

Central Institute for Cotton Research, Nagpur

Second Weekly Advisory for Cotton Cultivation 10th-16th June 2013

"The advisory is based on inputs received from the State Agricultural Universities of the respective states"

Cotton plants need about 2-4 mm water per day during vegetative phase and about 6-8 mm water per day during flowering and boll formation for good production. Water can be provided accordingly for irrigated cotton. Inadequate soil moisture during boll formation leads to poor yields.

Wherever water is available, early sowing can be taken up preferably under drip, 10-15 days before the onset of monsoon. Proper irrigation during flowering and boll formation will result in good yields.

Late maturing varieties and late sowing should be strictly avoided for rainfed cotton cultivation.

For rain-fed cotton, it is important to select early maturing varieties and take up early sowing so that adequate soil moisture is available during critical stages of flowering and boll formation. Earlier the sowing, better are the yields with early maturing varieties, especially in shallow-medium soils, where moisture retention is low. Early sowing also leads to good initial plant growth thus enabling the crop to overcome water logging, drought and escape insect pests and diseases. It is important to choose varieties that are tolerant or resistant to jassids and other sap-sucking insects.

Land Preparation

In the central zone (Maharashtra, Madhya Pradesh and Gujarat) on black cotton soil where cotton cultivation is predominantly rainfed, the tillage operations can begin with the odd pre-monsoon shower or immediately with the onset of rains. The soils should deep ploughed (30 cm) once in three years. Farm yard manure @ 5-10 cartloads/acre depending on the availability must be added. Before planting the soils should be harrowed and planked.

For better soil moisture conservation, preferably in areas where rainfall is 700-900mm, the land can be reshaped into ridges and furrows with the help of a ridge plough or a bund former. This technique and sowing cotton on ridges would conserve rainwater and the furrows acts drainage channels whenever heavy rains are received particularly in heavy clays.

Cotton is very sensitive to excess water condition. Provide adequate drainage channels or water ways (particularly in heavy soils) along the slope of the land for draining excess water under heavy rainfall situations. Keep the soil free of perennial weeds particularly sedges like *Cyperus sp (motha)* and grasses (*Saccharum spontaneum, kans*). Glyphosate @2.0 kg/ha (repeated directed sprays using protective hood) or manual removal by pick-axe can be resorted if these weeds appear in patches.

NORTH INDIA

General recommendations for North Zone:

Sowing of Desi as well as American cotton has already been completed. Temperature was comparatively less than last week. The maximum temperature was 44.4 °C. Prevailing dry weather and hot conditions are causing the burning of seedlings more in desi cotton. Irrigation can be applied if the seedlings are month old. Farmers were advised to keep higher seed rates at the time of sowing for maintaining optimum plant population. They were also suggested to raise seedlings in plastic cups for gap filling. Though population of thrips have been noticed in cotton, it was below economic threshold level. Farmers have been advised to monitor the crop regularly.

Punjab

Cotton sowing is almost complete in the entire state of Punjab. Burning of cotton crop has been noticed in some areas due to severe heat wave. Farmers are advised to apply first irrigation to early sown crop and to complete gap filling to maintain plant population. The maximum temperature of 45.8°C, minimum of 27.1°C and no rainfall has been recorded at weather observatory of PAU, Regional Station, Bathinda.

Rajasthan

At Banswara, farmers are advised to deep plough the vacant fields and go for sowing of cotton crop in furrows in irrigated area. At Sriganaganagar, maximum temperature of 46° C with pest incidence of painted bug was noticed.

Uttar Pradesh

At Kanpur, crop is in vegetative stage. Farmers are advised to remove the weeds in the cotton fields and apply the life saving irrigation after 25-30 days of sowing.

CENTRAL INDIA

Madhya Pradesh

At Indore, weather in Malwa and Nimar is still hot and dry. Max. Temp varied between 38 °C to 40.5°C while Min. Temp. was around 27 to 28.5 °C in the region. Humidity ranged between 68 to 74 per cent. Sowing of cotton is in progress where irrigation facilities are available in the pockets of Nimar and adjoining Malwa region. Farmers depending on rainfed system, are waiting for pre monsoon showers and they are advised for deep ploughing. Sowing operations shall be started with the onset of monsoon with sufficient rain for sowing conditions including temperature and humidity. Crop already transplanted in the field may suffer sucking pest attack and they are advised for spray of Flonicamid at the recommended dose if seeds were treated with Imidacloprid.

Maharashtra

At Akola, farmers should purchase the cotton seed and fertilizer for pre monsoon and monsoon sowing, prepare land with harrowing for leveling. Ridges and furrow should be made. Give irrigation before dibbling of seed on side ridges. For Bt cotton, farmers should purchase those hybrids which are performing better in their area and refuge should be grown along with Bt on borders. Fertilizer for irrigated Bt 120:60:60 and non Bt 100:50:50 NPK kg/ha N should be split in three times (40 kg at sowing, 40kg at 30DAS and 40 kg at 60 days after sowing. P and K should be applied as basal. Irrigation should be given at 5-7 days interval and under drip at a discharge rate of 1.5 to 2 litres water per day.

Odisha

Maximum temperature will vary around 41-47°C and minimum temperature will vary around 28-29°C. Maximum RH will be between 76-83 per cent and minimum RH will vary between 30-40 per cent. The places received rainfall is suitable for immediate land preparation. It is time for purchase of agricultural inputs i.e. seed, fertiliser etc in order to avoid delay sowing.

SOUTH INDIA

Andhra Pradesh

Deep summer ploughing is under progress. Summer showers helped in preparatory cultivation in some parts of Andhra Pradesh. Farmers are advised to apply FYM @ 4 t/acre (10 cart loads) besides the recommended fertilizers. In general, sowings will be taken up during 2nd fortnight of June in Telangana & Rayalaseema districts while from 2nd fortnight of July to 1st fortnight of August in coastal Andhra Pradesh.

Farmers are advised to take up the following crop recommendations.

Varieties / hybrids recommended: Desi Cotton Varieties (*G. arboreum* L.): Aravinda, Srinandi (NDLA-2463), Yaganti (NDLA-2933) and Veena (MDL-1875); American Cotton Varieties (*G. hirsutum* L.): Kanchana (LPS 141), LK-861, L-389, L-603, L-604, Narasimha (NA-1325), Sivanandi (NDLH-1755), MCU5 VT, LRA-5166, LRK-516 & NDLH 1938 (Pre-release); Intra-specific Cotton Hybrids: LAHH-1, LAHH-4, LAHH-5, Lam Cotton, Hybrid-7, NDLHH-390, NDLHH-240 and Orugallu Krishna (WGHH-2), NHH-44, JKHy I, Savitha, H-6, H-8 and H-10; Inter-specific Cotton Hybrids: Varalakshmi and Jayalakshmi (DCH-32); *Bt*. Cotton Hybrids: Ruling *Bt*. cotton hybrids being cultivated and found suitable for the last 3-4 years.

Seed Treatment: For non Bt seeds acid delinting, seed should be treated with 80-100 ml H₂ SO₄ per kg of seed for 2-3 minutes followed by lime solution and thorough washing with water 2-3 times to make the seed acid free. Seed treatment

with appropriate insecticide(s): Imidacloprid 70 WS @ 5.0 g or Thiomethoxam 70 WS @ 4.0 g or Imidacloprid 48 FS @ 9.0 ml or Carbosulfan 25 DS @ 40.0 g/kg of seed followed by, treatment with *Pseudomonas fluorescens* @ 10.0 g or *Trichoderma viridae* @ 8.0 g or *T. harzianum* @ 8.0 g or Carbendazim 50 WP @ 2.0 g or Mancozeb 75 WP @ 3.0 g or Captan 50 WP 3.0 g or Thiram 75 WP @ 3.0 g/kg of seed.

Tamil Nadu

In the summer irrigated zones of Tamil Nadu (Parts of Tirunelveli, Virudhunagar, Ramanadhapuram, and Madurai District) the cotton crop is in boll development stage. Square shedding was observed in some areas as the cause of hormonal imbalance. For that, spraying of 40 ppm NAA after nipping at 75 DAS is recommended to stop the square shedding. Then spraying of 2 % DAP (2 times) with 15 days interval for good boll development. The incidence of American bollworm (*Helicoverpa*) and stray incidence of Pink boll worm were noticed in some areas for which plant protection measures may be taken on need basis. If the threshold level crosses 10% damage, Quinalphos 25%EC 2.0 litre or Chlorpyrifos @ 2 litres per hectare may be sprayed.

=== End of the Report ===