

**Central Research Institute for Dryland Agriculture**  
**Hyderabad**

**Status of monsoon and contingency plans for some rainfall deficit/excess areas**

During 1<sup>st</sup> June to 1<sup>st</sup> September, the country as a whole experienced 17% deficit rainfall, which is considered as normal. However, the rainfall was deficit by 35% over North-West India, 14% over Central India, 5% over Southern peninsula and by 13% over East and North-East India. Monsoon was vigorous over Kerala & South Interior Karnataka; active over Central India during the last week. Dry weather prevailed over Punjab, Haryana, Chandigarh and Delhi. Current rainfall status and contingency plans for major rainfall deficit regions in the country are given below.

**Haryana**

As the rainfall situation is scanty (66% deficit) so far, crop diversification is advocated and short duration mung bean (MH 421, SML 668) or maize or fodder crops as per local demand/ market are suggested in place of paddy. Apply irrigation to pearl millet and recently transplanted fruit crops (through micro irrigation system). Undertake hoeing in guar and pulses for conserving the moisture. Alternate wetting and drying in rice fields and irrigation is advised in alternate rows in sugarcane.

Following measures are also suggested

- Straw mulching in between rows for soil moisture conservation and preparation of ridge and furrow for rain water harvesting.
- Foliar spray of urea (2.5%) at 30-35 days.
- Conjunctive use of canal and ground water.
- Life saving irrigation, if possible.

**Punjab**

Rainfall situation is scanty in the state so far (65%). As mainly dry weather is likely to prevail over the state, following recommendations are given.

- Sowing of leguminous and non-leguminous crops in mixture to improve the nutritive value of the fodder i.e. maize + cowpea, sorghum + guara is advised.
- Sowing of short duration early maturing and drought tolerant varieties of crops including maize (PMH1, PMH2) and moong (PAU 911, ML 818).
- Moong variety ML13 can be sown in rainfed areas in Gurdaspur, Hoshiarpur and Ropar. Moong PAU- 911 variety has been recommended for the whole state except Bathinda, Mansa, Faridkot, Muktsar and Ferozepur districts.
- In Western Plain Zone of Punjab, undertake field preparation for sowing of short duration hybrid maize (PMH 2).
- In Undulating Plain Zone of Punjab, continue nursery sowing of mid-season cauliflower, desi varieties of radish, carrot and turnip.
- Adopt moisture conservation practices like hoeing, weeding, mulching in crops like sugarcane, maize, cotton to reduce the evapotranspiration losses and to conserve moisture for rabi crops.
- De-tasselling in maize is advised to reduce transpiration losses.

## **Uttar Pradesh**

Rainfall is deficit by 41 and 59% in Eastern and Western UP, respectively.

### **East Uttar Pradesh**

- Undertake top dressing of nitrogen @ 40 kg per hectare in sunflower in Allhabad, Chitrakut, Fatehpur, Kaushambi and Pratapgarh districts of Cenrtal Plain Zone of Uttar Pradesh.
- Nursery sowing/transplanting of cauliflower, cabbage, tomato and chilli in Raibareilly, Sultanpur, Basti, SantKabir Nagar and Gorakhpur districts is suggested.
- Sowing of arhar (Bahar, NarendraArhar 1,2, Azad, Pusa-9, Malveey-Vikas, Chamtkar, PDA-11) and moong (Pant-1, Narendra-1, PDM-54, Malyeey- Jyoti, Janchetana, Janpriya, Jagruti, Samrat and Asha) in Barabanki, Faizabad and Ambedkarnagar districts of Eastern Plain Zone of Uttar Pradesh is recommended. Intercropping of Moong or lobia with Arhar is also advised.
- Sowing of ladies finger and lobia in Gorakhpur, Raibareilly and Sultanpur districts is suggested.
- Apply 2% urea in standing crops except pulses in Kannauj, Mathura, Agra, Kanpur districts of Central Plain Zone of Uttar Pradesh.

### **West Uttar Pradesh**

- Sowing of pigeonpea (Bahar, Narendra 1 and 2) + pearl millet (NDFB 3) + blackgram (Ajad) is recommended.
- As mainly dry weather would prevail with rain at isolated places, undertake weeding in urd, moong, lobia, Til, arhar, groundnut, soybean and rice in Bundelkhand zone of Uttar Pradesh.
- Apply life saving irrigation in standing crops, vegetables and fruit crops. Postpone further sowing of fruit crops till receipt of rain.
- Undertake foliar spray of 1% KCl.
- Opening conservation furrow is recommended.

## **Maharashtra**

The rainfall deficit of Marathwada has reduced by 20% during last week. Madhya Maharashtra and Konkan regions received near normal rainfall with 4 and 10% deficit, respectively. Vidarbha region is also facing deficit rainfall condition (25%). In Maharashtra, kharif sowing were completed in 117 lakh ha area (87% of normal area). Contingency plan for Marathwada region is as follows:

### **Marathwada**

- As rain occurred during last fortnight and also there is probability of occurrence of rainfall in next fortnight, in unsown areas, sowing of contingency crops like sesame, sunflower and pigeon pea may be continued. Undertake *in situ* rain harvesting methods like conservation furrow in cotton, soybean and jowar fields.
- Farmers may take up intercultural operations like weeding / hoeing in late sown cotton, soybean, pearl millet, sunflower and pigeonpea crops to conserve soil moisture and remove weeds.

## Telangana

With the recent rain, the deficit of the state has reduced by 17% during last week. As there is improvement in rainfall activity and which is likely to continue, sowing of cotton, maize, groundnut, pulses and castor is expected to be completed in Southern Telangana utilising realised and expected rainfall. However, in view of deficit rainfall situation (scanty over Nizamabad, Medak districts and deficit over Rangareddy, Nalgonda, Hyderabad, Adilabad, Karimnagar, Warangal, Khammam, Mehbubnagar districts) following measures are suggested.

- Foliar spray of 2% KNO<sub>3</sub> or 2% urea solution to supplement nutrition during dry spells.
- Supplementary irrigation by using micro-irrigation (sprinklers).
- Avoid top dressing of fertilizers until receipt of sufficient rains.

## Arunachal Pradesh, Assam & Meghalaya, NNMT

In flood affected areas of Lower Brahmaputra Valley Zone of Assam, the following contingency measures may be adopted for sali rice:

- Nursery raising of the photo insensitive short duration variety like Luit for replanting (in case of total damage).
- Wet seeding of sprouted seeds (@75-80 kg/ha) of short to medium duration varieties like Disang, Luit, (100 days) Kapili, Kalong (120 days).
- Adoption of submergence tolerant 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 tillering stage.
- Farmers may also opt for sowing of green gram, black gram, soybean etc.
- In upland areas explore the possibility of growing early rabi vegetables.

In Upper Brahmaputra Valley Zone of Assam, farmers in the flood affected areas should select short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. These varieties can be transplanted or sown within 1st week of September. Long duration cultivars like Monohar Sali, Andrew Sali and Gitesh can be transplanted with 60 days seedling, whereas Prafulla can be transplanted with 90 days old seedlings. Therefore, farmers should be ready with this type of cultivars to cope up with flood situation. Gap filling in the main field should be done with same age of seedling at 20 and 40 days after transplanting.

In Meghalaya, maintain water level of 2-5 cm in transplanted sali rice. In high upland fields, planting of tuber crops like sweet potato, colocassia, tapioca, etc. may be continued and complete sowing of pigeon pea. Nursery preparation/ sowing of vegetables like cabbage, cauliflower, carrot, radish, broccoli and French bean may be undertaken.

***Note: The above is a general overview for the states. However, ICAR (CRIDA) has prepared district level contingency plans (covering all farming situations within the district) and placed in the websites of the Ministry of Agriculture & Cooperation, Government of India ([www.agricoop.nic.in](http://www.agricoop.nic.in)) and CRIDA ([www.crida.in](http://www.crida.in)) for further details.***