

# Central Institute for Cotton Research

## Seventeenth Weekly Advisory for Cotton Cultivation: 13<sup>th</sup> to 19<sup>th</sup> November 2012

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

### NORTH ZONE

#### Punjab

The crop has matured and picking has been almost completed. *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.

#### Haryana

Cotton crop is in picking stage. In general the crop is healthy. Avoid picking of rotten bolls. Farmers are advised to dry the *kapas* before storage to avoid micro-organism damage.

#### Rajasthan

Picking has almost been completed. Farmers are advised to vacate fields and as per availability of moisture they are advised to go for sowing of gram / mustard.

### CENTRAL ZONE

#### Gujarat

During this week there was no rainfall. 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 684.1 mm up to 9<sup>th</sup> November 2012. Incidence of Jassids and white flies were noticed in Vidarbha region. Farmers should go for spraying of Dimethoate 30 EC @ 10 ml or Methyl Demeton 25 EC @ 8 ml or Acetamipride 25 % @ 1.5ml per 10 liter of water. Leaf spots were observed in some pockets. Bacterial blight is noticed. Now the crop is at boll development stage.

#### Madhya Pradesh

The cotton crop is in picking and boll formation stage. Farmers are advised for clean picking. Fields should not be irrigated as this will induce vegetative growth and delay boll bursting.

#### Odisha

No rainfall is expected during this five days period. Spraying of pesticides/fungicides may be done as there will be no rainfall. The cotton crop is at 19 to 20 weeks (boll maturity and boll opening) stage. Picking of fully open 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% MgSO<sub>4</sub>. If the jassid and aphid population exceeds ETL (for jassids - 2 jassids per leaf and for aphids 15-20% affected plants) spray Thiomethoxam @ 1 g per 3 litres of water or Acephate 75 SP @ 2 g/litre of water. To control *Spodoptera litura*, spray Chloropyrifos @ 2 ml/lit of water or SLNPV @ 500 LE/ha. To control grey mildew, spray Carbendazim @ 1.0 g/litre of water

## SOUTH ZONE

### Andhra Pradesh

A total of 210.6mm rainfall was received in 4 days from 1<sup>st</sup> to 4<sup>th</sup> Nov '2012 at Regional Agricultural Research Station, Lam. Almost similar situation prevailed in the zone in general and Guntur in particular. The fields near to the drains, low lying areas are completely inundated for the past 3-5 days. The standing water in the fields is up to 1-4 ft height. It may take 3-10 days for receding of water from the fields. Complete drying, wilting and rotting of plants is seen. In view of complete inundation of the crop, no intervention can be suggested to the standing cotton crop. The farmers are suggested to go for alternate crops like chickpea under residual moisture situation and Maize/flower where one or two irrigations can be given.

In black soils where the crop is in picking stage, 10-30 bolls are opened and the crop is in full bloom stage. The opened bolls ready to open bolls are affected due to these rains. Due to excessive moisture, there is discolouration of kapas, sprouting of seed in the bolls and boll rot. Besides square drop, drooping, wilting, reddening and lodging is observed. There may be 3-5 q/acre yield loss (1.5 – 2.5 q/acre damaged kapas due to rains). In light soils, 1.5 to 2.5 q of kapas loss due to rains is observed. To some extent flower and square drop, leaf reddening, boll rotting and wilting is observed. The remedial measures advised are intercultivation wherever possible, Booster dose of 30kg urea and 15kg MOP/acre where the crop growth is stunted, Foliar application of 2% KNO<sub>3</sub> or 2% urea along with 1% MgSO<sub>4</sub>. Excess moisture and humid conditions favour development of diseases, hence prophylactic sprays with copper oxy chloride 3g + Streptocycline 100 mg/l water or Mancozeb 3g/l or systemic fungicides like Propiconazole 1 ml/l or Carbendazim 1 g/l or combination product like captan + hexaconazole 1 g/l are suggested. In case of heavy rains well drained situation, opened bolls are damaged. The damage ranged from 1.5-2.5 q of kapas/acre. To some extent dropping of squares and flowers is observed.

### Karnataka

No rainfall is expected in almost all districts as per the weather forecast during next week. Crop sown during the month of June is at peak boll opening stage. Advised to pick the kapas on rain free days and dry properly in sunlight. Light irrigation is to be given after kapas picking wherever the irrigation facilities are available. Later sown crop is under peak flowering to peak boll formation stage in different parts of the cotton growing region. Mirid bug is reported in parts of Haveri, Davanagere and Dharwad districts. It is suggested to spray Acephate 75 SP @ 1 g/lit or Fipronil 5 SC @ 1.0 ml/lit of water to developing squares immediately. Rotting of early formed bolls is reported in some parts. It is advised to spray the developing bolls with Chlorothalonil 70 WP @ 2g/lit of water. Along with these sprays, it is advised to tank mix 1% of 19:19:19 water soluble fertiliser with 1% MgSO<sub>4</sub> and to the crop which is at peak boll formation stage to reduce leaf reddening. Grey mildew disease is reported in desi and non Bt cotton. It is suggested to spray the crop with Carbendazim 50 WP @ 1g/lit of water for effective control. In the earliest crop sown during the month of May under irrigation, the kapas picking is almost completed. It is suggested to remove the cotton stalks and to be used for compost making instead of burning or using as fuel. After removing the cotton stalks, it advised to take up sowing of rabi crops like *Chickpea* or *wheat* immediately as second crop instead of keeping the land fallow till next *kharif* season

### Tamil Nadu

There is a delay in North east monsoon over the State. Forecasted for heavy rain in subsequent days. The rain is highly suitable for cotton crop since the crop is in critical vegetative period. Top dressing and intercultural operations are needed for better utilization of the expected rains. Take control measures for sucking insects.

## 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 MgSO<sub>4</sub>, 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 KNO<sub>3</sub>.

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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