

## **Monitoring of the Bt Cotton Fields in Maharashtra**

The Govt. of India, Ministry of Environment and Forests has constituted a monitoring committee vide their letter No. 10/1/2002-CS dated 30.9.2002 to review the compliance of terms and conditions imposed by GEAC while according the approval for commercial cultivation of Bt-cotton variety by MAHYCO in the State of Andhra Pradesh. The following are the monitoring committee members, who participated in the review taken on 2-3<sup>rd</sup> October, 2002.

1. Dr. Ramkrishna Muley, Director Input and Quality Control,
2. Commissionaerate of Agriculture, Pune
3. Dr. T.P. Rajendran, Senior Scientist, CICR, Nagpur
4. Dr.Ranjni Warriar, Member Secretary, GEAC, MoE&F, New Delhi.
5. Mr. Sunil Wankhede, Agriculture Dev. Officer, Zilla Paris had, Jhalna,
6. Mr. Jayant Deshmukh, Superintending Agriculture Officer, Aurangabad.

The Monitoring committee considered the following issues during the inspection.

1. Compliance with specific reference to planting 5 rows of non-Bt as refuge along the periphery of the Bt. Cotton fields.
2. No. of pesticides sprays used by farmers for controlling boll worm as well sucking pest.
3. Opinion of farmers.
4. Point wise status of compliance on the conditions stipulated by GEAC.

In Maharashtra State as per the data provided to the State Government by M/s Mahyco Monsanto Bio-tech (India) Private Limited, about 10340 packets of MECH-162 (Bt- cotton), 190 packets of MECH -12 and 11605 packets of MECH 184 have been sold in the State. The coverage expected with these packets will be 8854 ha. The committee inspected Bt. Cotton fields in the districts of Aurangabad and Jhalna along with the representatives of the State Department of Agriculture and M/s Mahyco. In all 6 plots of Bt cotton and 6 pots of non-Bt cotton in Aurangabad District and 2 plots of Bt cotton and 2 plots of non-Bt cotton in Jhalna District have been inspected. Details of the plot and the farmers are annexed.

### **Observation of the Committee**

1. In general farmers have adopted the recommend refuge 5 rows around the Bt plots but at some places only two rows or three rows were seen. The farmers informed the committee that the number of seeds supplied by Mahyco has been planted but because of the field geometry the seeds were adequate only for two to three rows.
2. The Bt cotton plots performed well and yields between 5 to 6 q/acre were already obtained and based on the remaining bolls, the farmers were expecting about 10-12 q per acre.
3. Bt. Plants were noted to be more robust with larger number of boll. In some cases the Boll size seems smaller but cotton per ball was noted to be more uniform and cleaner.

4. The farmers have taken up 8-10 spraying during last year. During this year the farmers have taken upto 37 sprayers in non Bt cotton fields and 1-2 sprayers on Bt. cotton fields for bollworm attack. It was also observed that most of the farmers cultivating Bt. cotton are not adopting the minimum observations 20 random plants to assess the ETL of bollworms. Some farmers were noted to give additional sprays as a prophylactic approach.
5. Discussions with the representatives of the State Dept of agriculture indicated that the overall the performance of Bt cotton in Maharashtra with respect to reduction to bollworm attack and corresponding increase in yield is noted to be satisfactory. However, in some cases with poor irrigation and agronomic practices the performance was not satisfactory.

### **Farmers Views**

Discussions with the farmers indicated the following:-

1. Farmers feel that they have to give additional sprays to the non-Bt border rows which are expensive. They feel that 1-2 rows would be all right for the purpose of refuge.
2. Compared to last year when the farmers grew non-Bt cotton, and compared to conventional varieties in adjoining fields, the farmer now gives only about half the number of sprays. Tracer a very expensive (for bollworm) has been used in most cases only once.
3. The farmers were happy with the yield already obtained. Farmers already growing Bt have indicated they would continue to grow Bt. Cotton next year as they expect 60% more yield than last year. However, they were of the view that the Bt. Cotton seed is very expensive and requested the Govt. to look into the matter.

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**DETAILS OF GEAC VISIT TO BOLLGARD (BT) AND OTHER COTTON FIELDS**

S. No.	Name of Farmer	Village	Taluka	Districts	Hybrid	Area in (acres)	Date of sowing	No. of sprays		Cost / sprays	
								Sucking pests	Bollworm	Sucking pests	Bollworm
1.	Sh. Saduba Kachkure	Shendra	Aurangabad	Aurangabad	MECH-184 BT	2	15.06.2002	3	1	325	350
2.	Sh. Traimbak Jija Ghodke	Shendra	Aurangabad	Aurangabad	MECH-162 BT	1	27.06.2002	4	1	300	350
3.	Sh. Laxman Tataram Ghodake	Karmad	Aurangabad	Aurangabad	MECH-162 BT	1	16.06.2002	2	1	250	360
4.	Sh. Raosaheb Jadhav	Bilda	Phulambri	Aurangabad	MECH-184 BT	1	09.06.2002	2	0	275	0
5.	Sh. Attmaram Gaike	Bilda	Phulambri	Aurangabad	MECH-162 BT	1	10.06.2002	2	0	275	0
6.	Sh. Namdeorao Gadekar	Phulambri	Phulambri	Aurangabad	MECH-184 BT	2	22.06.2002	2	0	300	0
7.	Sh. Prabhakar Sudamrao Shejod	Ramnagar	Jalna	Jalna	MECH-162 BT	1	25.06.2002	2	1	320	350
8.	Sh. Haribhau Patil Aglawe	Ramnagar	Jalna	Jalna	MECH-184 BT	1	09.06.2002	1	2	300	360

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2.	Sh. Traimbak Jija Ghodke	Shendra	Aurangabad	Aurangabad	Bunny	27.06.2002	4	4	300	350
3.	Sh. Laxman Tataram Ghodake	Karmad	Aurangabad	Aurangabad	Bunny & Brahma	16.06.2002	2	4	250	360
4.	Sh. Raosaheb Jadhav	Bilda	Phulambri	Aurangabad	Bunny & Dhanno	09.06.2002	2	6	275	0
5.	Sh. Attmaram Gaike	Bilda	Phulambri	Aurangabad	Bunny	10.06.2002	2	3	275	0
6.	Sh. Namdeorao Gadekar	Phulambri	Phulambri	Aurangabad	Bunny & Brahma	22.06.2002	2	5	300	0
7.	Sh. Prabhakar Sudamrao Shejod	Ramnagar	Jalna	Jalna	Mahabeej-112, 203, NHH-44 & Ankur-651	28.06.2002	2	7	320	350
8.	Sh. Haribhau Patil Aglawe	Ramnagar	Jalna	Jalna	Bunny	09.06.2002	1	3	300	360

**Insecticides Used:**

<b>A: Sucking Pests</b>		
Sr.	Contents of Insecticides	Trade Name
1	Imidacloprid	Confidore
2	Thiomethoxam	Ektara
3	Acitamiprid	Peide
4	Oxy-demeton methyl	Metasystox
<b>B: Bollworm</b>		
1	Endosulfan	Thiodon
2	Ekalux	Quinolphos
3	Chlorpyrifos	Dursban
4	Triazophos	Hostathion
5	Profenofos	Curacron
6	Indoxacarb	Avant
7	Cypermethrin	Cyper
8	Deltamethrin	Desis
9	Alfamethrin	Farsa