

Technologies Assessed and Transferred

- Bt cotton has been introduced to reduce the excessive use of chemical pesticides against *Heliothis*. Hybrid Bt cotton MECH-184 was assessed on farmers fields in Telgaon and Tishti villages of Nagpur district. It was observed that MECH-184 Bt has given 234 kg more seed cotton yield per hectare over other widely grown hybrid.
- Dry sowing of cotton one week in advance of onset of monsoon has given 21 per cent more yield of seed cotton as compared to monsoon sowing. Dry sowing favours early canopy cover and the crop often escapes damage due to insect pests as well as soil erosion due to heavy rains.
- The large area under cotton has been diverted to soybean over the years in Nagpur district due to several reasons. However, it was observed that instead of sole crop of cotton or soybean cotton-soybean inter-cropping is quite remunerative. By this combination, 18 per cent profitability has increased over sole cotton and 22 per cent profitability increased over sole soybean.
- Rain water conservation is very crucial in rainfed areas. In this regard opening of ridges and furrows at the time of first inter-culture was found to be effective for improving moisture status of soil and increasing the yield up to 18 per cent.
- Integrated approach to nutrient management (INM) which includes organic manures, green manures, balance use of chemical fertilizers based on soil testing, use of bio-fertilizers and appropriate time of application seems to increase the yield up to 16 per cent with reduced spending on chemical fertilizers and higher profitability.
- The adoption rate of IPM strategy in cotton is quite slow because use of only few elements of IPM rather than the whole package. The complete package of IPM in cotton which includes chemical, biological and mechanical methods of managing pest complex was assessed at IVLP villages and it was revealed that input output ratio has increased from 1.31 (farmers practice) to 1.46.





Education and Training

Training received

National

- Dr. Hemchandra Gajbhiye, Principal Scientist (Agril. Extension) attended the training course on Market-led-Extension, at the National Institute of Agricultural Extension Management (MANAGE), Hyderabad during Oct.14-18, 2003.
- Dr. A R Raju, Scientist (Agronomy), attended a week long course on Organic certification organized by INDOCERT, Alwaye, Kerala during December, 2003.
- Dr. Punit Mohan, Sr. Scientist, Division of Crop Improvement attended a training programme on Protection of intellectual property and agricultural research at National Academy of Agricultural Research Management, Rajendra Nagar, Hyderabad from 14-17, Oct., 2003.
- Dr. K P M Dhamayanthi, Scientist (SS), (Genetics) attended a training on Improving crop plants for enhancing quality of produce through conventional and modern plant breeding approaches organized by Tamil Nadu Agricultural University, Coimbatore from 28th Jan. to 17th Feb., 2004.
- Dr. B Dhara Jothi, Sr. Scientist (Entomology) attended a training on Pesticides and environment organized by the CAS, Department of Entomology, TNAU, Coimbatore from 28th Jan. to 17th Feb., 2004.
- Dr. C S Praharaj, Sr. Scientists (Agronomy), participated in the advance training course in Precision farming conducted by the Center for Advance Studies, Department of Agronomy, TNAU, Coimbatore from 25th March to 14th April, 2004.
- Dr. K Rathinavel, Sr. Scientist (Seed Technology), attended winter school on Recent advances in hybrid seed production technology in agriculture and horticulture crop conducted by the Department of Seed Science and Technology UAS, Dharwad from 19.11.2003 to 09.12.2003.
- Sh. M Sabesh, Scientist (Computer Application), attended a training programme on GIS and its applications at National Remote Sensing Agencies, Department of Space, Hyderabad from 2-27 Feb., 2004.
- Dr. K Sankaranarayanan, Scientist (SS) (Agronomy) participated in the training on Integrated weed management technology - present status and future challenges conducted by the Department of Agronomy, TNAU, Coimbatore from 19.02.2004 to 10.03.2004.

International

- Dr. V N Waghmare was awarded BOYSCAST Fellowship (2002-03) by the Department of Science and Technology, Govt. of India in the area of plant biotechnology including marker assisted selection with research emphasis on molecular mapping and gene tagging in cotton at plant genome mapping laboratory, University of Georgia, Athens, USA from 26 March, 2002 to 26 Nov., 2003.
- Dr. (Mrs) Vinita Gotmare, Scientist (SS), (Genetics) attended a training programme of 'Development oriented

biotechnology' from 25th May to 27th June, 2003 in Germany.

Training Imparted

Training on cotton production technology

CICR Regional Station, Sirsa organized a three day state level training programme on Cotton production technology under implementation of Action Plan of ICDP Mini Mission II for TMC. Two training programmes were organized, which were attended by state Agriculture Department Officials.

Training on Biotechnology and Molecular Biology

CICR, Nagpur organized four training programmes on Biotechnology and Molecular biology for students. Hundred students from various colleges participated in these training programmes. The duration of each training programme was 12 days. The course coordinator of these training

programmes was Dr. A B Dongre, Head, Biotechnology Section.

Training on Bt detection

CICR organized three training programmes on Bt detection for officials of the state Department of Agriculture, Gujarat (13-05-03 to 15.05.03), Andhra Pradesh (27.06.2003 to 28.06.03) and Punjab (30.01.04 and 11.03.04). The course coordinator of these programmes was Dr. K R Kranthi, Sr. Scientist, Division of Crop Protection.

Training on recombinant DNA technologies in molecular plant pathology

CICR, Nagpur organized a training on Recombinant DNA techniques in molecular plant pathology from 16 to 22 December, 2003. Twelve trainees attended the training. The course coordinator was Dr. P K Chakrabarty, Sr. Scientist (Pathology), Division of Crop Protection.





Awards and Recognitions

CICR wins ICAR Best Annual Report Award - 2002-03

Central Institute for Cotton Research, Nagpur has bagged the prestigious Best Annual Report Award - 2002-03 instituted by the Indian Council of Agricultural Research (ICAR).

The award was presented to Dr. Phundan Singh, Director (Acting), CICR at a formal function held at New Delhi on the 14th July 2004 at the hands of Dr. Mangala Rai, Hon'ble Director General, ICAR, New Delhi.

The Institute's report has been selected best among sixty seven institutes of ICAR. The citation of award has appreciated the pivotal role of CICR in increasing the quality and productivity of cotton in country.

The clear and lucid presentation of the report was also taken into account in the citation. CICR has recently made remarkable contribution in the form of diagnostic tool kits for detection of Bt cotton and latent infection of bacterial blight and cotton leaf curl virus and bullock drawn cotton planter for mechanization of cotton farming, a computer based expert system COT-IPM for accurate and rapid diagnosis of insect pests, appropriate insect management measures and several promising hybrids.

- **Dr. Hemchandra Gajbhiye**, Principal Scientist (Agril. Extension), CICR, Nagpur has received First Prize in Best Use of Audio-Visual Aids at the hands of Dr. A.G.Sawant, Member, A.S.R.B. in Annual Meeting of the Maharashtra Society of Extension Education held at M.P.K.V., Rahuri on Dec.13, 2003.
- **Dr. K S Bhasker**, Principal Scientist (Agronomy), CICR, Nagpur has received best poster paper presentation award on the paper entitled 'Management of degraded soils of Thugaon micro watershed for cotton based cropping system and sustainable land use : a case study' in the National seminar on Soil survey and land use planning held at NBSS & LUP, Nagpur on 20-21 January, 2004.
- **Dr. Jagvir Singh**, Senior Scientist (Soil Science), CICR, Nagpur has been awarded the second best poster paper presentation for his paper titled 'Nutrient use efficiency in rainfed cotton as influenced by moisture and integrated nutrient management in the National seminar on Resource management for sustainable agriculture held at ANGRAU, Agriculture College, Bapatla (AP) on 28-30 Jan., 2004.
- **Dr. P. K. Chakrabarty**, Senior Scientist (Plant Pathology), CICR,



Nagpur has bagged the KPS Menon Gold medal for best research paper (poster) of 2003-04 by the Indian Phytopathological Society for his paper entitled 'DNA based diagnostic tools for precise detection and differentiation of strains of *Xanthomonas axonopodis* pv. *malvacearum* and cotton leaf curl gemmini virus two economically important pathogens of cotton. The award was given at the hands of Dr. C D Mayee, Agriculture Commissioner, Govt. of India on 19th Feb., 2004 in the National symposium on Crop Surveillance: Disease forecasting and management held at IARI, New Delhi.

Recognitions

- **Dr. Hemchandra Gajbhiye**, Principal Investigator Institute Village Linkage Program (NATP-TAR) and his team (M K Meshram, Gulbir Singh, S S Patil, Dr. U V Galkate and A S Tayade) were felicitated by Mrs. Rekhtai Dhawangale, Panchayat Head of the gram Panchayat Sammittee, Kalmeshwar in Nagpur district on Nov.30, 2003 for their outstanding contribution in overall agriculture development at their villages.
- The government of India has recognized the Bt laboratory at CICR, Nagpur as **"The National Bt referral laboratory"**.





▶ Dr. Phundan Singh, Director (Acting), receiving 'Best Annual Report Award' from the Secretary, DARE & Director General, ICAR, New Delhi.





Linkages and Collaborations in India and abroad including externally funded projects

NATIONAL

Areas of Linkages	Institution
Fibre testing and quality evaluation	CIRCOT
Multilocation testing of promising cultures	AICCIP centers
Germplasm collection and maintenance	NBPGR
Seed technological research and breeder seed production	NSP
Evaluation of advanced cultures and germplasm for resistance to soil salinity	CSSRI (RS) Anand
Evaluation of suitable plant type for mechanical harvesting	CIAE, Bhopal
Development of Cry 1 A(a) gene construct	NBRI
Supply of gene construct and molecular evaluation of transgenic plant.	NRC Plant Biotechnology
DNA finger printing of cotton	NRC DNA Finger Printing
Testing of indigenous cotton bollworms pheromones	BARC

INTERNATIONAL

Areas of Linkages	Institution
Germplasm collection, conservation and documentation	IPGRI, Rome, Italy
Sustainable control of the cotton bollworm <i>Helicoverpa armigera</i> in small scale production system	Natural Resources Institute, UK

