maize (Hybrid Ganga-11, Sartaj, HQPM-5, Pro-316, Bio-9681, Y-1402, HQPM-8 and Composite variety Prabhat), urad, moong, pigeon pea, pearl millet (Raj-171, L-72 and L-74) and sesame and fodder crops like sorghum (composite varieties like Varsha, CSV-13,15, SPB -1388, Vijeta and Hybrid varieties like CSH-16, 9, 14, 18, 13 and CSH-23), bajra, maize, guar, chari, and dhaincha.

Uttarakhand

- Nursery sowing (rice varieties Saket-4, Govind, Narendra-80, Pusa 2-21) and scented rice varieties (Pant Sugandh-15, Tarawadi Basmati, Pusa Basmati-1, Type-3, Basmati-370) and

transplanting of rice.

- Sowing of groundnut, sorghum, pearl millets, pigeon pea, sesame and French bean (VL Rajma-63).
- In Hill Zone of Uttarakhand, transplanting of rice, vegetables like tomato, capsicum and brinjal and sowing of pulses, soybean, direct sowing of palak, methi, coriander, lady's finger and French bean.
- In Sub-humid Sub-tropic Zone, nursery sowing of rice and sowing of cotton and bajra.

Himachal Pradesh

- Direct sowing of rice, sowing of ginger, turmeric, colocasia and elephant foot (Zimmikand) in low and mid hill regions.
- Sowing of maize for fodder purpose along with cowpea and soybean.
- Transplanting of tomato, brinjal, capsicum, cabbage, cauliflower chilli and direct sowing of okra, French bean, cucumber, bitter gourd, summer squash, bottle gourd and ridge gourd, sowing of oyster mushroom (Dingri in mid hill areas of Sub-Montane and Low Hills Sub-Humid Tropical Zone).
- Transplanting of tomato, cabbage and cauliflower in High Hill Temperate Dry zone.
- Livestock: Spray animals against ecto-parasites by using butox 2-3 ml/litre in water solution by consulting the local Veterinarian. Vaccinate against dreaded diseases like FMD and HS.

Jammu & Kashmir:

- In Sub Tropical Zone, transplanting of early rice varieties (Jaya, RR-8585, IET-1410, Ratna, PC-19). Transplant 2-3 seedlings per hill with a spacing of 20 x 15 cm.
- Direct sowing of rice in the areas where farmers could not sow the nursery of rice.
- Sowing of maize (var. Vivek-25, HM-5 and HQPM-1) with seed rate of 20-30 kg/ha as and when the sky remain clear.
- Transplanting of early varieties of brinjal, chillies and cauliflower.
- Sowing of maize, pulses, mash and moong in Intermediate Zone.
- Transplanting of rice and sowing of bhindi and pole type beans in Valley temperate Zone.
- Floriculture: Transplanting of the seedlings of rainy seasonal annuals like gaillardia, balsam, cosmos, portulaca, kochia, sunflower, morning glory, gomphrena, celosia etc.
- Livestock: supplementary mineral mixture with 50 g iodized salt regularly to the milking and pregnant animals. Provide clean water for drinking to the animals at frequent intervals to save animals from heat stroke.

Punjab

- Nursery sowing and transplanting of rice.
- Sowing of maize.

Haryana

- Transplanting of rice, tomato and chilli and sowing of pigeon pea, desi cotton.
- Cultivation of less water requiring varieties of maize, pulses, pear millets and vegetables.

Delhi

- Sowing of long duration rice, maize and early cauliflower.
- Sowing of ladies finger, pigeon-pea, cotton, vegetables like chilli, tomato and brinjal.
- Farmers are advised to cultivate less area under rice. In those areas where irrigation facilities are limited, farmers should cultivate crops like pigeon pea, pearl millet, guar, pulses etc. which require less water.

Rajasthan

- Sowing of guar and transplanting of rice in Irrigated Northwestern Plain Zone.
- In Arid Western Plain Zone sowing of irrigated groundnut, pearl millet and sorghum.
- In Semi Arid Eastern Plain Zone, sowing of *kharif* crops like pearl millet, sorghum, maize (Him - 129, Aravali Makka, PEHM-1, PEHM- 2, Pratap Makka-1, Pratap Makka-3, Pratap Makka-5), green gram, cluster bean and cowpea and planting of mango, aonla and pomegranate.
- In Flood Prone Eastern Plain Zone, sowing of sorghum, pearl millet, guar and sesamum and planting of ber, aonla and pomegranate.
- In Sub Humid Southern Plain and Aravali Hill Zone, sowing of maize, sorghum, groundnut, soybean (JS-335, MACS-13, PK - 472, MACS-58, PS -16, JS - 71 - 05, Pratap Soya-1).and transplanting of brinjal, tomato, onion, cauliflower, chilli and papaya.
- Sowing of improved varieties of guar, *kharif* pulses like moong, cowpea, moth, sesamum, groundnut, bajra in Transitional Plain Zone of Inland drainage.
- Weeding and hoeing in maize should be done where the maize crop is 15-20 days old. Undertake thinning in maize and keep the plant to plant distance at 20-25 cm.
- Sowing of maize and sorghum may be avoided after 15 July; instead, sowing of pulses, sesame and cluster bean may be taken.