

Report of the Monitoring Committees visit to Bt-cotton fields of Warangal District 10th November 2004

As requested by Commissioner and Director of Agriculture, Govt. of A.P., Hyderabad, the following scientists from the Central Institute for Cotton Research, Nagpur, RARS Lam, Guntur and ANGRAU, Hyderabad visited and monitored the Bt-cotton fields of Warangal district.

1. Dr. S. K Banerjee, Principal scientist, Entomology, CICR, Nagpur
2. Dr. N. K. Taneja, Principal scientist, Pathology, CICR, Nagpur
3. Dr. K. R. Kranthi, Senior Scientist Entomology, CICR, Nagpur
4. Dr. K. B. Hebbar, Senior Scientist, Plant Physiology, CICR, Nagpur
5. Dr. Ramesh Babu, Professor, Entomology, ANGRAU, Hyderabad.
6. Dr. J. V. S. Sambamurthy, Senior Scientists, Breeding, RARS, Lam, Guntur.
7. Shri. M. P. Prasada Rao, Scientist, Plant Pathology RARS, Lam, Guntur.
8. Dr. N. V. V. S. D. Prasada, Scientists, Entomology, RARS, Lam, Guntur.

The monitoring committee along with Shri Man Mohan Reddy, Deputy Director of Agriculture, Hyderabad, the JDA, and Agriculture Officers of the mandals visited Bt-cotton fields in two major cotton growing mandals of Warangal district, namely, Hanumakonda mandal and Raghunathpally mandal. Farmer fields were selected randomly from the Bt-cotton farmer list supplied by officials of the Agriculture Department. Efforts were made to select farmers from representative (reportedly problematic) areas such as

1. Bt-cotton fields affected by wilt (Hanumakonda mandal)
2. Low yielding Bt-cotton fields (Raghunathpally mandal)
3. Bt-cotton grown in shallow/sandy soils (Hanumakonda and Raghunathpally mandals)
4. Late sown Bt-cotton crop and
5. Bt-cotton grown under rainfed conditions (Hanumakonda and Raghunathpally mandals).

The salient features of the survey are as follows

1. Farmers agree that Bt-cotton crop protected itself from the three cotton bollworms, (*H. armigera*, spotted bollworm, *Earias* spp. and Pink bollworm *Pectinophora gossypiella*) until 90-100 days after sowing.
2. Samples collected from Bt-cotton fields visited, were tested and found to be positive for Cry1Ac.
3. *Spodoptera* infestation was present in all cotton fields, especially to a higher degree in late sown Bt-cotton.
4. The performance of Bt-cotton was below expectations in some farmer fields because of sporadic parawilt.

5. Some fields were infested with low levels of grey mildew, myrothecium leaf spot and Helminthosporium leaf spot. However, it had little impact on yield.
6. Low yields in Bt-cotton as also in non-Bt cotton crops could be attributed to erratic distribution of monsoon in the district, especially under rainfed conditions. Gap filling (upto 15 to 20%) with non-Bt seeds was also observed in majority of the Bt-cotton fields visited. This was reportedly due to inadequate rainfall/soil moisture at sowing.
7. The performance of Bt-cotton was also found to be excellent (expected yields approximately 25-40 Q/ha) under irrigated, medium to deep and high fertility level soil conditions.

Parawilt of cotton :- It has nothing to do with Bt or non-Bt plants. Its occurrence depends on the metabolic rate of the plant. Plants having high metabolic rate are more prone to wilting. Bt cotton due to their better retention of bolls have a higher transpiration and photosynthesis. For the conversion of photoassimilates into macromolecules it requires large amount of nutrients, the uptake of which is an active process and is inhibited under anaerobic condition. This feedback inhibition degenerates the roots. Thus the transport of water through the roots is restricted, which is coupled with high transpiration rate thus causing wilting. It is evident from the fact that wilting is not seen in the refuge non-Bt crop, where the boll load is less. Similarly, wilting was also not seen in long duration Bt or non-Bt crops, which have relatively lesser boll load at the time of environmental stress. Secondary infection of bacterial leaf blight and helminthosporium leaf spot was observed on leaves and bracts.


Spodoptera infestation was present in all cotton fields, especially to a higher degree in late sown Bt-cotton. This was clearly due to less insecticide applications in Bt-cotton against bollworms, as compared to higher number of sprays in non-bt cotton targeted against bollworms, which also kill *Spodoptera* larvae. *Spodoptera litura* and *Spodoptera exigua*, are known to be leaf feeders. It was interesting to note that the *Spodoptera* larvae were also found to feed on bolls and other fruiting parts apart from the leaves in Bt-cotton. Thus, *Spodoptera* caused a minor amount of boll damage, since no specific control measures were initiated towards the pest. It is pertinent to mention here that CryI Ac toxin, which is deployed in Bt-cotton is only slightly toxic to *Spodoptera* spp.

Some of the farmers visited in Raghunathpally mandal are Avula Yadava Reddy, Rastapuram Shrinivas Reddy of Nerigonda village and Ramaviraiah S/O Mallaiah and Salibella Shiva Reddy of Raghunathpally village.


MECH-12-Bt was sown in the above villages either in mid June or mid July. Farmers have done picking in June sown crop to the extent of 2 to 3 Q. seed cotton / acre. Plants still have 25 to 30 harvestable green bolls. On the other hand in the late sown crop boll bursting is yet to be commenced and these plants have 25 to 30 harvestable bolls. Wherever irrigation is given the crop condition is good. From the weather report it is

clear that Raghunathpally mandal has received less rainfall during the early and late cropping season compared to the adjoining Hanamkonda mandal.

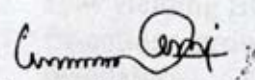
In the Hanumakonda mandal the team visited Shrinivas Reddy, Madha reddy Madhusudan Reddy, Venkat Reddy and Sampada of Mamnur village. Here, though the soil was shallow, crop condition was good due to better rainfall and irrigation facilities. In some of the farmers fields, 40 to 50 green bolls per plant were recorded. In extremely shallow soils Bt-cotton contained 20 to 25 bolls per plant. In some of the fields where it was sown early, a few plants were found to be wilted due to a phenomenon now commonly called as parawilt in cotton. Since parawilt occurred at the fag end of the crop, almost all the developed bolls were found to be bursted and harvested.




Dr. S. K. Banerjee,
Principal scientist, Entomology,
CICR, Nagpur



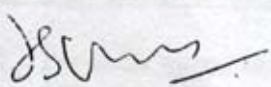
Dr. N. K. Taneja,
Principal scientist,
Pathology, CICR, Nagpur



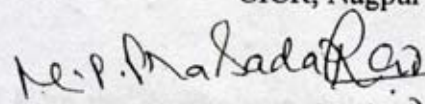
Dr. K. R. Kranthi,
Senior Scientist Entomology,
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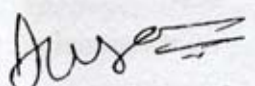
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DEPARTMENT OF AGRICULTURE
GOVERNMENT OF ANDHRA PRADESH

From
Smt Poonam Malakondaiah, IAS.,
Commr. & Director of Agriculture,
Andhra Pradesh,
Hyderabad.

To
The Asstt. Director (Seeds)
Ministry of Agri., & Co-op.,
Govt. of India,
F-252, Shastri Bhavan,
New Delhi

Lr.No:S&HVP(2)626/2004, dt: -04-2005

Sir,

Sub:- Lok Sabha Provisional Starred Question Dy.No:14508 raised by
Sri C.K.Chandrappan and Sri Suravaram Sudhakar Reddy -
regarding annual review reports of Mahyco Biotech- submitted.

Ref:- No:7-32/2005/Sd-V, dt:7.4.2005, GOI, Ministry of Agril., &
Co-op., New Delhi received through FAX.

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In response to the letter cited, the required information for preparing
draft reply and supplimentaries arising thereon answers to the question (a) to
(c) raised by Sri C.K. Chandrappan and Sri Suravaram Sudhakar Reddy vide
provisional Starred Question dy.No:14508 in the Lok Sabha.

Yours faithfully,



Encl:As above

For Commissioner & Director of Agriculture

'loksabha-dyno.14508'

AJ (Seeds)

13/4/05

- 6 -

Draft information for preparation of reply & supplementaries in respect of Lok Sabha Provisional Starred Question Dy.No:14508 raised by Sri C.K.Chandrappan and Sri Suravaram Sudhakar Reddy.

- a) Reply pertains to Department of Agriculture, Government of India.
- b) Detailed information for preparation of draft reply:-

During Kharif 2004 the farmers of Warangal district have taken up cultivation of Bt.Cotton mostly the varieties marketed by M/S Mahyco Monsanto i.e., MECH-12 Bt, MECH-162Bt and MECH-184Bt.

On receipt of complaints from the farmers regarding the poor performance of Cotton of M/s Mahyco Monsanto India Limited based on the initial observation and reports of district team regarding infestation of crop of Cercospora and Black arm disease. The Commissioner & Director of Agriculture, Andhra Pradesh, Hyderabad had arranged for visit of a special team to Warangal on 14.10.2004 and based on suggestion of team enumeration was ordered by the District Collector by a team comprising of Agriculture, revenue, Panchayat Raj farmers and company representatives at Mandal level.

Based on the enumeration carried out the data pertaining to yield was computerized. The district Joint Director of Agriculture has furnished a report indicating the compensation to be paid to the aggrieved farmers on the following criteria to the tune of Rs.2,48,85,630/- in his report bearing No:C5/Misce/04, dt:27.01.2005.

Total area affected	=	16632 acres
Normal yield of the district	=	3.5 qtls., per acre
The average yield loss estimated	=	45% of normal yield
	=	1.75 Qtls/acre
Out of which average loss attributed to seed defect, inadequencies and impurities.	=	50% of average loss
	=	0.7875 Qtls/Acre
The rate of cotton taken for estimation of loss	=	Rs.1900/- per quintal
The loss per acre is estimated as	=	Rs.1496.25
Total loss estimated	=	Rs.2,48,86,630/-

The President, A.P.Bharatiya Janata Kisan Morchain their representation dt:7.2.2005 have informed the Commissioner that the Joint Director of Agriculture, Warangal has reported the affected area 16000 acres only against the actual affected area of 25000 acres by tampering the survey report.

Based on above representation C&DA, A.P., Hyderabad requested the District Collector, Warangal to offer his detailed remarks in the matter vide D.O.Lr.No: S&HVP (2) 626/04, dt:14.2.2005.

The District Collector, Warangal in response to Joint Director of Agriculture, Warangal's report had informed to the C&DA, A.P., Hyderabad that the district normal yield adopted by Joint Director of Agriculture, Warangal as 3.5 qtls per acre is in correct and requested the State Level MOU Committee to consider the district average yield as 10 Qtls per acre. Thus a variation of 6.5 qtls per acre yield is to be considered for calculating the compensation on the basis of same criteria which comes to the tune of Rs. 4275/-Per acre and a total tune of compensation payable will be Rs. 7,11,01,800/- for 16632 acres.

From above it is inferred that a reduction in compensation is resulted to the tune of Rs.4,62,16,170/-(Rs.7,11,01,800 - 2,48,86,630/-).

Meanwhile based on the detailed enquiry conducted by the District Collector, Warangal, through the Joint Collector, Warangal, it is reported that 7812 entries out of total 16327 entries are found to be tampered. Yield particulars of 57 villages have not been submitted for comparison in full shape. It is also reported that the job of computerization of reports and data was entrusted to the agency identified by M/s Mahyco Monsanto. Thereby the company has taken full advantage of the situation and tampered the data to suit the company so that it is made to pay minimum compensation possibly in collusion with middle and junior level functionaries of Agril. Department. The Enquiry Officer stated that all the copies of the records of 48 mandals survey are suspected. The record of 39 mandals have tampering of the data ranging from 10 to 100%. And in the remaining (9) mandals no tampering was noticed.

C) The department of Agriculture after having enquiry through the District Collector, in the matter and based on the enquiry report, have decided to take the following actions:

1. The Assistant Director of Agriculture, Narasampet of Warangal district is being suspended as per the District Collector, Warangal's report.
2. The State Government is being addressed to transfer the Joint Director of Agriculture to a non-focal post.
3. The report of District Collector is being processed to fix up responsibility on the other staff members working in the O/O Joint Director of Agriculture, Warangal for initiating disciplinary action.
4. M/s Mahyco Mansanto is persued for payment of compensation to the farmers as indicated by Joint Director of Agriculture, Warangal.

Supplimentaries:

I.

Average Yield = 3.5 Qtls/acre
Average yield loss = 45% ie., 1.57 qtls/acre
Loss attributed to seed quality = 50% of average loss ie., 0.7875 qtls/acre
The Market value per Quintal = Rs.1900/-
The Market value of estimated } { $1900 \times 0.7875 / 100 = 1496/-$
Loss per acre.
Total area affected as per 1st Report. } { 16,632 acres
Total amount of compensation = $16632 \times 1496 = \text{Rs. } 2,48,85,630/-$

II.

As per Collector's report:

Average Yield = 10 qtls/acre
Average Yield loss = 45% = 4.50 qtls/acre
Loss attributed to seed quality = 50% of average loss = 2.25 qtls/acre
The market value = Rs.1900/-
The market value of estimated = $1900 \times 2.25 / 100 = 4275/-$
Loss per acre.
Total compensation calculated = $16632 \times 4275 = 7,11,01,800/-$
As per acreage indicated in
Collector's report.

GOVERNMENT OF ANDHRA PRADESH
DEPARTMENT OF AGRICULTURE

From
Smt Poonam Malakondaiah, I.A.S.,
Commissioner & Director of Agriculture,
Andhra Pradesh,
Hyderabad.

To
The Special Secretary
Ministry of Environment and
Forests,
Government of India,
New Delhi-110003

Lr.No:S&HVP(2) 626/2004. dt: 30-04-2005

Sir,

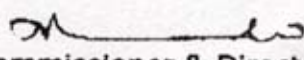
Sub:-Renewal of GEAC permission for commercialization of three Bt.Cotton hybrids namely MECH-12 Bt, MECH-162 Bt, and MECH-184 Bt. Containing with Cry 1 Ac gene developed by M/s Mahyco in Central and South Zones - Information submitted - Regarding.

Ref:-1) D.O.No.10/4/2005-CS(GEAC) dated 24.2.2005 of Ministry of Environment and Forests, Govt. of India, New Delhi.
2) This office even No. dated 11.4.2005.

Through the reference 2nd cited, the performance of Bt.Cotton varieties of M/S Mahyco Seeds Company (P) Limited in Andhra Pradesh was submitted. With regard to the specific views on the three points mentioned in the reference 1st cited, the Bt. technology introduced in Cotton crop has a mixed performance among the farmers. RCH-2 variety of Rasi Seeds (Pvt.) Ltd., has fared well compared to M/s Mahyco Seeds Bt. Varieties. The overall productivity of cotton crop both in Bt. And Non-Bt. Varieties has increased over the period from 2002 to 2004 in Andhra Pradesh. The Bt. Technology is nothing to do with the increase in the productivity as this technology relates to control of boll worms.

A copy of the report earlier submitted vide reference 2nd cited is herewith enclosed.

Yours faithfully,


For Commissioner & Director of Agriculture.

GOVERNMENT OF ANDHRA PRADESH
DEPARTMENT OF AGRICULTURE

From

Smt Poonam Malakondaiah, I.A.S.,
Commissioner & Director of Agriculture,
Andhra Pradesh,
Hyderabad.

✓ To

The Additional Secretary &
Chairman,
Genetic Engineering Approval Committee,
Paryavaran Bhavan,
CGO Complex,
Lodhi Road, New Delhi-110003**Lr.No:S&HVP(2) 626/2004, dt: 11-04-2005**

Sir,

Sub:- Bt.Cotton – permission for renewal of production and marketing beyond 31.3.2005-
regarding.Ref:- Addl.Secretary to Government, Environment, Forests, Science & Technology
Department D.O.Lr.No:Lr.No:10864/ENV/A1/2001-7, dt:20.5.2002.

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It is to inform that, through the reference cited, the Govt. of India has permitted commercial cultivation of three transgenic Bt. Hybrid Cotton varieties developed by M/S Mahyco namely Bt.MECH-12, Bt.MECH-162 and Bt.MECH-184 containing Cry-1Ac gene. The period of validity of approval was three years from April 2002 to March 2005 (As mentioned in Addl.Secretary & Chairman, GEAC D.O.No:10/15/2001-CS, dt:5.4.2002 – Copy enclosed)

Report on performance of Bt.cotton in Kharif 2002:

As against area of 650317 hectares of cotton area covered in the state during in the state during 2002-2003, an area of 3315 hectares were covered with Bt. cotton which works out 0.51% per cent .

District Joint Directors of Agriculture were requested to record observations regularly and send evaluation reports on the performance of Bt. cotton. However during the month of December- 2002, some adverse news were published in local media, highlighting poor performance of Bt. cotton hybrids particularly in Mahabubnagar district.

Keeping in view of the adverse news published, the department has issued instructions to all the district Joint Directors of Agriculture of cotton growing districts for conduct of farmer wise survey on the performance of Bt.Hybrids. The criteria fixed for evaluating performance were mainly incidence of bollworms and sucking insects, yields obtained and quality of lint. Besides this Acharya N.G. Ranga Agricultural University authorities were also requested to submit their report on the performance. The following were the facts of the survey conducted by the department, and report sent by the Acharya N.G. Ranga Agricultural University authorities.

(p.t.o.)

5521/R/Sc(SC)
20/4/05

Farmers feed back as per the survey conducted by the department.

1. Incidence of boll worm : Low to moderate. Incidence was less during the year and hence advantage of Bt. Cotton could not be assessed correctly.
2. Incidence of sucking pests. : Moderate to high.
3. Maturity : 30 – 45 days earlier to non-Bt.
4. Average number of bolls per plant and size : 30-32 bolls / plant, which are compared to 28-30 bolls/plant in other hybrids. Boll size is relatively small (3 to 4 grams).
5. Yield : Low yields compared to indigenous popular hybrids. Majority of farmers got less than 5 Qtls./acre. whereas indigenous hybrids have recorded more than 5 qtls./acre under well managed conditions.
6. Staple length : 24 – 26 mm.
7. Market value, : Majority of farmers are of the opinion that due to short staple length of lint, less price of Rs. 150/- to 200/- per quintal of kapas was offered. Farmers are finding it difficult in selling their produce.
8. Intention of farmers for raising Bt. cotton in next year i.e., 2003 – 2004. : Majority of farmers have not expressed their opinion

Performance evaluation made by ANGRAU :

ANGRAU authorities have conducted detailed survey to evaluate performance of Bt. Cotton hybrid. Agro climatic zone wise survey revealed the following: -

Krishna - Godavari Zone : (Guntur, Krishna, Prakasam districts)

- Pickings have been completed in Bt. cotton crop, whereas pickings were not completed in Non-Bt. Cotton . It may be due to fact that sowings are generally made in July to August.
- Net returns obtained by farmers were higher which compared to Telengana districts i.e., Rs.16750/- per hectare in Bt. cotton.
- More no. of sprays were taken by the farmers, average 6-7 sprays.

North Telengana Zone : (Warangal, Khammam, Adilabad, Karimnagar districts)

- Pest complex was less.
- Cost of cultivation in case of Bt. cotton was slightly more than Non-Bt.cotton variety.
- Net returns are too low in Bt. Cotton compared to Non-Bt. cotton i.e., Rs. 4800/- and Rs. 14880/- per hectare for Bt. cotton and Non-Bt. cotton respectively.
- 90 percent of the farmers who raised Bt. cotton during 2002, have expressed their unwillingness for raising Bt. cotton during Kharif-2003 for reason attributed to small sized bolls, poor vigour, lack of rejuvenation, short staple length, low yield potential and low market value.

Southern Telengana zone : (Mahabubnagar, Ranga Reddy, Nalgonda, and Medak districts)

- Cost of cultivation was slightly more compared to non-Bt.cotton
- Net returns in case of Bt. cotton were less compared to Non -Bt. cotton i.e., Rs.2400/- in Bt.cotton and Rs. 18880/- in Non-Bt.cotton.
- The reason for poor performance of Bt.cotton in this zone was mostly due to crop sensitivity to adverse weather conditions, less no. of bolls / plant and small sized bolls.
- But in Medak district performance was better compared to Non-Bt.cotton and other hybrids both in rain fed and irrigated conditions.
- More than 60 percent farmers felt that incidence of American bollworm was less. More than 75 percent farmers who raised Bt.cotton during Kharif-2002 are reluctant to raise Bt. cotton during 2003.

Scarce rainfall Zone : (Kurnool district)

- Farmers felt that Bt. cotton possessed resistance to boll worm, but MECH-162 is not having sufficient yield potential on par with Bunny, Savitha, NHH-44.
- Net returns obtained per hectare in Bt.cotton was Rs. 16800/- and Non-Bt.cotton Rs. 22300/-

During 2003, the Bt. Cotton varieties have performed well, compared to non-Bt. hybrids in spite of heavy incidence of boll worm.

Report on performance of Bt.cotton in Kharif 2003

As per the directions from Department of Agriculture and Co-operation, Ministry of Agriculture, Government of India, the State Level and District Level Committees have been formed to assess the performance of Bt.Cotton during Kharif 2003.

In Andhra Pradesh MECH-12 and MECH-162 Bt.Cotton hybrids were distributed covering an area of 4859 Hect. The area coverage of Bt. Cotton is only 0.62%, as against the total area of cotton sown i.e., 7,85,230 Hect., during Kharif 2003.

The District Joint Directors of Agriculture have regularly recorded the observations and sent the evaluation reports on Bt.Cotton and the summary of the observation are herewith furnished.

	<u>Bt.Cotton</u>	<u>Non Bt.Cotton</u>
1. Incidence of sucking pests :	Low to moderate. Generally the Pest incidence is at moderate levels this year.	Moderate to High
2. Incidence of Boll worm :	Low. The incidence is at very low level. Egg layings found in certain fields, but less No.of larvae were found.	Moderate to High
3. Average Height of the)(plant.	94 to 135 Cms	85 to 128 cms
4.No.of Squares/Plant :	11 to 24	18 to 58
5. No.of flowers/Plant)(damaged	3 to 4	7 to 8
6. No.of Green bolls/Plant damaged.	1 to 2	9 to 11

Report on the visit of the state Level Committee on Bt.Cotton plots in Medak and Ranga reddy district of Andhra Pradesh State:

The State level committee on monitoring of Bt.Cotton, comprising of Joint Director of Agriculture (Seeds), Senior Scientist (Cotton Breeding), Senior Scientist, National Seed Project and a representative from federation of farmers association, Hyderabad have visited the (6) Six Bt.Cotton plots sown during Kharif 2003 of six individual farmers of different villages on 11.11.2003 and their findings are detailed below:

- | | |
|---------------------------------|---|
| 1. Name of the Hybird | : MECH-12 |
| 2. Incidence of Bollworm | : In terms of damage bolls, it is very low and in majority fields, no incidence is noticed. |
| 3. Incidence of Jassids | : In refugee, the Jassid incidence were more. |
| 4. Flowering & Square formation | : Very sparse and there is no hope of any second Crop. |
| 5. No.of spraying | : 4 to 6 rounds of sprayings were given to check the sucking pests. |
| 6. No.of Bolls :- | |
| a) Harvest Bolls | = 25 to 32 |

Some complaints were received from the farmers of Geesugonda, Regonda, Atmakur, Mogullapally, Parkal, Sanagam and Wardannapet villages & Mahabubabad division of Warangal district regarding the disease on Bt.cotton of M/S Mahyco Monsanto India Limited. A team comprising the departmental officers, Dr. Raghuram Reddy, scientist, DAATT center, Warangal, Dr.Pushpavathi, Pathologist, ARS, Warangal and a representative from M/S Monsanto India Limited have visited the complainants fields and observed that the crop is infested with Cercospora and Black arm diseases.

As per the instructions of C&DA, a team comprising of (1) Principal Scientist (cotton) (2) Professor in Entomology & crop Expert, ANGRAU, (3) Senior Scientist (Cotton breeding), Entomologist & Plant Pathologist, ARS, Warangal (4) Addl.Director of Agriculture-II, O/O C&DA, (5) Joint Director of Agriculture (Seeds), O/O C&DA & (6) Joint Director of Agriculture, Warangal and his supporting officers have visited Warangal on 14.10.2004 and inspected the fields, suggested enumeration of all the areas in which these varieties of cotton were taken up and also other areas in which there are complaints in regard to Bt.cotton varieties.

Accordingly, the District Collector, Warangal has issued instructions to take up enumeration to assess the crop condition and damages in all the mandals in the district. The following team is constituted to take up the enumeration work from 16.10.2004.

- 1.Mandal Revenue Officer/Dy. MRO/Mandal Revenue Inspector
- 2.Mandal Agrl.Officer
- 3.Panchayat Secretary to concerned Gram Panchayat
- 4.One representative of the farmers in the area
- 5.One representative of / on behalf of the company.

As per the report of JDA, Warangal, the reports furnished by the mandal teams show that, the Bt.cotton varieties of Mahyco Monsanto India Limited have shown poor performance. The poor performance is reflected only in their vulnerability to diseases, but also in the square/flower dropping that was observed in several fields. The enumeration of losses covered an extent of more than 20000 acres. Dropping of squares, flowers and failure in boll formation is noticed and the resultant yield losses on average vary from 30% to 60% of the normal yield.

The current market value of this loss assuming a rate of Rs.1496.26 per acre and the total affected extent is 22130.39 acres. The Joint Director of Agriculture, Warangal Vide Lr.No:C5/Misce/2004, dt:19.2.2005 has passed an award of Rs.3,31,12,596/- for payment of compensation to the affected farmers.

The performance of Bt. varieties developed and released by M/S Mahyco Seeds Company (P) Limited considered as poor in Kharif 2004 as envisaged in the complaints received in this office for payment of compensation to the farmers on account of losses incurred by them due to poor performance under MOU (a mechanism meant for payment of compensation to the farmers in Andhra Pradesh).

Besides above, the feed back received for field functionaries of working in cotton growing districts in general and the areas in which Bt. Cotton is grown in particular, suggests that the performance of these (3) Bt. Cotton varieties i.e, MECH-12, MECH-162 and MECH-184 of M/S Mahyco are not up to the desired level of performance as claimed by the firm and recording lesser yields and high disease infestation.

Some complaints were received from the farmers of Geesugonda, Regonda, Atmakur, Mogullapally, Parkal, Sanagam and Wardannapet villages & Mahabubabad division of Warangal district regarding the disease on Bt.cotton of M/S Mahyco Monsanto India Limited. A team comprising the departmental officers, Dr. Raghuram Reddy, scientist, DAATT center, Warangal, Dr.Pushpavathi, Pathologist, ARS, Warangal and a representative from M/S Monsanto India Limited have visited the complainants fields and observed that the crop is infested with Cercospora and Black arm diseases.

As per the instructions of C&DA, a team comprising of (1) Principal Scientist (cotton) (2) Professor in Entomology & crop Expert, ANGRAU, (3) Senior Scientist (Cotton breeding), Entomologist & Plant Pathologist, ARS, Warangal (4) Addl.Director of Agriculture-II, O/O C&DA, (5) Joint Director of Agriculture (Seeds), O/O C&DA & (6) Joint Director of Agriculture, Warangal and his supporting officers have visited Warangal on 14.10.2004 and inspected the fields, suggested enumeration of all the areas in which these varieties of cotton were taken up and also other areas in which there are complaints in regard to Bt.cotton varieties.

Accordingly, the District Collector, Warangal has issued instructions to take up enumeration to assess the crop condition and damages in all the mandals in the district. The following team is constituted to take up the enumeration work from 16.10.2004.

- 1.Mandal Revenue Officer/Dy. MRO/Mandal Revenue Inspector
- 2.Mandal Agrl.Officer
- 3.Panchayat Secretary to concerned Gram Panchayat
- 4.One representative of the farmers in the area
- 5.One representative of / on behalf of the company.

As per the report of JDA, Warangal, the reports furnished by the mandal teams show that, the Bt.cotton varieties of Mahyco Monsanto India Limited have shown poor performance. The poor performance is reflected only in their vulnerability to diseases, but also in the square/flower dropping that was observed in several fields. The enumeration of losses covered an extent of more than 20000 acres. Dropping of squares, flowers and failure in boll formation is noticed and the resultant yield losses on average vary from 30% to 60% of the normal yield.

The current market value of this loss assuming a rate of Rs.1496.26 per acre and the total affected extent is 22130.39 acres. The Joint Director of Agriculture, Warangal Vide Lr.No:C5/Misce/2004, dt:19.2.2005 has passed an award of Rs.3,31,12,596/- for payment of compensation to the affected farmers.

The performance of Bt. varieties developed and released by M/S Mahyco Seeds Company (P) Limited considered as poor in Kharif 2004 as envisaged in the complaints received in this office for payment of compensation to the farmers on account of losses incurred by them due to poor performance under MOU (a mechanism meant for payment of compensation to the farmers in Andhra Pradesh).

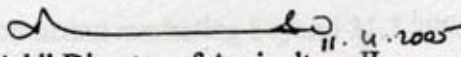
Besides above, the feed back received for field functionaries of working in cotton growing districts in general and the areas in which Bt. Cotton is grown in particular, suggests that the performance of these (3) Bt. Cotton varieties i.e, MECH-12, MECH-162 and MECH-184 of M/S Mahyco are not up to the desired level of performance as claimed by the firm and recording lesser yields and high disease infestation.

In view of the above facts it is suggested that, critical analysis on the performance of the varieties may be made before permitting further renewal of the Commercial marketing in the state of Andhra Pradesh.

Yours faithfully,
Sd/-Poonam Malakondaiah,
Commissioner & Director of Agriculture

Copy submitted to the Pri. Secretary to Govt., (Agril., & Co-operation) Department, A.P.,
Hyderabad.

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Addl. Director of Agriculture-II

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