

Central Institute for Cotton Research

Thirteenth Weekly Advisory for Cotton Cultivation: 16th to 22th October 2012

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

NORTH ZONE

Punjab

The crop condition is almost same as that of the previous week. In general, the cotton crop is at maturity and first pick is in progress. The farmers are advised to ensure clean and neat picking to maintain good quality of the produce. In case of late sown crop, precautions for the control of whitefly incidences may be taken. Check for boll rotting, if any after rains, and manage with carbendazim@0.1%.

Haryana

Desi cotton crop is in picking stage, whereas Bt. cotton hybrids are in early boll opening stage. In general the crop is healthy. Do not irrigate the field after 1/3rd opening of the bolls in the field. Avoid picking of rotten bolls. Dry the kapas before storage to avoid micro-organism damage. Farmers are advised to monitor their crop regularly

Rajasthan

Weather during next 4 days would be stable in Banswara region. Chances of rainfall is nil with fall in night temperature. Farmers at this moment are advised to vacate their cotton fields as early as possible and can go for sowing of Taramira and heat tolerant mustard varieties in non-command areas using available soil moisture. Irrigation in cotton as per need at square formation on may be given. Pest problem in cotton may increase due to high day temperature coupled with high humidity for which farmers are advised to be little bit vigilant and apply plant protection chemicals if required.

CENTRAL ZONE

Gujarat

Cloudy weather with little sunshine had adverse effect on cotton crop in Surat. Withdrawal of south west monsoon from Gujarat has started. There has been scattered rain in some parts of the State. Light infestation of Spodoptera and moderate level of *Heliothis* infestation was recorded. In Junagadh region, there were no rains. Crop condition in some experiment fields was good and satisfactory due to good rainfall in the previous week. Regrowth may start. The incidence of jassids was below ETL and thrips was very low in farmers fields. Population of whitefly was below ETL and mealybug observed low throughout the week. Population of mite was observed very low at some farmers fields. Stem borer infestation was observed only in early sown Agronomy and Plant breeding trials as well as in some farmers fields. The incidence of *Helicoverpa* and *Earias* was observed very low in Non Bt cotton hybrids with no incidence of Spodoptera this week. *Coccinellids* and Spiders were noted and *Chrysoperla* was not found during mid week. Overall condition of the farmers field of Junagadh Agricultural University jurisdiction area was very severe for cotton growth and boll formation stages. Reddening, leaf cracking and leaf shattering was observed in some varieties of the cotton in the farmers field as well as Cotton Research Station due to rainfall after long dry spell.

Maharashtra

Irrigated cotton sown in last week of May or first week of June in Marathwada is in boll bursting stage where as rainfed cotton sown after receipt of monsoon (second fortnight of June or first fortnight of July) is in boll development stage. Infestation of white flies is observed in many parts. Infestation of Pink bollworm is reported in some areas. Foliar nutrition of micronutrient 0.2% MgSO₄ and 2% KNO₃ should be done at boll development stage. Spray of Bavistin @ 10 g or 80% Sulphur @ 25 g / 10 lit. may be done as a precautionary measure for Grey mildew. Total rainfall received in 40th MW at MPKV, Rahuri centre is 118.6 mm; recorded highest rainfall in one MW until now. The cotton crop is in boll development and bursting stage. The seed cotton of first two pickings should be kept separately for getting good price and if necessary, irrigation should be given to rainfed cotton at boll development stage. High rainfall at some places favour the boll rotting which can be managed by spraying of Carbendazim (0.1%) or Mancozeb (0.25%). Set up pheromone traps @ 5 traps per ha with lures from reliable source for monitoring pink bollworm activity.

Madhya Pradesh

Weather during last week was mainly dry with high day temperature reaching up to 34° C. Sucking pest attack particularly on *Barbadense* is alarming. Farmers are advised to spray accordingly against sucking pests like jassids, aphids and white fly. Avoid spraying pyrethroids. Sporadic incidence of wilt particularly in Bt cotton has been noted in early sown crop. Late sown crop of July started picking up its growth now. Blooming with few bolls could easily be seen in the crop. Farmers are busy with the inter culture operations and are advised to give part of the fertilizer as per recommendations at the earliest possible. Set up pheromone traps @ 5 traps per ha with lures from reliable source for monitoring pink bollworm activity.

Odisha

The cotton crop is at 15 to 16 week (boll development and maturity) stage. Spraying should be done with 2% DAP for better boll development. To reduce leaf reddening, spray 1% urea mixed with 1% MgSO₄. Appropriate control measures for *Alternaria* blight, bacterial leaf spot, jassid and aphid infestation that exceeds ETL (for jassids - 2 jassids per leaf and for aphids 15-20% affected plants) and *Spodoptera litura* are to be taken accordingly. Set up pheromone traps @ 5 traps per ha with lures from reliable source for monitoring pink bollworm activity.

SOUTH ZONE**Andhra Pradesh**

Detopping of plants is advised wherever excess plant growth is observed. A booster dose of 30kg urea and 10kg Muriate of Potash is recommended to mitigate the excess moisture conditions. Foliar nutrition of 2% urea or 2% DAP or 2% KNO₃ along with 1% MgSO₄ at flowering, boll formation and boll development is recommended. Moderate to high incidence of leaf hopper and thrips was observed. Sporadic incidence of mealy bug infestation is observed that may be left to natural control..In general, there is no specific production problems and the crop condition is satisfactory.

Karnataka

Scattered moderate rainfall is expected during next week in southern districts as per the weather forecast. Shoot weevil incidence is still continuing in northern districts wherein the grownup plants with boll load are drying. It is advisable to hand pick the shoot weevils during morning hours from the top surface of cotton shoot and to destroy along with the recommended insecticides. To reduce leaf reddening and square dropping in the crop, foliar spray of 2% urea and 2% DAP alternatively at 15 days interval after 70 DAS with 1% MgSO₄ and Planofix (5 ml in 15 lit of water) is suggested. For mirid bug management, it is advised to spray recommended dose to developing squares. . Set up pheromone traps @ 5 traps per ha with lures from reliable source for monitoring pink bollworm activity. If rotting of early formed lower bolls is observed depending upon the severity of the disease, it is advised to spray the developing bolls with Mancozeb 75 WP + Chlorothalonil 70 WP each @ 2 g/lit of water. In desi cotton crop, grey

mildew incidence is reported on the leaves and to reduce the incidence of this disease, it is suggested to spray the crop with Carbendizim 50 WP @ 1g/lit of water.

Tamil Nadu

Approximately 72.6 mm rainfall was received during last week. It was very useful to the winter irrigated cotton crop which was in critical stages of square formation to flowering stages. Due to the splash, jassids and other sucking pests are washed out. Winter rainfed tracts of Perambalur districts are still suffering due to lack of rainfall.

MANAGEMENT STRATEGIES

PEST MANAGEMENT

1. **Neem oil 2.5 lit/ha mixed with 0.05% detergent** can be used for the management of jassids or whitefly or aphids.
2. **Verticillium lecanii** can be used for sucking pest control wherever good formulations are available from reliable manufacturers.
3. If whitefly and/or jassid damage reaches economic threshold levels of grade-II damage of curling and crinkling of lower leaves and yellowing of margins, any one of the insecticides such as Flonicamid or Fipronil or Dimethoate or Difenthiuron or Acephate or Ethion can be used.
4. If mirid bug is observed in the developing squares, it is advised to spray Acephate 75 SP @ 1 g/lit or Fipronil 5 SC @ 1.0 ml/lit of water
5. For the control of *Spodoptera* sp. farmers are advised to spray 200 ml Rimon 10 EC or 250g Larvin 75WP in 250 litres of water per acre or or SINPV @ 500 LE/ha
6. **On non-Bt American cotton and Desi cotton varieties, use HaNPV on Bt-cotton at 50% bollworm infested plants (plants having flared squares with entry hole) followed by the application of 5% NSKE a week later. Or, use Phosalone at 50% bollworm infested plants (plants having flared squares with entry hole) or for the management of Spodoptera or whitefly.**
7. For boll rot complex, spray copper oxychloride (800g/ac) or carbendazim (400 g/ac) in 250 Litres of water. For better results, mix 10g Selvet 99 or 50 ml Triton in 100 litres of fungicidal solution.
8. To minimise shoot weevil damage, it is suggested to spray the crop with Curacron @ 2 ml/lit + (Dichlorovas) DDVP @ 0.5 ml/lit.
9. **Do not spray against minor lepidopteran insects** such as the cotton leaf folder, *Sylepta derogate* and cotton semilooper, *Anomis flava*. The larvae cause negligible damage to cotton but serve as hosts for parasitoids such as *Trichogramma* spp., *Apanteles* spp and *Sysiropa formosa*, that attack *H. armigera*.
10. **Trichogramma**, if available, can be used on non-Bt genotypes at 70-80 DAS. Avoid *Trichogramma* egg parasitoid releases on Bt-cotton since maximum neonates get killed on Bt-cotton and with *Trichogramma* application becoming superfluous.
11. **Do not spray Bt-formulations on Bt cotton** to avoid further selection pressure.
12. Spray the crop with Profenophos 50 EC @ 2 ml/lit of water / Spray of Thiodicarb 75 WP @ 20 g or Spinosad 45 SC @ 4 ml/10 lit for controlling pink boll worm attack and about 750 lit of spray mixture has to be sprayed for one hectare area.
13. Optimize nutrient management for macro and micronutrients. **Foliar spray of MgSO₄, 2% Urea followed by 2% DAP**, to ensure proper Cry1Ac expression and also to reduce problems of leaf reddening. Sprays of 1% cobalt chloride and soil drenching with Bavistin 1 % in the initial stage of wilt was found to help in the recovery of plants.
14. **If conventional insecticides are ineffective, use Spinosad, Emamectin benzoate or Indoxacarb or Rynaxypyr on non-Bt-cotton** at ETLs of 50% infested plants (plants having flared squares with entry hole). Spinosad, Emamectin benzoate, Indoxacarb and Rynaxypyr are highly effective on pyrethroid resistant *H. armigera*. Apart from their toxicity to *H. armigera*, Spinosad and Emamectin benzoate are also effective on

E. vittella and jassids and hence are preferred first over indoxacarb. Both insecticides have a high selective toxicity towards the target pests while being less toxic to many beneficial insects in the cotton ecosystem. These insecticides are ideally suited in ecosustainable insecticide resistance management programmes.

WEED CONTROL AND DISEASE MANAGEMENT STRATEGIES

1. Parawilt symptoms are noticed in some fields after rains or irrigation which can be cured by spraying cobalt chloride @10mg/litre (10ppm) on affected plant within few hours of onset of symptoms or a mixture of Copper Oxy chloride 25g and 200g Urea in 10 ltr of water used for drenching.
2. If foliar diseases appear, spray Streptomycin sulphate (6-8 g/ac) plus copper oxychloride (600-800g/ac) in 200-250 L of water at 15 days interval.
3. For Myrothecium leaf spot disease, spray of Streptomycin sulphate (6-8 g/ac) plus copper oxychloride (600-800 g/ac) in 200-250 L of water at 15 days interval can check the further spread of the disease and for better results mix 10g Selvet 99 or 50 ml Triton in 100 litres of fungicidal solution.
4. For sudden drying (New wilt) symptoms at several places, cultivators are advised to drench the affected plants with urea 1.5% immediately.
5. Leaf spots can be controlled by adding 25 g / 10 litres of water copper oxy chloride with insecticide or Dithane M 45 @ 2.5g or Propiconazole 1ml/l of water.
6. Bacterial blight is controlled by spraying of Copper oxy chloride + Streptocycline (25 g + 1 g /10 lit. water).
7. For control of *Alternaria* blight, spray Mancozeb@2.5 g per one litre of water.
8. For Wilt / Root rot, soil drenching with Copper oxy chloride @ 3g/l or Carbendazim 1g/l is recommended.
9. Rotting of early formed lower bolls is expected due to cloudy and drizzling conditions. Depending upon the severity of the disease, spraying the crop with Mancozeb 75 WP + Chlorothalonil 70 WP each @ 2 g/lit of water is advised.
10. Farmers are advised to spray 2 % urea, 0.5% Zinc Sulphate and 0.2 % Boron, twice at 15 days interval as preventive measures against red leaf.
11. Planofix (NAA) hormone may be sprayed @ 20 ppm (7 ml per 15 litres of water) to reduce square and flower drop.
12. If grey mildew disease is seen on the leaves, it is suggested to spray the crop with Carbendizim or Tridemorph @ 1g/lit of water.
13. To overcome leaf reddening problem, farmers can take up spray of 2% DAP along with 1% Muriate of Potash or KNO₃.

Note: The advisory is based on inputs received from the State Agricultural Universities of the respective states and for queries or clarifications or details, the Project coordinator (cotton), Coimbatore may be contacted.

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