

# National Agromet Advisory Service Bulletin

**Tuesday 19<sup>th</sup> August 2014**

**(For the period 19<sup>th</sup> to 22<sup>nd</sup> August 2014)**



**Issued by**

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



## Monsoon Watch

- Southwest monsoon was active over Arunachal Pradesh on 18<sup>th</sup> August.

## Realised Weather on 19<sup>th</sup> August 2014

- **Rainfall:** (From 0830 to 1730 hours IST of yesterday): Rain/thundershowers occurred at a few places over Bihar, Arunachal Pradesh, Assam & Meghalaya, West Bengal & Sikkim, Odisha and Telangana; at isolated places over Uttarakhand, Chhattisgarh, Jharkhand, Konkan & Goa, Kerala and Tamilnadu. Weather remained mainly dry / dry over rest parts of the country. The amounts of rainfall (3 cm or more) recorded at 1730 IST of yesterday were: Daltonganj 6; Kodaikanal 5; Passighat 4; Punalur & Perikulam 3 each; Cherrapunji, Panagarh, Bankura, Malda, Raipur and Coonoor 2 each.
- **Temperature:** Maximum temperatures were above normal by 2-4°C at many places over Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Odisha, Saurashtra & Kutch and interior Maharashtra; at a few places over Haryana & Delhi, Rajasthan, Gangetic West Bengal, Jharkhand, Gujarat region, Andhra Pradesh, Karnataka and Kerala. They were below normal by 2-4°C at a few places over Jammu & Kashmir, Bihar, Assam & Meghalaya and Tamilnadu and near normal over rest of the country.

## Weather Forecast

### Weather Forecast for next 3 days (upto 0830 hours IST of 22<sup>nd</sup> August, 2014)

- Rain/thundershowers would occur at isolated places over Andaman & Nicobar Islands during next 24 hours and increase thereafter.
- Rain/thundershowers would occur at many places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura during the period.
- Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim during next 24 hours and at most places thereafter.
- Rain/thundershowers would occur at a few places over Gangetic West Bengal during the period.
- Rain/thundershowers would occur at few places over Bihar during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at isolated places over Odisha and Jharkhand during next 24 hours and at a few places thereafter.
- Rain/thundershowers would occur at many places over Coastal Karnataka, South Interior Karnataka, Rayalaseema, Kerala, Tamilnadu & Pudducherry during the period.
- Rain/thundershowers would occur at isolated places over Telangana during next 24 hours and increase thereafter.
- Rain/thundershowers would occur at isolated places over North Interior Karnataka during next 24 hours and at many places thereafter.
- Rain/thundershowers would occur at a few places over Konkan & Goa during the period.
- Rain/thundershowers would occur at isolated places over Madhya Maharashtra, Marathwada and Vidarbha during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at a few places over Coastal Andhra Pradesh during next 24 hours and

### Weather Warning during next 3 days

- **19 August (Day 1):** Heavy to very heavy rainfall would occur at isolated places over Assam & Meghalaya. Heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Tamilnadu & Pudducherry and South Interior Karnataka.
- **20 August (Day 2):** Heavy to very heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya. Heavy rainfall would occur at isolated places over Arunachal Pradesh and South Interior Karnataka.
- **21 August (Day 3):** Heavy to very heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya. Heavy rainfall would occur at isolated places over Arunachal Pradesh, Coastal Karnataka, South Interior Karnataka and Kerala.

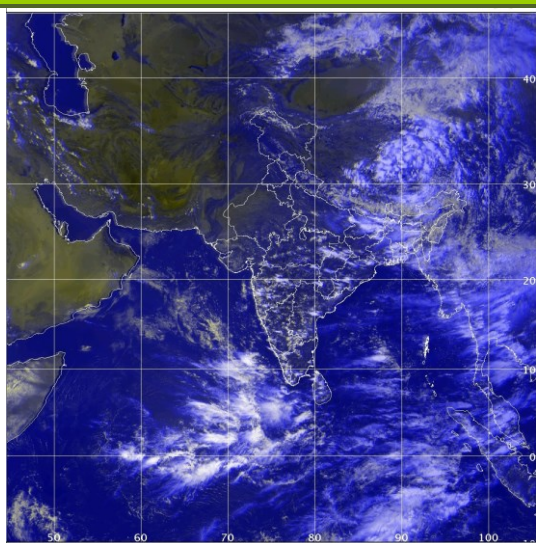
### Weather Outlook for subsequent 4 days from 22<sup>nd</sup> to 26<sup>th</sup> August 2014

- Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim, northeastern states and peninsular India.
- Rain/thundershowers would occur at a few places over western Himalayan region, Maharashtra, east & central India.
- Subdued rainfall activity would continue over plains of northwest India and Gujarat.

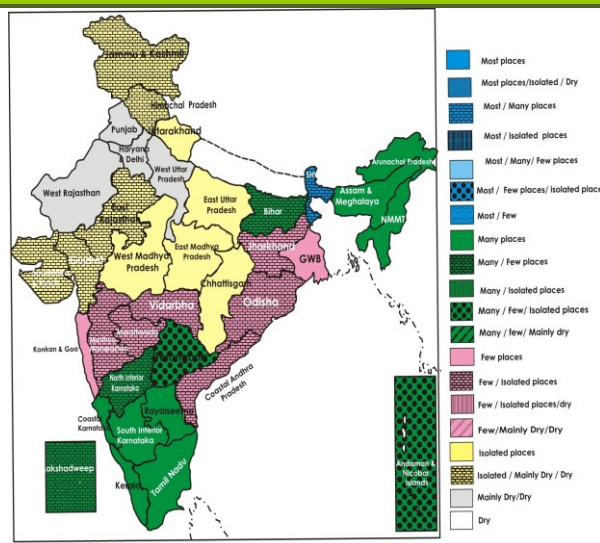
isolated places thereafter.

- Rain/thundershowers would occur at few places over Lakshadweep during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at isolated places over Jammu & Kashmir, East Rajasthan and Gujarat State during next 24 hours; over Himachal Pradesh during next 48 hours and mainly dry thereafter.
- Rain/thundershowers would occur at isolated places over Uttarakhand, East Uttar Pradesh, Madhya Pradesh and Chhattisgarh during the period.
- Mainly dry weather would prevail over Punjab, Haryana & Delhi, West Uttar Pradesh and West Rajasthan during the period.

**Satellite image dated, 19.08.2014, 0830 UTC**



**Weather Forecast Map (Valid upto 0830 hours of 22<sup>nd</sup> August, 2014)**



## Salient Advisories

- In Scarce Rainfall Zone of **Rayalaseema**, continue sowing contingency crops like sorghum, bajra, foxtail millet, cowpea, sunflower, green gram, field bean, castor, horse gram utilising the expected rainfall.
- Due to heavy rains during last two weeks, there was flood in some districts of East, South Eastern and North Eastern Coastal Plain Zone of **Odisha**. Rice crops were completely submerged for three to five days. In the flood affected areas, the following contingent measures may be taken up after recession of flood water.
  - In direct seeded rice, if the entire crop is damaged, wet seeding with sprouted seeds may be undertaken with 120-130 days duration varieties.
  - Apply 50% N & K<sub>2</sub>O and full dose of P<sub>2</sub>O<sub>5</sub> at the time of sowing and rest dose at tillering stage.
  - If loss in seedlings is less than 50%, go for distribution of clonal tillers with application of 50 % N and 50 % K<sub>2</sub>O.
  - In transplanted rice, in case of silt deposit, go for water spray in nursery areas.
  - Avoid application of urea and go for spraying of 1% K<sub>2</sub>SO<sub>4</sub>.
  - Go for clonal propagation if the loss in plant stand is less than 50%.
- In **Marathwada**, avoid sowing of contingency crops during the period and apply protective irrigation to the standing crops. Due to water stress there may be reddening of leaves in early sown cotton, spray fertilizers 19:19:19 @ 100 g per 10 litres water. Considering the deficient rainfall situation, apply sprinkle / micro sprinkle /drip irrigation to turmeric and ginger and drip irrigation to banana & sugarcane. Also apply crop residue mulch to preserve the soil moisture. Undertake intercultural operations like hoeing (dust mulching) in soybean, red gram, bajra, sunflower and cotton. Considering the subdued rainfall activity, avoid the planting of *adsali* sugarcane. Apply mulch in *suru* and *ratoon* sugarcane.
- In **Vidarbha**, apply irrigation to maintain water level upto 2-3 cm in already transplanted rice field. Sowing of sole red gram (AKT-8811, Vipula, PKV-Tara, BSMR-736) or alternative crops like sunflower (TAS-82, PKVSF-9, PKVSH-27, KBSH-1 and KBSH-44) and sesame (AKT64, JLT7) in unsown areas of Central Vidarbha may be undertaken after receipt of adequate rain.

## Detailed Zonewise Agromet Advisories

### SOUTH INDIA [TN, AP, KERALA, KARNATAKA]



*Transplanting of Rice*

*Sugarcane*

*Okra*

*Soybean*

- **Realised Weather:** Rain/thundershowers occurred at a few places over Telangana; at isolated places over Kerala and Tamilnadu. Weather remained mainly dry / dry over rest parts of the region. Maximum temperatures were above normal by 2-4°C at a few places over Andhra Pradesh, Karnataka and Kerala. They were below normal by 2-4°C at a few places over Tamilnadu and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Coastal Karnataka, South Interior Karnataka, Rayalaseema, Kerala, Tamilnadu & Pudducherry during the period. Rain/thundershowers would occur at isolated places over Telangana during next 24 hours and increase thereafter. Rain/thundershowers would occur at isolated places over North Interior Karnataka during next 24 hours and at many places thereafter. Rain/thundershowers would occur at a few places over Coastal Andhra Pradesh during next 24 hours and isolated places thereafter.
- **Weather Warning:** Heavy rainfall would occur at isolated places over South Interior Karnataka during the period; over Tamilnadu & Pudducherry on 19<sup>th</sup> August; over Coastal Karnataka and Kerala on 21<sup>st</sup> August.
- **Weather Outlook:** Rain/thundershowers would occur at many places over peninsular India.
- **Advisories:**
  - **Karnataka:**
    - As rain/thundershowers would occur at many places over along with heavy rainfall at isolated places over South Interior Karnataka during the period and over Coastal Karnataka on 21<sup>st</sup> August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage

in standing crops to remove excess water.

- Continue sowing of ragi, desi cotton, cowpea, soybean and horse gram and continue transplanting of rice in Kodagu district in the Southern Dry Zone of Karnataka utilising the expected rainfall.
- Continue planting of banana, continue transplanting of rice in the Southern Transition Zone of Karnataka.
- Continue sowing of short duration varieties of ragi and sunflower after proper seed treatment, in the Central Dry Zone of Karnataka.
- Continue sowing of horse gram, sunflower and fodder crops utilising the realized rainfall in the North Dry Zone of Karnataka.
- In Eastern Dry Zone of Karnataka, undertake sowing of ragi and planting of coconut, sapota, guava and mango.
- Due to the prevailing humid weather, yellow vein mosaic disease in green gram and incidence of ash weevil and leaf eating caterpillar in soybean is noticed and likely to spread in North East Transition Zone and North East Dry Zone of Karnataka. Rough out affected plants and spray Imidachlorprid @ 0.3 ml per litre of water to manage Yellow vein mosaic disease and spray Chlopyriphos @2 ml or Monocrotophos @1ml per litre of water to manage ash weevil and leaf eating caterpillar after current spells of rain.
- Cloudy weather is congenial for blast incidence in rice nursery in the Southern Dry Zone of Karnataka. Spray Carbendazim @1g/litre or Tricyclozool @0.6 gm/litre of water to manage blast and avoid applying Urea as top dressing after current spells of rain.

▪ **Kerala:**

- As rain/thundershowers would occur at many places in Kerala during the period along with isolated heavy spells on 21<sup>st</sup> August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
- High humidity condition is conducive for increase in sucking insects in vegetables in the Central Zone of Kerala. Apply 2% neem oil-garlic-soap emulsion to manage the pest after current spells of rain.
- Present cloudy weather with high humidity and low minimum temperature condition is congenial for the incidences of black bug, stem borer and leaf roller attack in rice crop in the Problem Area Zone of Kerala. Monitor the crop and spray Asataf @ 2 g/litre at the basal part of the plant after current spells of rain and after draining out water from the field.
- High humidity and moist conditions are congenial for the incidence of leaf folder and rice bug in rice in the Southern Zone of Kerala. Open the rolled leaves using a thorny twig and spray Ekalux to manage leaf folder and spray Carbaryl (Sevin) @ 600g in 200 litre of water to control rice bug after current spells of rain.

➤ **Andhra Pradesh:**

- As rain/thundershowers would occur at many places in Rayalaseema during the period and over Telangana on 21<sup>st</sup> August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
- In the Krishna Godavari Zone of Andhra Pradesh, continue sowing of maize, cotton, red gram and green gram. Provide sprinkler irrigation in rice to avoid drying.
- In the Southern Telangana Zone of Andhra Pradesh, complete sowing of cotton, maize, groundnut, pulses, castor etc. utilising the expected rainfall.
- In Scarce Rainfall Zone of Rayalaseema, continue sowing contingency crops like sorghum, bajra, foxtail millet, cowpea, sunflower, green gram, field bean, castor and horse gram utilising the expected rainfall.
- Due to partly cloudy and humid condition, weevil attack in red gram and sucking pest incidence in cotton is observed in some parts of the Anantpur district and likely to increase in the Scarce Rainfall Zone of Rayalaseema. Dust 2% Methyl Parathion to manage of weevil attack and spray Monochrotophos @2ml/lit to manage sucking pest after current spells of rain.

➤ **Tamil Nadu:**

- As rain/thundershowers would occur at many places in Tamil Nadu during the period along with isolated heavy spells on 19<sup>th</sup> August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
- Continue land preparation and nursery sowing of *samba* rice in the Cauvery Delta Zone of Tamil Nadu.
- Undertake sowing of irrigated cotton and direct sowing of medium duration varieties of *samba* rice in the Western Zone of Tamil Nadu with expected rainfall.
- Suitable varieties are given in Annexure I.

• **Animal Husbandry**

- Prevailing weather conditions are congenial for Anthrax and Enterotoxaemia in livestock in the Scarce Rainfall Zone of Andhra Pradesh. Vaccinate the animals to prevent the diseases.

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



*Transplanting of Rice*

*Okra*

*Jute*

*Green Gram*

- **Realised Weather:** Rain/thundershowers occurred at a few places over Arunachal Pradesh, Assam & Meghalaya. Weather remained mainly dry / dry over rest parts of the region. Maximum temperatures were below normal by 2-4°C at a few places over Assam & Meghalaya and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura during the period.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over Assam & Meghalaya during the period. Heavy rainfall would occur at isolated places over Arunachal Pradesh during the period.
- **Weather Outlook:** Rain/thundershowers would occur at many places over northeastern States.
- **Advisories:**
  - **Assam & Meghalaya, Arunachal Pradesh:**
    - Rain/thundershowers would occur at many places over Arunachal Pradesh, Assam & Meghalaya during the period, along with heavy to very heavy rainfall at isolated places with over Assam and Meghalaya and heavy rainfall at isolated places over Arunachal Pradesh during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
    - In Assam, continue transplanting of *sali* rice. The proper age of seedling for transplanting is 21days for short duration varieties, 30-35 days for medium duration varieties. Replanting of dead hills or gap filling with seedlings of similar age should be done within 7-10 days of transplanting.
    - In North Bank Plain Zone of Assam, continue sowing of pulses like green gram and black gram after current spells of heavy rain.
    - In flood affected areas of Lower Brahmaputra Valley Zone of Assam, the following contingency measures may be adopted for *sali* rice:
      - 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 and Kalong (120 days)
      - Direct seeding with the photo insensitive short duration variety like Luit.
      - Adoption of submergence tolerance varieties like Jalashree and Jalkuwari for repeat flood prone areas
      - In partially affected fields, drain out excess water and apply 1/2 N + 50% K<sub>2</sub>O as top dressing during the tillering stage.
    - In flood affected areas in North Bank Plain Zone of Assam, undertake sowing of short duration cultivars like Luit, Kapilee, Kolong and Dishang in the nursery bed within the 3rd week of August. 20-25 days seedling of these cultivars can be transplanted in the main field up to mid September. Late and staggered planting after receding flood with 60 to 80 days old seedlings of the varieties like Prafulla (80 days) and Gitesh (60 days) is also suggested up to mid September. The old seedlings of other improved long duration variety like Monohar Sali, Salpona, Prasadbhog, Gobind bhog etc can be transplanted up to mid September.
    - In Meghalaya, maintain water level of 2-5 cm in transplanted *sali* rice. 1<sup>st</sup> top dressing of 1/4 Urea (44Kg/ha) should be done after 1<sup>st</sup> hand weeding at 25-30 DAT. In high upland fields, continue planting of tuber crops like sweet potato, colocassia, tapioca, etc., complete sowing of pigeon pea and undertake nursery preparation/ sowing of vegetables like cabbage, cauliflower, carrot, radish, laipatta, broccoli and French bean after current spells of heavy rain.
    - Cloudy and humid weather is favourable for attack of leaf folder and rice hispa in *sali* rice at tillering stage in North Bank Plain Zone of Assam. Monitor the crop and when there is one damaged leaf per hill due to attack of leaf folder or appearance of one adult hispa per hill is observed, spray Chloropyriphos 20EC or Monocrotophos 40EC @ 1.5ml per litre of water after current spells of rain.
    - Due to prevailing humid weather conditions, there is chance of attack of gundhi bug in early transplanted rice in Arunachal Pradesh. Dust with Malathion 5D @ 20 kg/ha after current spells of rain. Repeat after one week. Also in

the present weather, there is chance of collar rot/wilting in green gram. Spray Carbandazim @1g per litre of water or Endofil M45 @ 2.5g per litre of water after current spells of rain.

▪ **Nagaland, Manipur, Mizoram and Tripura:**

- As rain/thundershowers would occur at many places over Nagaland, Manipur, Mizoram and Tripura during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
- In Mizoram, drain out excess water from khasi mandarin, banana, cucurbits and pineapples fields.
- In Manipur, continue land preparation for planting of potato.
- In Mild Tropical Plain Zone of Tripura, in areas where transplanting of rice was not done due deficit rain, it is advised to undertake direct seeding by choosing short duration variety or undertake sowing of short duration pulses.
- Due to cloudy condition & high humidity, there is chance of incidence of blast, thrips and rice Gandhi bug in direct seeded *ahu* rice in Temperate Sub Alpine Zone of Meghalaya. Spray Mancozeb @ 2g/litre or Carbendazime @1g/litre against blast, spray Chloropyriphos @ 2ml/lit of water against thrips, spray Malathion 5% dust @ 6.25kg/ha against Rice Gandhi bug after current spells of rain.
- In Mild Tropical Plain Zone of Tripura, there is chance of attack of yellow stem borer in *aman* rice due to cloudy weather. Spray Cartap hydrochloride @ 1g/litre or Chloropyriphos @ 2.5 ml/litre of water after current spells of rain. Also there is chance of attack of fruit Borer in Brinjal. To manage the attack, apply Imidachloprid @ 2 ml per litre of water after current spells of rain.
- Suitable varieties are given in Annexure I.
- **Animal Husbandry**
- In Nagaland, high humidity is favourable for occurrence of coccidial disease in poultry, provide anti-coccidial drugs.
- In Meghalaya, due to prevailing high relative humidity & warm temperature, there is chance for growth of molds (especially *Aspergillus* spp.) in animal feeds. So always keep animal feeds in dry and clean place and avoid direct contact with ground/soil.
- In Tripura, monsoon weather may lead to endo- parasitic disease in cattle and goat. Animal may be de- wormed against such disease.
- **Fisheries**
- In flood affected areas of Lower Brahmaputra Valley Zone of Assam, protect the fish ponds by putting nylon net or bamboo net around the ponds. Due to heavy rainfalls & muddy water influx from the surrounding areas, the ponds may result reduction of dissolved oxygen. Stirring the water with a bamboo pole will help in increasing the oxygen and protect the fishes from suffocation.

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



**Sugarcane**



**Jute**



**Onion**



**Transplanting of Rice**

- **Realised Weather:** Rain/thundershowers occurred at a few places over Bihar, West Bengal & Sikkim and Odisha; at isolated places Jharkhand. Weather remained mainly dry / dry over rest parts of the region. Maximum temperatures were above normal by 2-4°C at many places over Odisha; at a few places over Gangetic West Bengal and Jharkhand. They were below normal by 2-4°C at a few places over Bihar and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim during next 24 hours and at most places thereafter. Rain/thundershowers would occur at a few places over Gangetic West Bengal during the period. Rain/thundershowers would occur at few places over Bihar during next 48 hours and at many places thereafter. Rain/thundershowers would occur at isolated places over Odisha and Jharkhand during next 24 hours and at a few places thereafter. Rain/thundershowers would occur at isolated places over Andaman & Nicobar Islands during next 24 hours and increase thereafter.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim on 20<sup>th</sup> and 21<sup>st</sup> August. Heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim on 19<sup>th</sup> August.
- **Weather Outlook:** Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim

Rain/thundershowers would occur at a few places over east India.

• **Advisories:**

▪ **West Bengal:**

- Rain/thundershowers would occur at most/many places over Sub-Himalayan West Bengal & Sikkim during the period along with heavy rainfall at isolated places on 19<sup>th</sup> and heavy to very heavy rainfall at isolated places on 20<sup>th</sup> and 21<sup>st</sup> August, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops. Provide adequate drainage in crop fields to avoid water stagnation.
- In Sub Himalayan West Bengal, continue transplanting of *aman* rice utilizing the realised and expected rainfall.
- Complete transplanting of *aman* rice in New Alluvial of West Bengal.
- Continue transplanting of *aman* rice in Laterite and Red Soil Zone of West Bengal utilizing the realised and expected rainfall. In Bankura and Purulia districts, follow dry nursery/adopt dry seeding or drum seeding of rice.
- In Coastal Saline Zone, undertake transplanting of tomato seedling.
- In New Alluvial Zone of West Bengal, due to cloudy weather and humid conditions fungal and bacterial diseases are prevalent in maize and likely to continue. For fungal attack, spray Mancozeb @ 2.5g per litre of water and in case of bacterial rot, spray Streptomycin @ 0.1g per litre of water after current spells of rain.

▪ **Andaman & Nicobar Islands:**

- In South, North and Middle Andaman & Nicobar Islands, keep the rice main field bund open at 15 cm height.

▪ **Odisha:**

- Due to heavy rains during last week there was flood in some districts of East, South Eastern and North Eastern Coastal Plain Zone of Odisha. Rice crops were completely submerged for three to five days. In the flood affected areas, the following contingent measures may be taken up after the flood water recedes;
  - In direct seeded rice, if the entire crop is damaged, wet seeding with sprouted seeds should be done by taking 120-130 days duration varieties.
  - Apply 50% N & K<sub>2</sub>O and full dose of P<sub>2</sub>O<sub>5</sub> at the time of sowing and rest dose at tillering stage.
  - If loss in seedlings is less than 50%, go for distribution of clonal tillers with application of 50 % N and 50 % K<sub>2</sub>O.
  - In transplanted rice, in case of silt deposit, go for water spray in nursery areas.
  - Avoid application of urea and go for spraying of 1% K<sub>2</sub>SO<sub>4</sub>.
  - Go for clonal propagation if the loss in plant stand is less than 50%.
- In Western Undulating Zone of Odisha, complete sowing of arhar and cotton in upland areas taking the advantage of the realised and expected rainfall.
- In North Central Plateau Zone of Odisha, complete the sowing of green gram and black gram in fallow uplands. Grow high yielding varieties such as for green gram- K-851, PDM-54, PDM-11, OUM-11-5, black gram- T9, Pant-U-11, Pant-U-19 or Pant-U-30.
- In North Eastern Ghat Zone of Odisha, undertake sowing of sesame and planting of banana.
- In East and South Eastern Coastal Plain Zone of Odisha, prevailing temperature may favour the egg laying of stem borer in rice. To attract the stem borer butterflies, place 4 Pheromon Traps/acre, collect the adults and destroy them by burying them under soil or by burning. Also spray Prophenophos @ 2 ml per litre water on a non rainy day.
- In North Eastern Ghat Zone of Odisha, infestation of early shoot borer in sugarcane has been reported and likely to spread. Release 50,000 *Trychogramma chilonis* parasite to control the borer. Otherwise install 4 to 5 Pheromone traps per acre to attract the borer or spray Monocrotophos @400 ml in 200 litres of water on a non rainy day.
- In East and South Eastern Coastal Plain Zone of Odisha, due to cloudy and humid weather, there is chance of sucking insects like leaf hopper in cotton. Monitor the crops and in case of severe attack, spray Methyl demeton @ 2 ml/litre of water on a non rainy day.

▪ **Bihar:**

- In North West Alluvial Plain Zone of Bihar, continue sowing of radish, pointed guard. Continue sowing of yam bean, pigeon pea, sunflower, maize and vegetable crops in the upland areas.
- In North East Alluvial Plain Zone of Bihar, continue planting of mango, litchi, guava and papaya. In transplanted rice crop do top dressing of 1/3<sup>rd</sup> urea (44 kg/ha) after 1<sup>st</sup> hand weeding at 25-30 days after transplanting and apply remaining 1/3<sup>rd</sup> urea (44 kg/ha) after 2<sup>nd</sup> hand weeding at 40-45 days after transplanting. Continue transplanting of chilli, brinjal and cauliflower in raised bed.
- In South Bihar Alluvial Zone, complete transplanting of short duration and scented rice variety which is 20-22 days old. Also complete transplanting of *kharif* and sowing of *kharif* brinjal, chilli, early tomato, mid season cauliflower. Continue planting of Mango, Litchi, Guava and Papaya.

▪ **Jharkhand:**

- In South Eastern Plateau Zone of Jharkhand, continue planting of custard apple, banana, papaya and guava. In fallow upland, continue sowing of pulses like horse gram, moong, urad, niger, safflower and short duration maize.
- In Western Plateau Zone of Jharkhand, in upland areas, continue sowing of kulthi and niger by selecting improved varieties. In rice crop, apply urea after 20-25 days of transplanting. Prepare field for sowing of early potato and pea.
- In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of urad, til and groundnut. Continue sowing of horse gram and sweet potato.
- Suitable varieties are given in Annexure I.



- **Animal Husbandry**

- Keep cattle indoors during very heavy rainfall periods in Sub-Himalayan West Bengal.
- In North Eastern Coastal Zone of Odisha in flood affected areas, after receding of flood,
  - animal sheds should be disinfected with 2% Formaldehyde or 4% Caustic soda.
  - Provide clean drinking water to animals to prevent water borne diseases which are common after flood.
  - Animals should not be fed with water submerged rotten grasses.
  - Domestic animals like cattle, goats, pigs etc. which are not vaccinated should be vaccinated immediately against Hind Quarter, Black Quarter and Foot and Mouth disease.

- **Poultry**

- In Nicobar Islands, South, North and Middle Andaman, newly hatched chicks should be provided warm condition with electric bulbs under enclosed dry area with sufficient feeding and watering facility.

### CENTRAL INDIA [M.P., CHHATTISGARH]



*Sugarcane*

*Transplanting of Rice*

*Okra*

*Green Gram*

- **Realised Weather:** Rain/thundershowers occurred at isolated places over Chhattisgarh. Weather remained mainly dry / dry over rest parts of the region. Maximum temperatures were above normal by 2-4°C at many places over Madhya Pradesh and Chhattisgarh.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Madhya Pradesh and Chhattisgarh during the period.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over the region.
- **Advisories:**
  - **Madhya Pradesh:**
    - In West Madhya Pradesh, complete sowing of early maturing varieties of maize (JVM 421, JM 12), red gram (UPAS 120, Pusa 9, TJT 501), sunflower (Modern), sesame variety TKG-8) and black gram (T 9, JU 86).
    - As mainly dry weather would prevail, undertake weed control in soybean, urad and moong in Jhabua Hill Zone of Madhya Pradesh. Spray Emizatapar @ 750 ml per hectare with 600-700 litre of water.
    - As mainly dry weather would prevail, undertake weed control in rice in Bundelkhand Zone of Madhya Pradesh and apply nitrogen fertilizer.
    - Due to humid weather there are chances of attack of sucking pest in cotton in Jhabua Hill Zone of Madhya Pradesh, spray Thiomithaxam @ 0.35 g per litre of water.
    - Due to cloudy weather, there are chances of incidence of leaf spot in urad crop in West Madhya Pradesh, spray Mancozeb @ 2.5 g per litre of water.
    - Due to humid weather, there is possibility of attack of gradle beetle in soybean in Bundelkhand Zone of Madhya Pradesh, spray Trizophos 40 E.C. @ 2.0 ml per litre of water.
  - **Chhattisgarh:**
    - In Chhattisgarh Plain Zone, complete sowing of maize, moong and urad. Maintain 5 cm water in the transplanted rice fields.
    - Continue planting of horticultural crops like papaya, mango, guava etc. in North Hill Zone of Chhattisgarh.
    - Undertake intercultural operations for control of weeds in rice, maize, arhar, urad and soybean, after weeding broadcast urea as per requirement in North Hill Zone of Chhattisgarh.
    - In Bastar Plateau Zone of Chhattisgarh, due to cloudy weather, there are chances of swarming caterpillar in rice, spray DDVP @ 1ml per litre of water.
    - Suitable varieties are given in Annexure I.

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



**Transplanting of Rice**

**Sugarcane**

**Bottle Gourd**

**Onion**

- **Realised Weather:** Rain/thundershowers occurred at isolated places over Uttarakhand. Weather remained mainly dry / dry over rest parts of the region. Maximum temperatures were above normal by 2-4°C at many places over Himachal Pradesh, Uttar Pradesh; at a few places over Haryana & Delhi, Rajasthan. They were below normal by 2-4°C at a few places over Jammu & Kashmir and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Jammu & Kashmir and East Rajasthan during next 24 hours; over Himachal Pradesh during next 48 hours and mainly dry thereafter. Rain/thundershowers would occur at isolated places over Uttarakhand and East Uttar Pradesh during the period. Mainly dry weather would prevail over Punjab, Haryana & Delhi, West Uttar Pradesh and West Rajasthan during the period.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over western Himalayan region. Subdued rainfall activity would continue over plains of northwest India.
- **Advisories:**
  - **Jammu & Kashmir:**
    - In Valley Temperate Zone of Jammu & Kashmir, continue transplanting of cole crops and apply second top dressing of nitrogen @ 3.25 kg urea per kanal in rice after 38-42 days of transplanting and complete second top dressing of nitrogen @ 3.25 kg urea per kanal in maize.
    - In Intermediate Zone of Jammu & Kashmir, undertake nursery sowing of cabbage (Golden Acre, Pride of India and Pusa Mukta) and cauliflower (Giant Snow Ball and Pusa Synthetic) utilizing expected rainfall. Due to prevailing humid weather conditions, there are chances of stem borer and sheath blight, blast on rice crops. For control of stem borer, apply Carbofuron 3 G in standing water @ 1 Kg/Kanal and to control sheath blight and blast, apply Bavistin @ 2 g per litre of water.
  - **Himachal Pradesh:**
    - Continue nursery sowing of Chinese cabbage and direct sowing of radish, carrot and lettuce in Sub-Montane & Low Hills Sub-Tropical Zone and in Bilaspur district of Mid-Hills Sub-Humid Zone of Himachal Pradesh, utilizing the realized rainfall. Apply second dose of urea @40-50 kg per hectare to tomato, brinjal, capsicum, chilli and cucurbits.
    - Complete planting of mango, litchi, guava and amla in in Sub-Montane & Low Hills Sub-Tropical Zone and in Bilaspur district of Mid-Hills Sub-Humid Zone of Himachal Pradesh.
    - Under prevailing humid weather condition, there are chances of attack of stem borer in maize Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh. For control put pinch of Thimath granules in affected plants.
    - Under prevailing humid weather condition, there are chances of incidence of attack of rice blast in paddy fields in Sub-Montane & Low Hills Sub-Tropical Zone and in Bilaspur district of Mid-Hills Sub-Humid Zone of Himachal Pradesh. Spray Bavistin 0.01 or beam 75 WP 0.06% in 10-15 days interval. There are chances of attack of rice hispa in rice. For management, clear the grasses from bunds or spray Cypermethrin 10EC @ 1ml per litre or Chloropyrifos 20 EC @ 2.5ml and for control of rice leaf folder, spray Chloropyrifos 20 EC @ 2.5ml per litre of water.
    - Due to humid weather condition, there are chances of incidence of pre-mature leaf fall and scab disease in apple in Mild Hills Sub-Humid Zone of Himachal Pradesh. Spray Cabriotop @ 200g per 200 litres of water and for control of scab in apple, spray Ziram @ 600ml per 200 litres of water, 15-20 days before harvesting.
  - **Uttarakhand:**
    - In Sub humid Sub Tropic Zone of Uttarakhand, drain out excess water from rice and maintain 5cm water level.
    - Drain out excess water from standing crop fields in Bhabar and Tarai Zone. Complete sowing of urad.
    - Due to high humidity (above 80%), there are chances of late blight in potato in Hill Zone of Uttarakhand. Spray of Carbendazim or Diathem M-45 @ 2g per litre of water dissolved with sticker.
    - Due to high humid condition, there are chances of incidence of leaf folder in rice in Bhabar and Tarai Zone of Uttarakhand. Monitor the crop, if the damage is > 5 % spray Diamathoate 30 EC @ 400 ml dissolved in 400 litres of water per acre.

▪ **Punjab, Haryana and Delhi:**

- In Western Zone of Punjab, continue nursery sowing of tomato and transplanting of brinjal utilising the realised rainfall.
- In Western Plain Zone of Punjab, undertake field preparation for sowing of short duration hybrid maize (PMH 2) during second fortnight of August.
- In Undulating Plain Zone of Punjab, there are chances of fungal diseases in vegetables due to cloudy weather. Spray Infofil M 45 @ 390 g per acre in 100-200 litres of water.
- Due to cloudy weather, there are chances of occurrence of sucking pests viz. white fly and Jassids in cotton in Western Zone of Punjab. Monitor the crops and spray the Oberon @ 200ml/acre for white fly and Ulala 80g/acre for the management of Jassids.
- In Western Zone of Haryana, complete sowing of guar, bajra, pulses, fodder crops such as jowar mixed with cowpea to increase the nutritive value for continuous supply of green fodder. Undertake alternate wetting and drying in rice fields and irrigate in alternate rows in sugarcane in case of shortage of water for irrigation. Undertake field preparation for planting of new orchard crops.
- In Delhi, continue sowing of sweet corn and baby corn during the week with realised rainfall. Also undertake transplanting of tomato, brinjal, chilli, cabbage and cauliflower.

▪ **Uttar Pradesh:**

- Continue planting of fruit crops like mango, litchi, guava, amla, papaya, etc in Western Plain Zone of Uttar Pradesh, utilizing the realized rainfall.
- As mainly dry weather would prevail, undertake second top dressing of nitrogen in maize at silking stage and in jowar, 25-30 days after sowing in Central Plain Zone and apply urea @ 125 kg per hectare in rice in Eastern Plain Zone of Uttar Pradesh.
- Undertake sowing with intercropping of bajra+moong (2:1) in Central Plain Zone of Uttar Pradesh.
- Undertake intercultural operation like weeding in rice in Central Plain Zone and Western Plain Zone and in urad, moong and arhar in Eastern Plain Zone of Uttar Pradesh. To control the weeds, spray Butochlore 50 E.C. @ 3 litres per hectare or Enilophos 30 E.C. @ 1.65 litres per hectare in 700-800 litres of water in Central Plain Zone of Uttar Pradesh.
- In Eastern Plain Zone of Uttar Pradesh, continue sowing of Arhar (Bahar, Narendra Arhar 1, Azad, Pusa-9) at a distance of 60-75 cm between two lines.
- Under prevailing humid weather condition there are chances of attack of red beetle in vegetables in Bundelkhand Zone of Uttar Pradesh. Spray Nimbisidin 2 litre or Monocrotophos @ 1 litre per 800 litres of water. To prevent the attack of white fly, jassids and thrips, spray Dimethoate 30 E.C. @ 800 ml per 800 litres of water per hectare.
- Under prevailing humid weather condition, there are chances of incidence of mould and red rust disease in mango and litchi in Central Plain Zone of Uttar Pradesh. Spray Blytox 0.3% @ 3 g per litre.
- Under prevailing humid weather condition, there are chances of incidence of rice blast disease in rice in Western Plain Zone of Uttar Pradesh. For control, spray Beem @ 120 g per 200 litre of water.

▪ **Rajasthan:**

- In Semi-Arid Eastern Plain Zone of Rajasthan, continue sowing of radish and nursery sowing of mid-season cauliflower.
- Due to warm and cloudy weather condition, there are incidences of small brown spots on leaves of green gram, moth bean and cowpea are the symptoms of bacterial blight disease in Semi-Arid Eastern Plain Zone of Rajasthan. To control spray Streptocyclin @ 1 gm and copper fungicide @ 20 gm per 10 litre water.
- Prevailing mainly dry weather conditions may increase the chances of white grub infestation in groundnut and sucking pests like jassids and thrips in early sown cluster bean. To control adults white grub, use pheromone traps and light traps and for sucking pests as jassids and thrips, spray of Imidachloprid 17.8 SL @ 300 ml/ha in Arid Western Plain Zone of Rajasthan.
- Due to cloudy weather condition during last week, there is chance of spotted bollworm/boll worm on cotton in Irrigated North Western Plain Zone. To control apply Fenvalerate or Indoxacarb @ 1ml per litre of water.

• **Floriculture**

- Due to prevailing humid weather condition there are chances of attack of blue beetle in balsam, zenia, cleome and rose in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh. For control, spray Cypermethrin @ 20 ml in 10 litres of water. In poly houses attack of thrips and mites is also expected. For control spray Rogor @ 20 ml in 10 litres of water for thrips and for beetle spray Diclofol @ 20 ml in 10 litres of water.

• **Horticulture**

- Due to prevailing humid weather condition, there are chances of attack of citrus canker in peach in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh. Spray Malathion @ 10 ml or Metasystox @ 10 ml per 10 litres on a non rainy day. Keep the basins of the plants free from weeds.
- Under prevailing hot and humid weather condition, there are chances of attack of fruit fly in guava in Central Plain Zone of Punjab. Spray Fenvulrate @ 2.5 ml per litre of water and repeat at weekly interval. Fix fruit fly traps in orchards at the rate of 16 traps per acre.

- **Animal Husbandry:**

- Under prevailing humid weather condition, there are chances of attack of ticks and mites on animals in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh and also in Flood Prone Eastern Plain Zone of Rajasthan. For control spray Butox @ 2.0 ml per litre of water. Clean the cowshed with phenyl and keep the animal sheds dry and clean.

### WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



#### **Transplanting of Rice**

#### **Sugarcane**

#### **Okra**

#### **Soybean**

- **Realised Weather:** Rain/thundershowers occurred at isolated places over Konkan & Goa. Weather remained mainly dry / dry over rest parts of the region. Maximum temperatures were above normal by 2-4°C at many places over Saurashtra & Kutch and interior Maharashtra; at a few places over Gujarat region and near normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at a few places over Konkan & Goa during the period. Rain/thundershowers would occur at isolated places over Madhya Maharashtra, Marathwada and Vidarbha during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at isolated places over Gujarat State during next 24 hours and mainly dry thereafter.
- **Weather Warning:** Nil.
- **Weather Outlook:** Subdued rainfall activity would continue over Gujarat.
- **Advisories:**
  - **Maharashtra:**
    - In Konkan, maintain water level upto 5 cm in main rice field.
    - In Madhya Maharashtra, due to subdued rainfall, apply supplementary irrigation to standing crops and undertake hoeing to preserve soil moisture. Also undertake mulching with crop residue or polythene mulch. Due to subdued rain in Ahmednagar, Jalgaon and Dhule districts, there may be wilting in cotton, drenching of 150 – 200 ml solution per plant (1.5 kg Urea + 1.5 kg Potash per 100 litres water) may be done to the infested plants. Fodder crops like jowar (Ruchira, Phule Amruta, Phule Godhan) and maize (African tall, Karveer, Rajshree) may be sown.
    - In Marathwada, avoid sowing of contingency crops during the period and apply protective irrigation to the standing crops. Due to water stress there may be reddening of leaves in early sown cotton, spray fertilizers 19:19:19 @ 100 g per 10 litres water. Considering the deficient rainfall situation, apply sprinkle / micro sprinkle /drip irrigation to turmeric and ginger and drip irrigation to banana & sugarcane. Also apply crop residue mulch to preserve the soil moisture. Undertake intercultural operations like hoeing (dust mulching) in soybean, red gram, bajra, sunflower and cotton. Considering the subdued rainfall activity, avoid the planting of adsali sugarcane. Apply mulch in *suru* and *ratoon* sugarcane.
    - In Vidarbha, apply irrigation to maintain water level upto 2-3 cm in already transplanted rice field. Sowing of sole red gram (AKT-8811, Vipula, PKV-Tara, BSMR-736) or alternative crops like sunflower (TAS-82, PKVSF-9, PKVSH-27, KBSH-1 and KBSH-44) and sesame (AKT64, JLT7) in unsown areas of Central Vidarbha may be undertaken after receipt of adequate rain. Intercropping of sunflower + red gram in 2:1 and sesame + red gram in 4:1 ratio may be preferred.
    - Due to cloudy & humid weather there may be attack of sap sucking pest in cotton in Marathwada, spray Acephate 75% @ 20g/ 10 litres water on a non rainy day.
    - Prevailing humid weather in Pune region is favourable for more incidence of fungal disease in sunflower, tomato, chilli & cucumber. Sap sucking pests spreads the disease; spray Imidachloprid 200 SL @ 2 ml per 10 litres water on a non rainy day.
  - **Gujarat:**
    - In North Gujarat Region, complete sowing of sorghum (seed purpose - GJ-39,40 or 41) and for fodder - Gundari, GFS-4). Apply 40 Kg N and 40 Kg P at the time of sowing and continue transplanting of seedling of fennel (40 days old) in main filed in North Gujarat Zone. Complete sowing of certified hybrid varieties of castor crop (GAUCH-2, GCH-5,6 and GCH-7) in North Gujarat Zone, Bhal and Coastal Zone of Gujarat and South Gujarat Heavy Rainfall Zone.
    - Continue intercultural operations and weeding in cotton, pulses and sesame in North Gujarat Zone, in cotton and sesame in North West Zone and in rice in South Gujarat Heavy Rainfall Zone. Complete planting of new orchards.
    - Continue transplanting of tomato, brinjal and chilli in Middle Gujarat Zone. Continue transplanting of rice,

complete sowing of cluster bean (GC-2) and planting of horticultural crops, carry out gap filling and thinning in already sown crops in Bhal and Coastal Zone of Gujarat.

- Complete nursery preparation for vegetable crops like brinjal, tomato and chilli in South Saurashtra Zone and transplanting of these vegetables into main field in North Gujarat Zone and North Saurashtra Zone. Spray 2% urea solution in cotton crop in North Saurashtra Zone. Apply 25 kg Urea and Ammonium Sulphate fertilizer 25 kg/ha to cotton crop in Saurashtra Zone.
- Cloudy weather and humid condition is favourable for incidence of sucking pest in vegetables in North Gujarat Zone; spray Emidachoprid or Thiomethoxam 4 ml /10 liter water for their control. Due to humid and cloudy condition there is chance of infestation of Gujarat Hairy Caterpillar in pulses, spray 0.15% Monocrotophos at 15 day interval to manage the pest.
- **Animal Husbandry**
- In Gujarat, keep fodder in safe place to avoid spoilage due to rainfall, spray phenyl in the animal sheds to avoid flies, mosquitoes.

## Annexure I List of varieties

### Andhra Pradesh:

**Castor:** PCH-111, PCH-222, Kranti, GCH-4, Haritha

**Irrigated groundnut:** Kadiri-6, Kadiri-9, Narayani and dharani

**Red gram:** black soils LRG-41, ICPL-85063 and for red soils PRG-158, PRG-100.

### Tamil Nadu:

**Samba rice :** CR 1009/Savithri/Ponmani and ADT 50

### Karnataka:

**Redgram :** TTB -7, BRG -01, BRG- 02, HYD -3C, BSMR 736, TS-3R

**Medium to Long Duration Varieties of redgram:** PT-221, GS-1, ICP-8863 (Maruti), ICPL-87119 (Asha) WRP-1,

**Short Duration Varieties of redgram:** ICPL-87(Pragati), Selection-31(irrigated areas ), GCS-11-39

**Ragi:** GPU- 28,MR -01, 02 and 06, KMR-301

**Green gram :** Selection – 4, BGS-9, China mung, Pusa bisaki

**Black gram :** TAU – 1, DU – 1

**Soybean :** JS – 335

**Jowar :** DSV – 2, CSV-15, DSV-3, and DSV-6

**Maize:** Hybrid – DMH-2 and Arjun

**Groundnut:** Bunch type – GPBD-4, JL-24 and TMV-2, Spreading type – DSG-1 and JSP-39

**Cotton:** DHH-11, NCH-145, NHH-44, DHB-105 and Sahana

**Irrigated green gram:** VBN 2, VBN 3 and CO (Gg) 7

### Assam:

**Sali rice:** Ranjit, Bahadur, Vasundhara, Kushal, Piyoli, Moniram, Rangali, Bhogali, Ketkijah

**Long duration varieties:** Pankaj, Mashuri, Manohar Sali and other tall varieties.

**Short duration varieties :** Vivek Dhan 82

**Groundnut :** TG-1A, JL-24

**Pigeon pea :** T-21

**Seasame :** SP1181, GOURI, VINAYAK

### Meghalaya:

**Red gram :** UPAS-120, ICPL 87 (short duration), WB 20, Pusa 9 & Sarita (long duration)

### Odisha

**Rice:** Heera, ZHU-11-26, Pathara, Vandana, Khandagiri and Parijat

**Ragi:** Dibyasingh, Godavari, Subhra, Vairabi, Neelachala, Chilika

**Maize:** Navjot, Sakti-1, Decan-103, Ganga-5, Kargil

**Groundnut:** Smruti, TAG-26, TAG-24, ICGS-11, JL-24

**Sesame:** Kanak, Kalika, Uma, Usha, Tilotama, Nilima, Prachi

**Greengram:** K-851, PDM-11, PDM-54, OUM-11-5

**Blackgram:** T-9, Pant U-11, Pant U-19, Pant U-30

**Cowpea:** SEB-2, Pusa Barsati Niger: Deomali, Niger-1 and for Okra: Utkal Gourav.

**Banana:** Hampa, Patakura, Bantal, Robusta and Kabuli.

### **West Bengal**

**Aman rice:** BCC-17, BCC-33, BCC-02, BCC-01, BCC-09

**Banana :** Mortoman, Chapa, Kathali, Singapuri

**Tomato:** Avinash-2, 448

### **Bihar**

**Kharif Maize:** Shaktiman 1, 2. Pusa agat sankar makka-3and ganga, hybrid: Shaktiman-1, Shaktiman-2, Pusa early hybrid maize-3, Ganga-11, and composite: Suawan and Devki.

**Rice:**short duration rice:Turanta, Prabhat, Richhariya, Saroj, Dhanlakshmi, Saketwork. Scented rice var. Sugandha, Kamini, Rajendra suwasini, Rajendra kasturi and Rajendra bhagwati

**Kharif finger millet:** GPU 45, 67, 28 and RAU 8

**Pigeon Pea:**arhar: Bahar, Pusa 9, Narendra Arhar 1

**Urd:** T-9, Pant U-19, Pant Urd 31, PDU-1

### **Jharkhand:**

**Rice:** short duration: Birsa Dhan - 108, Birsa Vikas Dhan 109 & 110, Vandana etc.

**Maize:** short duration: Birsa maize-1, Birsa Vikas maize-2 etc

**Pigeon Pea:** Birsa Arhar-1, Narendra Arhar-1, Bahar, ICPH-2671

**Groundnut:** short duration: A.K.-12-24, Birsa Bol

**Urd:**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.

**Arhar:**Birsa Arhar (210 days), Bahar (240 Days) and ICPH 2671 (210 days),

**Soybean:**Birsa soybean 1, Birsa safed soybean 2;

### **Madhya Pradesh**

**Rice:** Short duration-JR-201, JRH -4, JRH-5, JRH -8

Medium- IR-36, IR-64, Pusa sugandha-5, MTU-1001, MTU-1010, MTU-81, Mahamaya

Late-Mahsuri, Safari-17, Syamla, Swarna

**Maize:** Short duration-JVM- 421, JM-12, JM-13, JM- 216, JS-20-29, JS-20-34.

Medium- Navjot, Arun, H-216, JM-13, Sartaj, Daccan 107

Late-Ganga-11, Prabhat, Trisulta, Daccan 103, Daccan 105

**Soybean:** Short duration-JS 95-60 (85 days), JS- 93-05(95 days), JS-97-52, JS-335,JS-20-29, JS-20-34

Medium-JS 335 (105 days), NRC 37( 110 days)

**Black gram:** JU 86, JU- 3, T- 9

**Jowar:** Jawahar- 741, Jawahar -938, Jawahar- 1022

**Arhar:** Early: TJT-501, JKM-189,

Medium : ICPL-87-119, ICPL88039

### **Chhattisgarh**

Rice - MTU 1010, Mahamaya, IR 36, IR 64

Maize - Pusa early, Navjot 3, Chandana 3

Ragi - JPU 28, JPU 45, JK 155

### **Uttar Pradesh**

**Urd:** Uttara, Narendra urd-1, Pant Urd-30, Type-27,66, Shekhar-1,2,3, Azad-1,2,3, WBU-108

**Moong:** Pant-1,3,4, Samrat, Narendra Moong-1, Malaveey- Jyoti,-Janchetana, Janpriya, Jagruti, Jankalyani, Samrat,

Asha, Neha, Shweta, MH-215, IPM-23

**Groundnut:** TG-37A, Kaushal, Amber

**Jowar:** Bundela, CSV-13, 15,17; CSH-14, 16, 18, 23

**Bajra:** WCC-75, Raj-171, ICMB-155, Pusa-322, 23, ICMH-451

**Maize:** Azad Uttam, Shweta

**Arhar:** Upas-120, Narendra-1A, Bahar

**Soybean:**PK-472, JS-335, MAUS-47, NRC-37

**Lobia:** UPC-4200

**Rice:**Saket-4, Ratna, Givind, Narendra-97, Narendra-80

### **Jammu & Kashmir:**

Mash : Pant U-19, Uttra, T-9

Moong : ML-131,PDM-54,SML-668, PS-16.

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