



***National Agromet Advisory Service Bulletin***  
***based on***  
***Extended Range Weather Forecast (ERFS)***

***Valid for 07<sup>th</sup> to 20<sup>th</sup> July, 2017***

***Date of Issue: 07<sup>th</sup> July, 2017***

**Issued by**

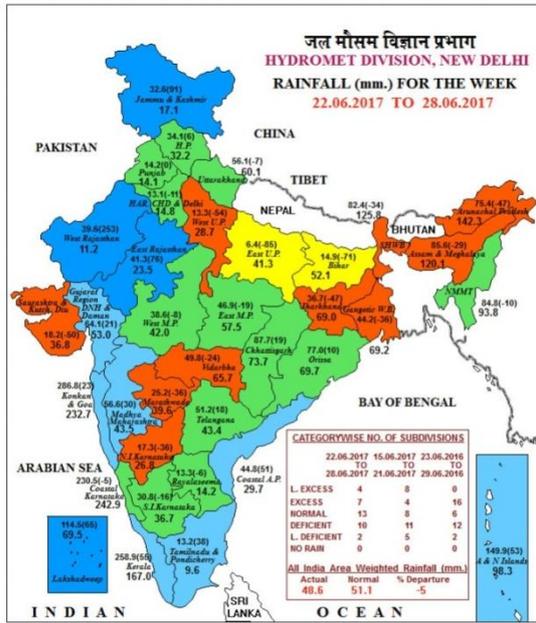
**Earth System Science Organisation  
India Meteorological Department**

**&**

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

## Realized Rainfall (22<sup>nd</sup> June to 5<sup>th</sup> July 2017)

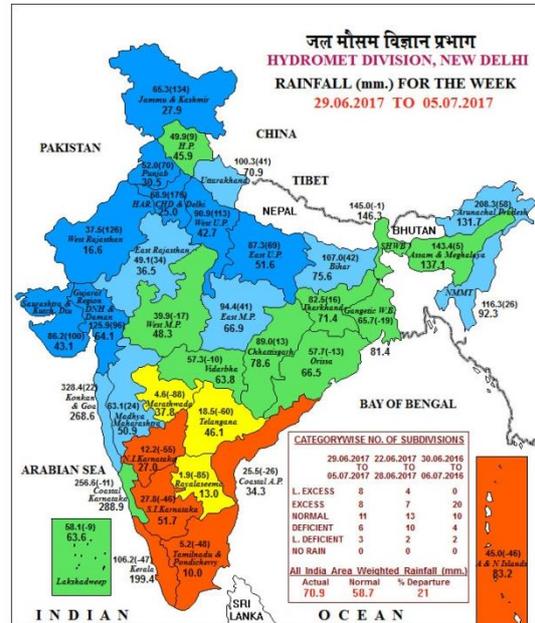
### भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)  
■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-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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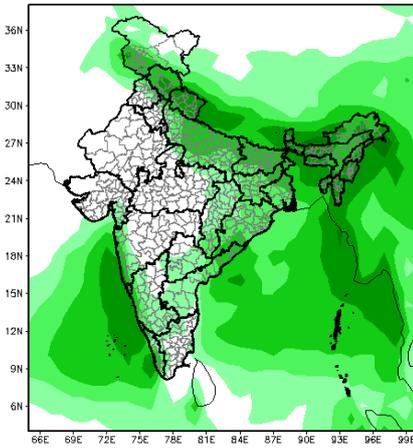
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Percentage Departures of Rainfall are shown in Brackets.

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

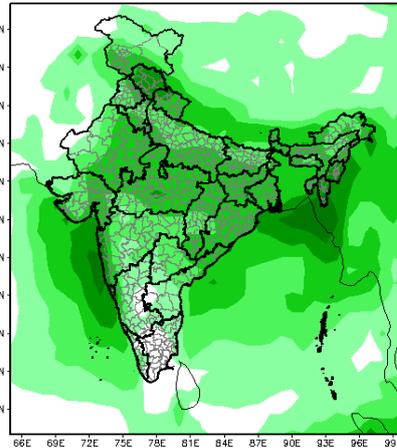
## Extended Range Forecast System

### Districtwise rainfall forecast and anomaly maps for the next 2 weeks (IC =5 July)

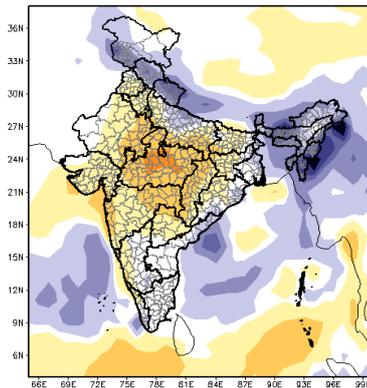
MME Weekly Rainfall (mm/day)  
(Week1: 07Jul-13Jul)



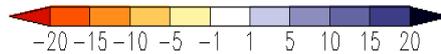
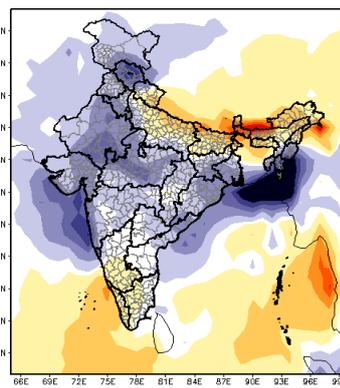
MME Weekly Rainfall (mm/day)  
(Week2: 14Jul-20Jul)



MME Weekly Rainfall Anomaly (mm/day)  
(Week1: 07Jul-13Jul)



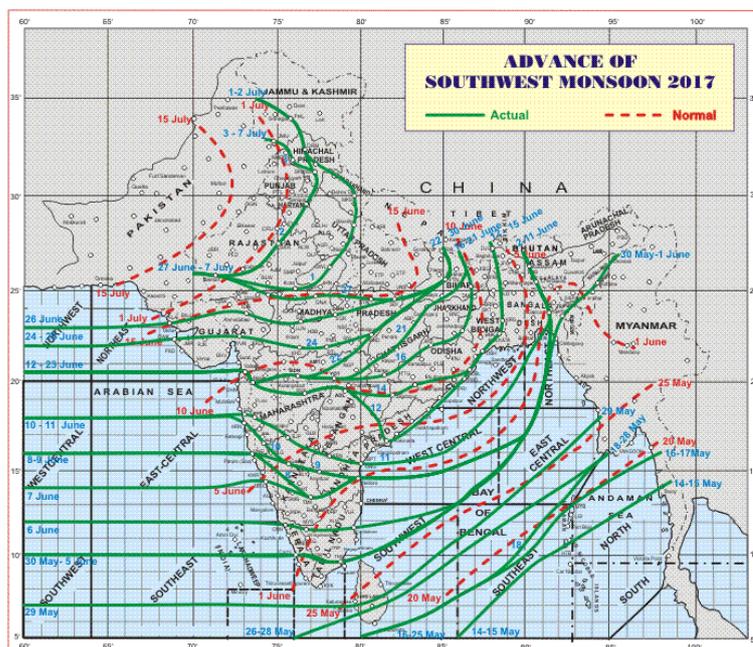
MME Weekly Rainfall Anomaly (mm/day)  
(Week2: 14Jul-20Jul)



- Extended Range Forecast (ERF) indicates that during week 1 (7–13 July), except over the parts of northern most states (Uttarakhand, Himachal, Jammu & Kashmir), foot hills of Himalaya, Northeastern states and some isolated pockets of eastern coastal regions of Gangetic West Bengal, Odisha and Coastal Andhra Pradesh the monsoon rainfall is expected to be week and below normal over Central India, Northwest India and also Peninsula India during the week. Thus monsoon condition will be weaker than normal with an all India departure of about -19% with large negative departure over the central India.
- During week 2 (14–20 July), monsoon is expected to revive and improve over North, Northwest and central India, whereas, over the Northeastern states and South Peninsula it is expected to be close to normal or slightly below normal.

## Advance of Southwest Monsoon - 2017

07<sup>th</sup> July, 2017



- The Northern Limit of Monsoon (NLM) continues to pass through Lat. 26.0°N / Long. 70.0°E, Barmer, Sikar, Sonapat, Shimla, Una, Jammu and Lat.32.5°N / Long. 74.5°E.

## Strategic Agricultural Planning based on rainfall during next two weeks till 20<sup>th</sup> July

### Salient Agromet Advisories

- Monsoon has covered entire South, Central, East, Northeast, West India and most parts of Northwest India except some parts of Jammu & Kashmir, Himachal Pradesh, Haryana, Rajasthan and entire Punjab.
- There was good monsoon rainfall over North-eastern States, Coastal areas of Southern States, Eastern States and Central States. This rainfall situation facilitates to continue sowing of *kharif* crops in the above regions.
- In view of the subdued rainfall, apply protective irrigation by sprinkler in soybean, cotton, maize, groundnut etc. and vegetable crops in Marathwada. Wait for further sowing of *kharif* crops in unsown areas till receipt of sufficient rainfall. In Vidarbha, prepare field for transplanting in East Vidarbha. Apply protective irrigation by sprinkler in soybean, cotton, maize etc. and vegetable crops. Wait for further sowing of *kharif* crops in unsown areas till receipt of sufficient rainfall. In Rayalaseema, undertake sowing of rainfed groundnut, red gram, Korra after receipt of sufficient rainfall.

## South Region Kerala

### Advisories

- Continuation of transplanting of rice. In order to control sheath blight in one month old crop, spray *Pseudomonas* culture 10 g / liter of water.
- Maintenance of water level of 2 -5 cm in rice fields.
- Continuation of planting of coconut, pepper, arecanut and cardamom in High Altitude Zone.
- Drain out excess water from plantation crop fields.
- **Coconut:** Apply one-third dose of the recommended fertilizers and 50 kg organic manure per palm. As a prophylactic measure to control bud rot apply 1% Bordeaux mixture in the tender leaf axils. Farmers are advised to keep vigilance against red palm weevil, rhinoceros beetle and mealy bugs. In hilly tracts, there are chances for the occurrence of 'yellowing of coconut leaves' due to deficiency of secondary and micro nutrients, which may cause bud rot disease, as weak palms may get infected easily. Apply lime @ 2 kg/palm and 500g of Ayar® (micro nutrient mixture) along with the recommended dose of NPK fertilizers, two weeks after lime application.
- **Arecanut:** There is a chance of Leaf and Inflorescence rot. Ensure good drainage in the gardens. Prune the shade trees surrounding the palms and ensure good light penetration in the gardens. Apply 1kg lime per vine in the basins. Application of 100gm potash per palm, in addition to the normal dose also is recommended. Apply Bordeaux mixture (1%) to the inflorescences and leaves. Apply 500 grams of lime per plant. Spray 1% Bordeaux mixture as a prophylactic measure to control *mahali* and bud rot diseases. Provide proper drainage facilities
- **Banana:** Ensure good drainage in the plantation. Due to the monsoon showers, there is chance of Sigatoka disease in banana. As a precaution, Spray *Pseudomonas* 20g/L. In case of severe attack, spray 1 g Bavistin by mixing it with gum in 1 liter of water on lower surface of leaf.
- **Pepper:** Drench the soil and with 0.2 % Copper oxy chloride and spray the aerial part with 1% Bordeaux mixture as a prophylactic measure to control Quick wilt and pollu disease. Application of *Trichoderma* / *Pseudomonas* culture will control the quick wilt infestation.
- **Ginger:** Remove weeds and apply urea @ 33 Kg per acre. To control soft rot, drench the soil with 1% Bordeaux mixture or 0.3% Mancozeb. Apply green leaf mulching to prevent soil erosion and to increase the organic matter content in the soil. Mulching with Lantana camera plants will reduce the attack of stem borer.
- **Coffee:** Leaf rust disease may become severe due to increase in relative humidity. Apply 0.5% Bordeaux mixture or plant wax 20 EC @ 1-2 ml per liter to control the disease. Spray 40-54 ml Ethrel in 200 litres of water to reduce fruit fall in coffee.
- **Cashew:** For managing root and stem borer, chisel out the grubs and swab the tree trunk with Acephate 2g/l of water. Swabbing (adult trees only) with coal tar kerosene mixture at 1:2 proportion is also recommended.

### Tamil Nadu

- Continuation of transplanting of *kuruvai* rice in Western Zone and SRI cultivation of rice in Cauvery Delta Zone.
- Continuation of sowing of small millets in the foothills of Western Ghats areas.

## **Karnataka**

- Strengthening of the bunds with fodder grass for conservation of rainwater.
- Agroforestry on the bund with *Meliadubia* (Hebbevu), Silver oak and *Causurina* is recommended for sustainable income under abnormal extreme rainfall events.

### **Coastal Karnataka**

- Continuation of transplanting of rice in Coastal Zone and in Hill Zone.
- Maintain optimum water level in transplanted rice.
- Continuation of planting of arecanut seedlings.

### **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&32Under 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.
- Completion of nursery sowing of rice in Southern Transition Zone and continuation of sowing of maize, red gram with realised rainfall.
- Continuation of 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.
- Continuation of nursery sowing of ragi in Southern Dry Zone.
- Earthing up in turmeric and zinger crops at sprouting stage.
- Application of protective irrigation in cowpea, green gram and black gram in Chamarajnagar, Mandya, Mysuru districts.
- 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.

### **North Interior Karnataka**

- Transplanting of rice and sowing of soybean, green gram, black gram, Jowar and pigeon pea crops utilising available soil moisture in North East Transition Zone.
- Sowing of green gram, soybean, groundnut, cotton and maize in North Transition Zone under sufficient soil moisture condition.
- Continuation of sowing of red gram, cotton, bajra, castor and maize with available soil moisture in North East Dry Zone.
- Completion of sowing of green gram, sunflower, maize, Bt. cotton, red gram, bajra, sorghum, sesamum and groundnut (bunch type) with available soil moisture in Vijayapura and Bagalkot districts and after receipt of sufficient rainfall in Gadag district in North Dry Zone.
- 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 withstand 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 CaCl<sub>2</sub> 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 inter cultivation performed to conserve soil moisture.

## **Andhra Pradesh**

### **Coastal Andhra Pradesh**

- Continuation / completion of preparation of rice and chilly nursery.
- Continuation of sowing of groundnut, maize, bajra, ragi, red gram, green gram, black gram, groundnut in North Coastal Zone of Andhra Pradesh with available soil moisture.
- Continuation of sowing of maize, bajra, redgram, green gram, black gram, cotton, groundnut, turmeric in Krishna and Godavari zones with available soil moisture.
- Continuation of planting of rainfed sugarcane.

### **Rayalaseema**

- Continuation of sowing of irrigated groundnut in Anantapur and Kurnool, Chittoor, Nellore, Kadapa districts.
- Continue land preparation for sowing of rainfed groundnut and undertake sowing after receipt of sufficient rain in Anantapur and Kurnool districts.
- Continuation of sowing of maize, castor, korra, red gram in Anantapur and Kurnool districts of Scarce Rainfall Zone with available soil moisture.
- Continuation of sowing of millets like ragi, bajra, Jowar and korra in Chittoor and Kadapa districts with available soil moisture.
- Sowing of red gram in Chittoor and Nellore districts with available soil moisture.
- Mono cropping of red gram (@ 4-5 kilo seed/acre or intercropping with red gram + groundnut in 7:1 ration or 11:1ratio.
- Farmers are advised to open conservation furrows at 3.6 m interval to conserve rainwater

in rainfed crops.

### **Telangana**

- Continuation/completion of nursery preparation of rice (medium duration varieties).
- Land preparation for sowing of cotton; continuation of sowing of Jowar, bajra, black gram, red gram, maize, green gram and soybean in North Telangana Zone with available soil moisture.
- Intercropping in cotton with greengram / blackgram / 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 Zone.
- Continuation of sowing of Jowar, bajra, maize, soybean, green gram, cotton, red gram etc. in ridge and furrow method in South Telangana Zone with available soil moisture.
- Intercropping of red gram in cotton or maize fields in South Telangana Zone.
- Nursery sowing of vegetable crops with adequate drainage facility.
- Frequent inter-cultivation in cotton fields for conservation of soil moisture.

### **West Region**

#### **Maharashtra**

##### **Konkan**

- Continuation of transplanting of 21-25 days old rice seedlings in South Konkan.
- Maintenance of 2-3 cms water level in transplanted rice fields.
- Provide adequate drainage in already sown rice and nagli fields.
- Continuation of plantation of horticultural crops mango, Sapota, kokum, coconut and arecanut.

##### **Madhya Maharashtra**

- Continuation of transplanting of rice in Western Ghat region.
- Continuation of sowing of soybean, Tur, cotton, groundnut and sunflower.
- Intercultural operation like hoeing and weeding in standing crops to conserve soil moisture in Sangli and Solapur districts.
- Plantation of corn, cowpea and foxtail millet as intercropping with cotton.

##### **Marathwada**

- Wait for further sowing of kharif crops in unsown areas till receipt of sufficient rainfall.
- Protective irrigation by sprinkler to *kharif* crops and vegetable crops.
- Dust mulching and weeding in *kharif* sorghum and pearl millet.
- Spray 1 % Potassium Nitrate (100 g / 10 liters of water) in soybean crop.
- Plantation of fodder crop - Napier grass.

##### **Vidarbha**

- Main field preparation and transplanting of rice in East Vidarbha.
- Wait for further sowing of kharif crops in unsown areas till receipt of sufficient rainfall.
- For cotton, recommended deshi varieties include AKA-7 with seed rate 12 to 15kg/ha and spacing of 60 x 15 cm. American improved varieties include AKH-081, AKH 9916 with

seed rate of 12 to 15 kg/ha and spacing 60x15cm OR 60x30 cm depending on the soil type. Cotton deshi hybrid PKVDH-1 is recommended with seed rate @ 3.0 to 3.5 kg/ha and spaced at 60x45 cm. Recommended Bt cotton varieties may also be preferred.

- Recommended soybean varieties are JS-335, JS 93-05, JS 9560, JS 97-52, MAUS-71, MAUS-81.
- Pigeon pea varieties to be chosen as per the soil type are - early duration varieties for medium soil type(TAT-10, ICPL 87, AKT-8811), medium duration varieties for medium to heavy soil type(BSMR-736, PKV Tara, BSMR-853) and long duration varieties for heavy soil type (ICPL-87119, C-11).
- Recommended sorghum varieties are: early duration- CSH-14 and CSH-17, medium duration- CSH-9 CSH-16, SPH-1635 and improved- SPV-669,CSV-20.
- Recommended greengram varieties are PKV- green gold, PKV mug -8802, TARM-18 and for black gram PKV-15, TAU-1, TAU-2 and TPU-4.
- Appropriate risk minimizing intercropping systems include cotton + greengram/blackgram (1:1), pigeon pea + greengram / blackgram/soybean (2:4), sorghum + greengram/pigeonpea (3:3) and cotton + sorghum+ pigeonpea + sorghum (3:1:1:1), cotton+soybean+pigeonpea+soybean (3:2:2:2).
- As far as possible, follow BBF layout for sowing of *kharif* crops, particularly soybean, green gram and black gram.

## **Gujarat**

### **Gujarat Region**

- Transplanting of rice in South Gujarat Heavy Rainfall Zone.
- Maintain optimum water level in transplanted rice.
- Continuation of sowing of pulses like green gram, black gram, pigeon pea, pearl millet, groundnut, cowpea, red gram, maize, sorghum and cotton in Gujarat Region
- Rain water harvesting for future use.

### **Saurashtra& Kutch**

- Continuation of sowing of cotton, groundnut, sesame, pearl millet, black gram, green gram, cowpea and pigeon pea with realized rainfall in Saurashtra.
- Relay intercropping of castor, 30 days after sowing of soybean in South Saurashtra Zone.
- Land preparation / sowing of *kharif* crops groundnut, cotton, pearl millet, green gram, moth bean, castor etc. in North West Zone after sufficient rainfall.
- Transplanting of brinjal, chilli and early cauliflower and sowing of cucurbits in North Saurashtra Zone.

## **Northeast Region**

### **Assam**

- Undertake 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 Manohar Sali/Gitish. For flood affected areas, farmers are advised to grow flood tolerant Sali rice variety viz Swarna Sub-1, Ranjit Sub-1 and Bahadur Sub-1.
- After receding of flood water, go for wet seeding of sprouted rice, wherever possible with short duration cultivars.

- Otherwise, plan for sowing of green gram, lentil, early *rabi* season vegetables etc.
- Continue sowing of red gram, sesame and soybean.
- Undertake planting of banana and lemon trees.
- Provide adequate drainage in already sown crop fields and vegetable fields.
- In Central Brahmaputra Valley Zone of Assam, apply Bordeaux mixture in clear weather to control rotting in beetle vine and wilting of black pepper.
- 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.

### **Meghalaya**

- Sowing of maize in high land and mid land.
- Continue sowing of groundnut and soybean.
- Transplanting of Sali rice.
- 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.

### **Arunachal Pradesh**

- Transplanting of finger millet and rice, sowing of cowpea, French bean and soybean.
- Maintain proper drainage in already sown crop fields.
- Spray Dichlorvos 76 EC @ 3ml/litre water along with sticker @ 1ml/litre water against true armyworm attack in jhum rice at tillering stage.

### **Nagaland**

- Undertake transplanting of TRC/WRC rice.
- Remove the infested plants to control stem borer in maize.
- Maintain proper drainage to manage soil borne root diseases in green gram field at flowering stage.

### **Manipur**

- Transplanting of kharif rice.
- Avoid water logging in and around the ginger and turmeric field.

### **Mizoram**

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

### **Tripura**

- Complete sowing of maize at the earliest.
- Continue nursery sowing of *Aman* rice.
- Temperature above 30°C 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 also would be helpful to manage the attack. Also there is infestation of sheath blight due to humid weather in jhum rice at panicle initiation. Spray Surf @ 1gm per liter of water.

## **East Region**

### **West Bengal**

- In Laterite and Red Soil Zone, provide proper drainage to remove excess water in low-land nursery. Undertake main field land 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, 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 after cutting the tips as far as possible. Treat seedlings with solution of 100 ppm Streptocyclin for 20 minutes before transplanting.
- In the New Alluvial Zone, make proper drainage channels in Aman rice seed bed. Undertake land preparation for planting of banana suckers.
- In Coastal Saline Zone, undertake sowing of seeds in the seed beds for Aman paddy.
- In the Laterite and Red Soil Zone, to control fruit borer in bhindi, collect and destroy the affected fruits and spray Neem oil @ 30 ml per lit at clear weather condition.
- In the New Alluvial Zone, the prevailing weather is congenial for attack of mite in jute crop; apply Dichlorvas @ 3 ml per 4 liters of water or Endosulfan @ 2 ml per liter of water.
- Due to humid and warm weather, infestation of blight in vegetable crops is likely to increase; spray Mancozeb @ 2 g per liters of water if the weather is sunny.

### **Andaman and Nicobar Islands**

- Prepare main field of rice by leveling and cleaning of bunds. Maintain bund height at 25 to 30 cm.
- Provide drainage facility in the vegetable field as good amount of rainfall is expected.

### **Bihar**

- Complete nursery sowing of long duration rice varieties such as Rajshree, Rajendrasweta, Rajendramansuri, BPT-5204, Swarna sub-1, Swarna, Satyam and Kishori.
- Continue nursery sowing for medium duration of rice varieties
- Undertake sowing of direct seeded early and medium duration 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.
- Onion nursery should be covered by net at the height of 6-7 feet for protection against sunlight/rainfall. Farmers are suggested to drain out excess water from onion nursery.

### **Jharkhand**

- Nursery sowing of rice, sowing of maize, red gram and black gram.

- Sowing of direct seeded upland rice. Recommended varieties are Birsa Dhan 108, Birsa Vikash Dhan 109, 110, 111 and Vandana.
- Continue planting of turmeric, ginger and yam with improved varieties.

### **Odisha**

- Complete sowing of direct seeded rice in low land and medium low land.
- Start transplanting of rice.
- 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.
- Continue sowing of vegetables.
- 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**

- Complete nursery sowing of rice in Kymore Plateau and Satpura Hill Zone.
- Undertake main field preparation and transplanting of available rice nursery.
- Continue sowing of soybean, maize, Moong, urad, sesame and groundnut.
- Continue nursery sowing of *kharif* onion in Bundelkhand Zone.
- Sowing of pumpkin, bitter guard & bottle guard in the back yard.

#### **West Madhya Pradesh**

- Complete nursery sowing of rice in Jhabua Hill Zone.
- Undertake field preparation for transplanting of rice.
- Continue sowing of *kharif* crops like soybean, pigeon pea, urad, Moong, maize, sorghum and cotton in Malwa Plateau Zone after receipt of sufficient rainfall.
- Undertake transplanting of rainy season vegetables like brinjal, tomato, *kharif* onion, early cauliflower, chilli etc. and fruit plants.

### **Chhattisgarh**

- Remove weeds from the nursery of rice seedlings which are of 10-15 days old and apply 2 kg urea per 1000 sqm of the nursery.
- Undertake transplanting of rice in main field.
- Complete direct sowing of rice in Bastar Plateau Zone. 3-4 days after sowing spray Butachlor 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 chlorimero + Met Sulfuron 4 gram a.i./ha.
- Undertake sowing of tuber crops.
- Transplant the seedlings of various vegetables like tomato, brinjal, cauliflower, cabbage, chilli etc. and avoid water stagnation near root zone.

- Undertake planting of horticultural crops viz, papaya, mango, guava, custard apple etc.
- Carry out intercultural operations in Turmeric, ginger, okra and cowpea.

### **Uttar Pradesh**

- Complete nursery sowing of paddy in Central Plain Zone of Uttar Pradesh. Undertake main field preparation for transplanting of rice. Continue sowing of groundnut, maize, Jowar and Arhar. Undertake sowing of bottle gourd, cucumber, bitter gourd and tinda.
- Complete nursery sowing of rice in Eastern plain Zone of Uttar Pradesh. Undertake transplanting of 20-25 days old rice seedlings in main field. Continue sowing of Arhar. Avoid sowing of Arhar in water logging areas.
- Complete nursery sowing of paddy seeds in nurseries in Western Plain Zone of Uttar Pradesh. Undertake transplanting of rice seedling in prepared fields with spacing of 20 x 10 (RxP) cm. 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 guar, bajra, maize, cluster bean, spinach, amaranthus and ladyfinger. Conserve rain water in the paddy fields by making broad and elevated bunds.
- Complete nursery sowing of rice in Bundelkhand Zone of Uttar Pradesh. Continue sowing of maize, Jowar, groundnut, Arhar, urad, Moong, soybean, sesame and fodder crops.

### **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.
- Continue sowing of pigeon pea and nursery sowing of onion.
- Undertake transplanting of rice in Udham Singh district of Bhabar and Tarai Zone. Undertake sowing of late variety of pigeon pea.
- Carry out weeding and hoeing in maize crop when sky remains clear.
- Undertake sowing of okra.
- In hilly regions, undertake sowing of radish, rai, coriander, carrot, spinach and Frenchbean.

### **Delhi**

- Continue transplanting of rice seedling in prepared field in New Delhi.
- Continue sowing of guar, bajra, spinach, amaranths and ladyfinger.
- Continue sowing of baby corn (HM-4) and sweet corn.
- Undertake transplanting of chilli and brinjal if seedlings are ready.
- Continue sowing of maize.
- Start sowing of rainy season cucurbits like bottle gourd, bitter gourd, pumpkin and ridge gourd etc.

### **Haryana**

- Undertake transplanting of 25-30 days old seedlings rice.
- Remove water from the field after 6-10 days of transplanting for better establishment of the seedlings.
- Continue sowing of guar, bajra, maize and cluster bean.

## **Himachal Pradesh**

- Undertake transplanting of rice in Sub-Montane and Low Hills Sub-Tropical Zone.
- Carry out intercultural operation in bhindi and frenchbean.

## **Jammu & Kashmir**

- Continue transplanting of early sown paddy seedlings.
- Apply the basal dose of fertilizer at time of transplanting.
- In the areas where farmers do not have the nursery of rice, direct seed sowing of rice can be undertaken. Apply full dose of P and K and 1/3 dose of Nitrogen fertilizer.
- Continue sowing maize, moong and mash.
- Farmers are advised to bund their fields for insitu storage of rain water for utilizing the same for puddling.

## **Rajasthan**

### **East Rajasthan**

- Continue sowing of pearl 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.
- Continue sowing of bajra and sorghum in Flood Prone Eastern Plain Zone. Undertake sowing of sesame. Undertake plantation of ber, anola, phalsa and pomegranate.
- Complete nursery sowing of rice in South-eastern Humid Plain Zone. Undertake field preparation for transplanting of rice. Continue sowing of green gram, black gram, soybean and maize.

### **West Rajasthan**

- Continue transplanting of rice and sowing of guar in Irrigated North Western Plain Zone, Hanumangarh. Continue sowing of guar and undertake sowing of 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. Use improved varieties for sowing of bajra, Moong, moth and guar crops.

## **Punjab**

- Continue transplanting of rice.
- In paddy field, apply 1/3 nitrogen at the time of puddling or 2 weeks after transplanting and second 1/3 dose 21 days after transplanting.
- Continue sowing of Moong in Western Plain Zone.
- 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. Apply second dose of nitrogen (37 or 25 kg per acre, respectively for the long and medium/short duration cultivars) at knee high stage.
- Continue nursery sowing of brinjal and sowing of bottle gourd, sponge gourd, bitter gourd, ash gourd and round melon.
- Undertake sowing of okra, bottle gourd, sponge gourd, bitter gourd, ash gourd and cowpea.