

Central Institute for Cotton Research

Fourteenth Weekly Advisory for Cotton Cultivation: 23rd to 29th October 2012

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

NORTH ZONE

Punjab

The crop is in maturity phase and picking has been initiated. *Kapas* should be picked dry, free from trash. It is advised to start picking in the morning after the dew dries from the opened bolls to avoid deterioration of seed cotton quality. Picking should be done after every 8-10 days to avoid losses.

Haryana

Cotton crop is in picking 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

Cotton crop is in picking stage. Care should be taken to pick good and fully opened bolls.

CENTRAL ZONE

Gujarat

The majority of Surat region is dry and sunny. Withdrawal of south west monsoon from Gujarat is over. Moderate infestation of *Spodoptera* and moderate to high level of *Heliothis* infestation was recorded. In Junagadh region, there were no rains. The incidence of jassids was below ETL and thrips was low in farmers fields. Population of whitefly below ETL and mealybug was observed low throughout the week. Population of mite was observed very low at some farmers field. Aphid & mirid bug population was not found during this period but stem borer infestation was observed in all the trials. The incidence of *Helicoverpa* and *Earias* was observed very low in non Bt cotton hybrids and *Spodoptera* was not found 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 moderate for cotton growth and boll formation and maturity stages.

Maharashtra

The total rainfall received at Akola centre was 682.5 mm up to 18th October 2012. Incidence of white flies were noticed in Vidarbha region. IPM practices like yellow sticking boards to be used. Leaf spots were observed in some pockets. Bacterial blight is noticed, Farmers should take up spray of 2 per cent Urea and 2 per cent spray of DAP at boll development stage. Total rainfall received in 40th MW at MPKV, Rahuri centre is 118.6 mm; recorded highest rainfall in one MW till date. The attack of white flies should be controlled by spraying Acetamiprid @ 200 g/ha. 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%).

Madhya Pradesh

The incidence of white fly is above ETL and it requires application of insecticides as per requirement. Picking has started in irrigated fields. Necessary precautions must be kept in mind while picking. Rainfed crop is in square and boll formation stage.

Odisha

The cotton crop is at 16 to 17 week (boll maturity and boll opening) stage. Picking of fully opened bolls may be done during clear weather conditions. Spraying should be done with 2% DAP for better boll development. To reduce leaf reddening, spray 1% urea mixed with 1% MgSO₄.

For mass trapping of the male adults install Pheromone traps @ 20 Nos/ha. To know the incidence of American Boll Worm (*Heliothis armigera*), install Pheromone traps @ 5 Nos/ha.

SOUTH ZONE**Andhra Pradesh**

Topping of plants is advised wherever excess plant growth is observed. Foliar nutrition of 2% urea or 2% DAP or 2% KNO₃ at flowering, boll formation and boll development is recommended. Foliar nutrition of 1% MgSO₄ along with 2% Urea (or) 2% DAP is recommended wherever the reddening symptoms are noticed. Appropriate measures to be taken to control leaf hopper, thrips and mealy bug attack. In general, there is no specific problem and the crop condition is satisfactory

Karnataka

No rainfall is expected during next week in northern districts as per the weather forecast. Leaf reddening is expected in majority of Bt hybrids during this month. Sucking pests are to be effectively controlled. Further, along with this chemical spray, it is advised to tank mix 2% urea or 2% KNO₃ or 1% of 19:19:19 soluble fertiliser with 1% MgSO₄ and Planofix (5 ml in 15 lit of water) to the crop which is at peak boll formation stage. Mirid bug incidence is reported in some districts of Dharwad and Haveri in the crop which is at peak flowering stage. For effective control of mirid bug, it is advised to spray Fipronil 5 SC @ 1.0 ml/lit of water to developing squares. In 100-110 days old crop, it is suggested for ovicidal spray of Thiodicarb 75 WP @1g/lit of water for controlling pink bollworm. Boll opening has commenced in the crop sown during first week of June. Kapas is to be picked on rain free day and stored properly. Light irrigation is to be given after kapas picking. In water scarcity areas, alternate furrow irrigation method is suggested to irrigate more area with available water. Heavy irrigation in black soils is to be avoided.

Tamil Nadu

Since the North East monsoon was active from 16th October 2012, farmers are advised to take up sowing immediately in winter vertisol rainfed zone of southern Tamil Nadu and requested to complete the sowing on or before 31st October 2012. Acid delinting may be adopted for the varieties selected in the rainfed sowing namely KC 2, KC 3 and SVPR 2. Seed drill may be utilized to cover large area in the rainfed sowing. Application of pre emergence herbicide namely Pendimethalin 38.7 % CS @ 700 ml per acre may be adopted.

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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