



National Agromet Advisory Service Bulletin

based on

Extended Range Weather Forecast (ERFS)

Valid for 14th to 27th July, 2017

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Indian Council of Agricultural Research (ICAR) All India Coordinated Research Project on Agricultural Meteorology (AICRPAM), Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad



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



- Extended Range Forecast (ERF) indicates that, after active monsoon rainfall over NE states and foothill regions in the previous week, week 1 (14-20 July) is associated with stronger monsoon circulation. Monsoon rainfall is expected to be active over Central and Northwest India, over Odisha, GWB, Chhattisgarh, MP, Maharashtra, Konkan, Gujarat, Rajasthan, Punjab, Haryana and Himachal. This pulse of rainfall over NW India can cover the monsoon over whole of India by covering west Rajasthan, Punjab and adjoining remaining regions.
- During week 2 (14–20 July), monsoon condition is expected to be almost similar to that of week 1 with active rainfall over NW and central India and subdued rainfall over NE states and south peninsula.



- Southwest Monsoon has further advanced into some more parts of West Rajasthan covering segments of Jaisalmer, Phalodi, Nagaur during last 24 hours.
- The Northern Limit of Monsoon (NLM) passes through Jaisalmer, Phalodi, Nagaur, Sikar, Hissar, Patiala, Kapurthala and Lat.31.5°N / Long. 74.5°E.

Strategic Agricultural Planning based on rainfall during next two weeks till 27thJuly

Agromet Advisories

South Region

Kerala

- Undertake planting of cultivars of bananas like Poovan, Palayankodan and Robustain the Northern Zone.
- Maintain water level at 5 cm in the Problem Area Zone.
- Rice: There is a chance of case worm infestation in rice fields. To control this 25 kg sawdust or rice husk ash mixed with 1 litre kerosene can be spread per acre, after draining the field for.
- Cowpea: Apply tobacco decoction or 2% neem oil-garlic-soap emulsion for control of aphids.
- Cardamom: Take necessary phyto-sanitary measures to manage capsule rot (Azhukal disease) and spray 1% Bordeaux mixture (500-1000 ml/plant). As a prophylactic measure to control rhizhome rot, drench the soil with 2-3 liters of copper oxychloride (0.25%) solution.

Tamil Nadu

- Continue transplanting of *kuruvai* rice in Western Zone and SRI rice in Cauvery Delta Zone.
- Continue sowing of small millets in the foothills of Western Ghats areas.
- Apply irrigation to banana, coconut, rubber, black pepper and other horticultural crops as

subdude rainfall is expected in High Rainfall Zone. Avoid moisture loss by undertaking mulching in nutmeg, clove and cinnamon field through farm waste materials.

- Undertake cultivation of groundnut in the North Western Zone.
- In Cauvery delta zone, Maize/sunflower/groundnut can be sown instead of dry rice under laterite and red soil conditions.
- In high rainfall zone (Kanyakumari district), planting with Rasakathali, Poovan, Nendhran, Matti and Red Banana varieties is advocated.

Karnataka

Coastal Karnataka

- Continue transplanting of rice in Coastal Zone and in Hill Zone.
- Maintain optimum water level in transplanted rice.
- Maintain proper drainage facilities in standing crop fields.

South Interior Karnataka

- The following crops are suggested for sowing in Eastern Dry Zone & Central Dry Zone: Under monocropping the long duration crops:
 - Redgram: TTB-7, BRG-1,2,4&5
 - Castor: DCS-9 (Jyothi), DCH-177&32

Under double cropping the short duration crops:

- Ragi : Indaf -8, ML-365, MR-1,2 and 6, GPU-48&66
- Maize: Ganga-11, Deccan -103, Vijaya composite, Composite NAC- 6004,6002, Hybrid-Nityashree(NAH-2049).
- Groundnut: TMV-2, JL-24, KCG-6 & 2.
- Complete sowing of maize, red gram with realised rainfall in Southern Transition Zone and. Undertake direct sowing of ragi / prepare nursery for transplanting of ragi seedlings.
- Continue sowing of groundnut and red gram across the slope, in Central Dry Zone, where sufficient rainfall is received; undertake sowing of crops in remaining areas after receipt of sufficient rainfall.
- Sowing of minor millets crops, viz., foxtail millet, kodo millet, proso millet, ragi, jowar, maize in Southern Dry Zone.
- Intercultural operations in green gram, sesamum, maize and onion in Central Dry Zone.
- Strengthen the bund which will facilitate conservation of monsoon showers before sowing.
- Make use of farm pond water for protective irrigation during the prevailing dry spell.
- Since there is a deficit rainfall during this month, protective irrigation may be given for the crop sown with the pre-monsoon shower.

North Interior Karnataka

- Sowing of jowar crops under sufficient soil moisture condition in North East Transition Zone.
- Sowing of groundnut, in North Transition Zone under sufficient soil moisture condition.
- Complete sowing of red gram, cotton, bajra, castor and maize under sufficient soil moisture condition in North East Dry Zone.
- Complete sowing of green gram, sunflower, maize, Bt. cotton, red gram, bajra, sorghum,

sesamum and groundnut (bunch type) in Vijayapura, Bagalkot and districts Gadag districts in North Dry Zone after receipt of sufficient rainfall.

- In light and medium black soils adopt intercropping of cotton + onion (1:5), cotton + chilli (1:1), cotton+ groundnut (1:3), cotton + green gram (1:1), cotton + soybean (1:1), *kharif*Jowar+ red gram (2:1), groundnut + castor (3:1), bajra + red gram (2:1), sesamum + red gram (2:1), groundnut + red gram (3:1), green gram / black gram + red gram (2:1), groundnut + castor (3:1), bajra + groundnut (2:4), chilli + onion (2:4), red gram + soybean (2:4), hybrid cotton + soybean (1:2), maize + soybean (1:2) row proportion in North Dry Zone.
- In North Dry Zone, in order to with stand the crops during dry spell, adopt special cultivation practices before sowing as suggested below:
 - Bajra: Soak the seeds in water for 10 hours and dry under shade. Take up sowing in wider row spacing up to 135 cm.
 - Pigeon pea: Soak the seeds in CaCl2 solution (2%) for 1 hour and dry under shade for 7 hours and then go for recommended seed treatment.
- Spare some land exclusively for fodder crops or give preference for grain cum fodder crops.
- In deep and medium to deep black soils, in situ soil moisture conservation measures such as ridges and furrows, tied ridges and compartment bunding need to be taken up for conservation of rainwater.
- Intercultural activities and weeding in standing crops.
- Mulching in already sown crops.
- In the already sown crop, the weak and excess seedlings may be removed and intercultivation performed to conserve soil moisture.

Andhra Pradesh

Coastal Andhra Pradesh

- Complete nursery sowing of rice and direct sowing of rice.
- Complete sowing of groundnut in North Coastal Zone of Andhra Pradesh.
- Continue / complete sowing of maize, bajra, redgram, green gram, black gram, cotton, groundnut, turmeric in Krishna Godavari Zone under sufficient soil moisture condition.

Rayalaseema

- Continue land preparation for sowing of rainfed groundnut and undertake sowing after receipt of sufficient rain in Anantapur districts.
- Complete sowing of red gram in Chittoor districts.
- Farmers are advised to open conservation furrows at 3.6 m interval to conserve rainwater in rainfed crops.
- Due to deficit rainfall during the week in scarce rainfall zone (Ananthapuramu and Kurnool), farmers need to wait until receipt of sufficient rainfall to take up sowing of rainfed crops.
- Farmers are advised to provide protective irrigation to early sown rainfed groundnut, where ever water is available in farm ponds or nearby water sources, as the crop is experiencing moisture stress. Farmers can utilize Pantasanjeevani program of Govt. of AP

in Ananthapuramu district for providing protective irrigation.

Telangana

- Complete of nursery sowing of rice in North Telangana.
- Intercropping in cotton with green gram / black gram / soybean / cluster bean in 1:2 or 1:3 ratio and redgram 4:1 / 6:1 / 8:1, for sustainable cotton production in North Telangana.
- Intercropping of red gram in cotton or maize fields in South Telangana Zone.
- Apply 1kg urea and Carbendazim + Mancozeb @ 2 g mixture in 10 -15 days old rice nurseries to protect from diseases and healthy growth of seedlings in South Telangana Zone.
- Frequent inter-cultivation in cotton and maize fields for conservation of soil moisture.

West Region

Maharashtra

Konkan

- Continue transplanting of 21-25 days old rice seedlings.
- Maintain 2-3 cms water level in transplanted rice fields.
- Undertake transplanting of nagli.
- Provide adequate drainage in already sown rice and nagli fields.
- Complete the sowing of *kharif* groundnut after current spell of heavy rain.

Madhya Maharashtra

- Continue sowing of soybean, tur, cotton, groundnut and sunflower with receipt of sufficient rain.
- Carry out intercultural operations like hoeing and weeding in standing crops to conserve soil moisture in Sangli and Solapur districts.
- Continue transplanting of rice in Western Ghat region.

Marathwada

- Keep the crop field weed free and in fallow lands, undertake sowing of *kharif* crops after receipt of sufficient rainfall.
- Apply protective irrigation by sprinkler to *kharif* crops and vegetable crops wherever necessary.
- Planting of fodder crop Napier grass.

Vidarbha

- Undertake land preparation for transplanting and undertake transplanting of 20 to 25 days old rice seedlings with irrigation facility in East Vidarbha.
- Undertakesowing of kharif crops in unsown areas after receipt of sufficient rainfall.
- Apply protective irrigation by sprinkler to kharif crops like soybean, cotton, maize etc. as per the soil moisture condition.

Gujarat

• As heavy to very heavy rainfall is expected for next 3-4 days, continue transplanting of rice, transplanting of vegetable crops and sowing of pulses like green gram, black gram, pigeon pea, pearl millet, groundnut, cowpea, red gram, maize, sorghum, sesame and cotton in Gujarat region and continue sowing of cotton, groundnut, sesame, pearl millet, black gram, green gram, cowpea, soybean, pigeon pea, cucurbits, ladies finger, cluster bean and

kidney bean in Saurashtra and Kutch after current spell of heavy rain.

- Maintain optimum water level in transplanted rice.
- Maintain proper drainage facilities in standing crop fields.

Northeast Region

Assam

- Continue transplanting of Sali rice.
- In flood affected areas if rice nurseries are damaged, undertake nursery sowing of short duration/submergence tolerant varieties of rice like Luit and Dishangor undertake nursery preparation for long duration/late transplanting varieties like ManoharSali/Gitesh. For flood affected areas, farmers are advised to grow flood tolerant Sali rice variety vizSwarna Sub-1, Ranjit Sub-1 and Bahadur Sub-1.
- Continue sowing of red gram, sesame and soybean.
- Continue planting of banana and lemon trees.
- Undertake planting of coconut seedlings and transplanting of arecanut seedlings.
- In Dhemaji, Darang, Lakhimpur, Sonitpur and Udalgiri districts of North Bank Plain Zone of Assam, provide proper drainage to control red rot disease of sugarcane. Drench the affected area with 0.3% Mencozeb 75 WP @ 2g/litre of water and provide proper drainage to prevent rhizome rot in ginger and turmeric.
- In Upper Bramhaputra Valley Zone of Assam, maintain proper drainage facilities to prevent rot disease in pineapple.
- Maintain proper drainage facilities in standing crop fields.
- Ensure the availability of concentrate green grasses along with vitamins and minerals for farm animals.
- Protect the fisheries from intrusion of flood water and unwanted fishes by putting nylon net or bamboo net.

Meghalaya

- Continue transplanting of Sali rice.
- Continue sowing of soybean.
- High humidity with intermittent rain is favourable for development of shoot fly/cob borer/stem borer incidence in maize crop. Apply Carbofuran 3G granules@ 2-3 granule to each whorl of maize plant at tasseling /cob formation stage.
- Maintain proper drainage facilities in standing crop fields.

Arunachal Pradesh

- Continue transplanting of finger millet and rice.
- Maintain proper drainage in already sown crop fields.
- Undertake sowing of large cardamom and planting of banana.

Nagaland

- Continue transplanting of TRC/WRC rice.
- Remove the infested plants to control stem borer in maize.
- Destroy infected plants of okra, cucurbits, brinjal and Naga King chilli to prevent further spread of disease.
- Maintain proper drainage to manage soil borne root diseases in green gram field at flowering stage.

Manipur

- Continue transplanting of kharif rice.
- Avoid water logging in and around the ginger and turmeric field.
- Maintain proper drainage facilities in standing crop fields.

Mizoram

- Continue transplanting of rice.
- Maintain proper drainage in the Jhum rice, cowpea, okra and maize fields.

Tripura

- Continue nursery sowing of *Aman* rice.
- Temperature above 30^oC with humidity over 80 percent is highly favourable for the fungal disease like brown spot, rice blast in the nursery bed *of Aman* rice. Excess of nitrogen aggravates the disease severity. To manage the attacks apply Carbendazim+ Mancozeb @ 2.5gm per litre of water into the seedbed. Field sanitation along with removal of hosts and infected debris from the field would also be helpful to manage the attack.
- There is also infestation of sheath blight due to humid weather in jhum rice at panicle initiation stage. Spray Surf @ 1g per liter of water.

East Region

West Bengal

- In Laterite and Red Soil Zone, provide proper drainage to remove excess water in low-land rice nursery. Undertake main field preparation.
- In the Hill Zone of West Bengal, provide proper drainage in the fields of maize, ginger, turmeric and Mandarin orange.
- In the Old Alluvial Zone, undertake transplanting of kharif rice. Carry out earthing up operation in ginger and turmeric fields and apply appropriate dose of fertilizer.
- In Terai Zone, undertake main field preparation and transplant the seedlings of rice.
- In Coastal Saline Zone, undertake sowing of seeds in the seed beds for Aman paddy.
- In the Old Alluvial Zone, spray Neem oil @ 3ml/litre of water 7 days before transplanting of rice seedlings to prevent early stage infestation of rice stem borer, gall midge & sucking pest.
- Maintain proper drainage facilities in the standing crop fields.

Andaman and Nicobar Islands

- Undertake transplanting of rice in Andaman.
- In the Nicobar Islands, Plant pine apple suckers in upland area by digging 25 to 30 cm depth and maintain close spacing to avoid erosion. Plant suitable fodder sapling in upland area as the soil condition is conducive.

Bihar

- Undertake land preparation for transplanting of long duration rice varieties.
- Continue nursery sowing for medium duration of rice varieties.
- Continue sowing of maize and minor millets.
- Continue sowing of *kharif* vegetable such as ladies finger, pumpkin, cucumber, sponge gourd and bottle gourd. Carry out weeding in 15-20 days old *kharif* vegetables.
- Maintain proper drainage facilities in the standing crop fields.

Jharkhand

- Continue nursery sowing of rice, sowing of maize, red gram and black gram.
- Complete sowing of groundnut, soybean and sesame.
- Continue sowing of direct seeded upland rice. Recommended varieties are Birsa Dhan 108, Birsa Vikash Dhan 109, 110, 111 and Vandana.

Odisha

- Complete sowing of direct seeded rice in low land and medium low land.
- Continue transplanting of rice.
- Continue sowing of medium duration crops like groundnut, maize, red gram, green gram and cotton in upland.
- Undertake sowing of sesamum and cowpea under rainfed condition in areas receiving good soaking rain.
- Undertake planting of fruit crops like Mango, Coconut, Citrus, Guava, Sapota, Papaya, Banana, Litchi and Pineapple in uplands and in marginal lands.
- Due to abrupt rise and fall in temperature, the problem of sucking pests like White fly will aggravate in vegetables. To control these pests, spray Imidacloprid @ 4ml/10 liters of water.

Central Region

Madhya Pradesh

East Madhya Pradesh

- Undertake transplanting of rice in Kymore Plateau and Satpura Hill Zone and in Bundelkhand Zone.
- Continue sowing of soybean, maize, Moong, urad, sesame and groundnut.
- Continue sowing of ladyfinger, bottle guard, cucurbits, sponge guard, bitter guard and beans.
- Maintain proper drainage facilities in the standing crop fields.

West Madhya Pradesh

- Undertake transplanting of rice in Jhabua Hill Zone.
- Continue sowing of *kharif* crops like soybean, pigeon pea, urad, Moong, maize, sorghum and cotton in Malwa Plateau Zone and in Grid Zone.
- Continue transplanting of rainy season vegetables like brinjal, tomato, kharif onion, early cauliflower, chilli etc. and fruit plants.
- Maintain proper drainage facilities in the standing crop fields.

Chhattisgarh

- Complete transplanting of rice in main field in North Hill Zone.
- Complete direct sowing of rice in Bastar Plateau Zone. 3-4 days after sowing spray Butachl or Pendemethaline 1 to 1.5 lit./kg/ha. a.i.. After 14-20 days of rice germination for the control of narrow leave weeds spray Fenexaprop 60 gm/ha and for broad leave weeds chlorimeron + Met Sulfuron 4 gram a.i./ha.
- In the light soils, the early duration rice cultivars like Danteshwari, Poornima, Indira Barani Dhan-1, Annada, Samleshwari, MTU-1010, IR-36 should be grown.
- Continue sowing of tuber crops.
- Continue sowing of soybean, groundnut and til.
- Continue planting of horticultural crops viz, papaya, mango, guava, custard apple etc.

North Region

Uttar Pradesh

- Undertake transplanting of rice in Varanasi, Azamgarh, Jaunpur, Kanpur, Mainpuri districts and complete transplanting of rice in Allahabad, Chitrakut, Pratapgarh districts of Central Zone of East Uttar Pradesh.
- Continue sowing of til, jowar and arhar in Kanpur, Mainpuri districts of Central Zone of East Uttar Pradesh.
- Undertake sowing of bajara, urd, mung and sunflower in Allahabad, Chitrakut, Pratapgarh districts of Central Zone of East Uttar Pradesh. Apply nitrogen 40 Kg (87 Kg Urea) after 30-35 days of sowing of maize crop. Complete nursery raising of kharif onion.
- Continue transplanting of rice seedlings in main field in Eastern plain Zone of Uttar Pradesh. Undertake transplanting of onion.
- Continue transplanting of rice in Western Plain Zone of Uttar Pradesh. Add one packet (500 gm)/acre of Blue Green Algae (BGA) in fields of paddy, as it is rich source of nitrogen. Continue sowing of maize. Conserve rain water in the paddy fields by making broad and elevated bunds.
- Continue sowing of maize, Jowar, groundnut, arhar, urad, moong, soybean, sesame and fodder crops in Bundelkhand Zone of West Uttar Pradesh.
- Maintain proper drainage facilities in the standing crop fields.

Uttarakhand

- Continue transplanting of rice seedling about 20-25 days old, in Sub Humid and Sub Tropic Zone of Uttarakhand. Before transplanting the seedlings of paddy, roots should be dipped for half an hour in the solution of Carbendazim @1g/litre of water.
- Prepare the field for sowing of urd, moong, groundnut and sesamum in Sub Humid and Sub Tropic Zone of Uttarakhand.
- Continue sowing of pigeon pea and nursery sowing of onion.
- Continue transplanting of rice in Udham Singh district of Bhabar and Tarai Zone.
- Continue sowing of okra.
- In hilly regions, continue sowing of radish, rai, coriander, carrot, spinach and French bean.
- Maintain proper drainage facilities in the standing crop fields.

Delhi

- Continue transplanting of rice seedling in prepared field in New Delhi. Add one packet/acre of Blue Green Algae (BGA) in those fields of paddy where standing water is available, as it is rich source of nitrogen.
- Continue sowing of guar, bajra, spinach, amaranths and ladyfinger, baby corn (HM-4) and sweet corn.
- Continue sowing of pigeon pea and maize.
- Continue sowing of rainy season cucurbits like bottle gourd, bitter gourd, pumpkin and ridge gourd etc.

Haryana

- Continue transplanting of rice in Western Zone.
- Complete transplanting of basmati rice in Eastern Zone. Avoid deep planting for better crop establishment and fill up the gaps within a week.
- Carry out intercultural / hoeing operations in cotton crops for conserving the moisture and removing the weeds in Western Zone.

Himachal Pradesh

- Continue transplanting of rice in Sub-Montane and Low Hills Sub-Tropical Zone.
- For the control of weeds, apply Machete (5%) granules @ 30 kg/ha within 4-5 days after transplanting.
- Complete direct sowing of paddy. For direct paddy sowing spray Butachlor @ 3 litres per hectare in 800 litres of water within 48 hours of sowing.
- Make bund for conserving rain water in the field. Bund should be higher and wider so that more rain water can be conserved in the field.
- In maize carry out intercultural operations in June sown crop. For weed control in maize spray recommended dose of atrazine 50 wp 1.75-2.25 litres per hectare in 800 litres of water within 48 hours of sowing.
- Continue sowing of baby corn and sweet corn.

Jammu & Kashmir

- Continue transplanting of rice.
- Apply Butachlor granules 5G @ 30 Kg/ha 2 5 days after transplanting in standing water for effective management of weeds. Don't drain the field for 4-5 days.
- Make necessary arrangement to drain out excess water from transplanted fields.
- Continue sowing of mash.
- Continue sowing maize. Arrange for adequate drainage to avoid water stagnation in the fields as maize is very susceptible to water logging.
- Strengthen the field bunds to retain rain water as much as possible.

Rajasthan

East Rajasthan

- Complete sowing of peal millet, sorghum, maize, moong bean, cluster bean, moth and cowpea in Semi-Arid Eastern Plain Zone. Continue sowing of rainy season cucurbits like Khira, bottle gourd, ridge gourd, bitter gourd & cucumber. Carry out hoeing & weeding in irrigated groundnut. Do not go for hoeing in case needle formation started.
- Continue sowing of sesame, bajra and sorghum in Flood Prone Eastern Plain Zone. Continue planting of ber, anola, phalsa and pomegranate.
- Undertake transplanting of rice South-eastern Humid Plain Zone. Continue sowing of green gram, black gram, soybean and maize.

West Rajasthan

- Continue sowing of guar, moong, moth, til, castor and bajra in Irrigated North Western Plain Zone.
- Continue sowing of pearl millet, cluster bean, moong bean, moth bean etc. in Arid Western Plain Zone. Undertake planting of fruit plants like Ber, Anola, Gonda etc.

Punjab

- Complete transplanting of rice.
- In transplanted rice, apply second and third dose of 37 kg urea per acre each after 3 and 6 weeks of transplanting
- Do not allow the rain water to stand in the maize crop as this crop is highly sensitive to standing water and promotes bacterial stalk rot.
- For control of weeds in maize, use atrazine 50 WP as pre-emergence application @ 500g per acre on light textured soils and @ 800 g per acre on heavy textured soils.

- Continue nursery sowing of brinjal and sowing of bottle gourd, sponge gourd, bitter gourd, ash gourd, round melon and cowpea.
- Conserve the rain water in the paddy fields by making broad and elevated bunds.
- National AAS Bulletin based on ERFS is also available at http://www.imdagrimet.gov.in/erfsview15