

## 11. GENERAL

### 11.1 List of Publications

#### Papers Published in Research Journals

- Ahuja, S.L., Dhayal Laxman and JeyaKumar P. (2008). Stability analysis for bollworm complex in *Gossypium hirsutum* L DOI: 10.1007/s10681-007-9504-5 Euphytica.
- Ahuja, S.L., Dhayal. Laxman and Ram Prakash (2008). Comparative yield component analysis in *Gossypium hirsutum* parents using fibre quality grouping. DOI: 10.1007/s10681-007-9588-y. Euphytica.
- Bandyopadhyay, K.K., Ghosh, P.K., Chaudhary, R.S., Hati, K.M. and Misra, A.K. (2007) Effect of initial profile moisture regimes and N levels on productivity and water and nitrogen use efficiency of wheat in a Vertisol of Central India. *Environment and Ecology*, 25S (1): 197-201.
- Blaise D., Ravindran CD and Singh J.V (2007). Effect of nutrient management practices on growth, fruiting pattern and yield of Asiatic cotton (*G. arboreum* L.). *J. Plant Nutr. Soil Science*, 170 : 1-8
- Dash, A.K., Mishra, B.K., Bandyopadhyay, K.K. and Jena, D.(2007). Transport and transformation of prilled urea and nimin coated prilled urea through soil columns. *Ecology, Environment and Conservation*. 13 (4):815-819.
- Dhara Jothi, B. and Usha K. Mehta. (2007). Impact of different temperatures on the infectivity and productivity of entomopathogenic nematodes on *Galleria mellonella*. *International Journal of Nematology*, 17(2) : 158 -162
- Dongre A. B. and Bhandarkar Manoj R. (2007). Introgression and genetic diversity analysis of Indian cotton cultivars by ISSR and RAPD markers, *The Indian Journal of Agricultural Sciences*, 77(7) :438-42.
- Dongre A. B., Bhandarkar Manoj R. and Banerjee Shubha (2007), Genetic Diversity analysis of diploid and tetraploid Indian Cotton cultivars through ISSR and Microsatellite markers, *Indian Journal of Biotechnology*, Vol 6, pp 349-353.
- Dongre A. B., Bhandarkar Manoj R., Sawant Ravi, Kharbikar Lalit and Gajbhiye Archana (2007). Assessment of genetic diversity of cotton cultivars (*Gossypium Spp.*) By ISSR and Microsatellite Markers, *Asian Journal of Microbiology, Biotechnology and Environmental Sciences*, Vol 9, No. (1)29-34
- Dongre A. B., Gajbhiye Archana , Bhandarkar Manoj, and Meshram Sudhir (2007). Genetic Diversity Evaluation of *Bacillus* isolates using Randomly Amplified Polymorphic DNA molecular marker, *Roumanian Biotechnological Letters*, Vol. 12, No. 3, pp. 3277 3286.
- Ghosh, P.K., Bandyopadhyay, K.K., Wanjari, R.H., Manna, M.C., Misra, A.K., Mohanty, M. and Subbba Rao, A. (2007). Legume effect for enhancing productivity and nutrient use efficiency in major cropping systems- An Indian perspective: A review. *Journal of Sustainable Agriculture*. 30 (1): 59-86.
- Gulsar Banu, J., Dhara jothi B. and Narkhedkar-Nandini-Gokte (2007). Susceptibility of different stages of cotton bollworm, *Helicoverpa armigera* (Lepidoptera: Noctuidae) to entomopathogenic nematodes. *International Journal of Nematology*, 17 (1), pp.41-45.
- Jeyakumar, P., Chander, S., Singh, A., Jat, M C and Monga, D ( 2007). Role of light traps in cotton IPM and the effect of lunar cycle. *Indian J. Agric. Sci.* 77 (5) : 327-328.
- Jeyakumar, P., Tanwar, R K., Jat, M C., Dhandapani, A. Bambawale, O M and Monga, D (2007). *Spodoptera litura*: An emerging pest on Bt cotton (*cry 1Ac*) under North Indian conditions. *Pesticide Research Journal* 19 (2) :197-200.
- Meena, R A, Monga D, Rajiv Kumar and Hamid Hasan. 2006. Screening of germplasm for fibre quality traits in American (*Gossypium hirsutum*) and Desi Cotton (*G. arboreum*) *Indian Journal of plant genetic resources* 19(1) 122-124.
- Meena, R A, Monga D. and Rajiv Kumar (2007). Undescriptive Cotton Cultivars of North Zone: An Evaluation. *J. Cotton Res. & Dev.* 21(1)21-23.

- Monga, D., Chander, S., Kumar, M and Singh, N. P. (2007). Distribution pattern of Cotton leaf curl virus disease in North India. *J. Cotton Res. Dev.* 21: 248-252.
- Monga, D., Kumar, M., Kumar, R., Saini, N. and Chakrabarty, P. K. (2007). Characterization of cotton root rot pathogens *Rhizoctonia solani* and *R. bataticola* using RAPD and morphological markers. *Indian Phytopath.* 60 : 259-263.
- Rathinavel, K. and Raja K.. 2007. Effect of polymer coating on viability vigour and longevity of cotton. *J. Indian Soc. Cotton Improv.*, 32(2):111-121.
- Rokde S.N. (2000). Effect of housing on certain nutritional parameters in crossbred calves. *Indian Journal of Animal Production and Management*, 16(3): 118-119.
- Rokde S.N. (2007). Effect of probiotic supplementation on physiological parameters and healthstatus of crossbred calves. *The Royal Veterinary Journal of India.* 3(1). 27-32.
- Rong, J., Feltus, F.A., Waghmare, V.N., Pierce, G.J., Chee, P.W., Draye, X., Saranga, Y., Wright, R.J., Wilkins, T.A., May, O.L., Smith, C.W., Gannaway, J.R., Wendel, J.F. and Paterson, A.H. (2007). Meta-analysis of polyploidy cotton QTL shows unequal contributions of subgenomes to a complex network of genes and gene clusters implicated in lint fibre development. *Genetics*, 176: 2577-2588.
- Sankaranarayanan, K, Praharaj C.S. and Gopalakrishnan N.(2007). Precision Management of water and Nutrient in ELS cotton Production- a review. *Journal of Indian Soc. Cotton Improv.*, 32(3):143-152.
- Sankaranarayanan, K, Praharaj C.S., Anderson Amalan Kumar and Nalayini P. (2007). Multi-tier vegetables intercropping system for higher productivity and economic return in cotton. *Journal Cotton Research and Development*, 21 (2):260-266.
- Santhy V. and Khadi B.M. (2008). Approaching issues of quality in Bt cotton seed. *Current Science*, 94, (12):
- Santhy V. and Deshmukh R.K. (2008). Methanol stress to evaluate initial seed vigor in cotton. *Seed Research*, 36 (1): 78-80.
- Singh Phundan, Singh V.V. and Singh S.B. (2007). Genetic improvement of cotton in Andhra Pradesh. In Book 'Cotton in Andhra Pradesh' : Edited by N.G.P. Rao, A. Appa Rao and E.A.Siddiq, pp. 72-77.
- Tanwar, R. K., Bambawale, O.M., Jeyakumar, P., Monga, D., Dhandapani, A., Vikas kanwar, Sharma, O.P., Jat, M.C. and Sangle, U.R.( 2006). Confirmatory evidence of commercially exploitable sex pheromone poly morphism in *Helicoverpa armigera*. *Pesticide Research Journal*, 18 91): 54-57.
- Tuteja, O. P., Verma S. K., Singh Mahendar, and Khadi B. M. (2007) Effect of restorer lines and *Gossypium harknessii* based cytoplasmic male sterility on yield and fibre quality traits in cotton. *J. Indian Soc. Cotton Improv.*, 32:41-49.
- Tuteja, O.P., Verma S.K., Singh Mahendar and Khadi B. M.. (2007). Effect of Restorer Lines and *Gossypium harknessii* based cytoplasmic male sterility on yield and fibre quality trails in cotton. *Journal of the Indian Society for Cotton Improvement*, Vol. 32 (1):41-49.
- Verma, S.K., Bhutani Seema, Bhatia Pankaj, Jain R.K. and Chowdhury V.K. (2007). Histochemical Gus Assay in Transformed Calli of Cotton (*G. hirsutum* L.). *Journal of the Indian Society for cotton Improvement.* 32(2): 93-96.
- Verma, S.K., Tuteja O.P. and Monga D. (2008). Evaluation for genotype x environment interactions in relation to stable GMS based hybrids of north zone in Asiatic cotton (*Gossypium arboreum* L.) *Indian J. Agric. Sci.*, 78(4):375-8.
- Verma, S.K., Tuteja O.P., Koli N. R., Singh Jal, Niwas Ram and Monga D. (2007). Assessment of genotype x environment interactions for a diverse set of cotton cultivars (*G. arboreum* L.) of various eco-geographic regions evaluated under north Indian conditions. *Indian J. Agric. Sci.*, 77(4):258-60.

## 11.2 List of on-going Projects

### Institute Projects

	Name of the Project	Name of the Project Leader and Associate(s)
	<b>NAGPUR</b>	
	<b>Crop Improvement</b>	
1.	Collection, conservation, evaluation, documentation and utilization of cultivated species of <i>Gossypium</i>	PL: Punit Mohan
2.	Conservation of wild species of <i>Gossypium</i> and introgressive hybridization for the improvement of cultivated cotton	PL: Vinita Gotmare, Asso.:S.Venilla, M.K. Meshram
3.	Development of long linted and high fibre strength genotypes of <i>G. arboreum</i>	PL: T.R. Loknathan Asso.:P. Singh
4.	Breeding and evaluation of upland cotton for improved fibre yield, quality and biotic stress (bollworm and jassids)	PL : S.M. Palve, Asso.:Vinita Gotmare S.Vennila, M.K. Meshram
5.	Genetical and anatomical studies on drought tolerance in cotton ( <i>G. hirsutum</i> )	PL : Suman Bala Singh Asso.: N.K. Perumal
6.	Development of heterotic pools for superior medium staple in tetraploid cotton ( <i>G. hirsutum</i> )	PL : S.M. Palve
7.	Studies on genetic enhancement of upland cotton	PL : T.R. Loknathan Asso.: D.K. Agarwal P. Singh, Vinita Gotmare S.Vennila, M.K. Meshram
8.	Improvement of tetraploid and diploid cotton for GOT and fibre properties through population improvement approaches	PL : V.N. Waghmare Asso.: P. Singh, Vinita Gotmare
9.	Studies on development of practically usable cytoplasmic genic male sterility and restorer lines and genetic male sterility system in cotton	PL : Suman Bala Singh
10.	Assessment of seed vigor traits in cotton	PL : V. Santhy Asso.: P.R.Vijayakumari R.K. Deshmukh
11.	Studies on cotton seed with particular reference to germination and dormancy	PL : P.R.Vijayakumari Asso.: R.K. Deshmukh V. Santhy, R.A. Meena K. Rathinavel
12.	Identification of suitable areas in India for quality cotton seed production with better seed health	PL : P.R.Vijayakumari Asso.: M.K. Meshram R.K. Deshmukh
13.	Seed yield and seed quality in <i>G. arboreum</i> and <i>G. hirsutum</i> varieties with low input management in different soil depths	PL : R.K. Deshmukh Asso.: P.R.Vijayakumari V. Santhy, N.K. Perumal

14.	Molecular mapping of leaf curl virus resistant gene in cotton genome	PL : J. Amudha Asso.: B.M. Khadi, D. Monga G. Balasubramani
15.	Molecular basis of pathogenicity and race-specificity of <i>Xam</i> and characterization of antagonists of foliar pathogens of cotton for biocontrol	PL : P.K. Chakrabarty Asso.: M.K. Meshram
16.	Development of Bt transgenic diploid cotton against bollworms	PL : S.B. Nandeshwar Asso.: B.M. Khadi L. A. Deshpande G. Balasubramani, J. Amudha
	<b>Crop Production</b>	
17.	Integrated approach for yield maximization of hybrid cotton under drip irrigation	PL: Jagvir Singh
18.	Long term effect of fertilizer and INM on productivity, soil fertility and quality of rainfed hybrid cotton	PL: Jagvir Singh Assoc: D. Blaise
19.	Effects of foliar-N application on yield and fibre quality and crystal toxin expression in Bt transgenic	PL: D. Blaise Assoc: KR Kranthi
20.	Tillage and green manure effects on growth and yield of cotton and soil properties	PL: D. Blaise
21.	Improving the efficiency of cotton+arhar strip cropping in vertisols	PL: A.R. Raju
22.	Studies on the efficacy of micro nutrients application and moisture management on yield and fibre properties of rainfed cotton	PL: A.R. Raju
23.	Development of package of practices for organic cotton production	PL: A.R. Raju
24.	Physiological evaluation of cotton germplasm under rainfed conditions	PL: M. R. K. Rao
25.	Physiological and biochemical studies on abiotic stress with particular reference to heat and drought in cotton	PL: N. K. Perumal
26.	Effect of nitrogen levels on cry protein and oil content in Bt cotton	PL: Mukta Chakrabarty
27.	Assessment of gossypol content in cotton germplasm	PL: Mukta Chakrabarty
28.	Physiological and biochemical basis of salinity tolerance	PL: M. R. K. Rao
29.	Physiological and biochemical basis of waterlogging tolerance	PL: M. R. K. Rao
30.	Source sink alternation with reference to flower induction as a tool to improve physiology efficiency and productivity in cotton	PL: M. R. K. Rao
31.	Assessing the genotypic variation in water use efficiency and carbon isotope discrimination of cotton : leaf gas exchange and whole plant studies	PL: M. R. K. Rao
32.	Molecular evaluation of cotton germplasms	PL: A.B. Dongre
33.	Molecular evaluation of diploid cotton using PCAR and	PL: A.B. Dongre



	DNA markers	
34.	Study on accessibility to mass media and information technology of potential users in cotton based production system	PL: S. M. Wasnik Assoc.: P. R. Deoghare
35.	Economic analysis of cotton based farming system	PL: P. R. Deoghare
	<b>Crop Protection</b>	
36.	Identification and characterisation of elite germplasm lines against key pests of cotton	PL: S. Kranthi Assoc: V. V. Singh
37.	Biochemical basis of induction of defense related proteins in cotton against the Gram pod borer <i>Helicoverpa armigera</i>	PL: S. Kranthi Assoc: S. B. Nandeshwar
38.	Testing of new molecules: Efficacy of newer insecticide molecules against sucking pests and bollworms of cotton	PL: S. Kranthi
39.	Population and community ecology of cotton entomofauna	PL: S. Vennila
40.	Study of crop pest interactions for improving cotton pest management	PL: S. Vennila
41.	Evaluation and exploitation of compensation as a mechanism for comprehensive insect pest tolerance	PL: S. Vennila Assoc: Vinita Gotmare
42.	Studies on seed transmitted pathogenic infections and other seed microflora of cotton	PL: P. M. Mukewar
43.	Studies on evolution of races of <i>Xanthomonas axonopodis</i> pv. <i>malvacearum</i> ( <i>Xam</i> ) and utilization of HVS in identification of resistant sources	PL: M. K. Meshram
44.	Biochemical, molecular and genetic basis of host plant resistance to cotton nematodes	PL: N. G. Narkhedkar
45.	Potential of rhizobacteria in management of cotton nematodes	PL: N. G. Narkhedkar
46.	Identification of sources of resistance against Rhizoctonia root rot in tetraploid and fusarium wilt in diploid cotton and their utilization in breeding program	PL: R. C. Ukey Asso.: V. N. Waghmare
	<b>Regional Station, Coimbatore</b>	
47.	Development of high yielding intra <i>hirsutum</i> hybrid	PL: D. K. Agarwal Assoc: S. Manickam
48.	Breeding new <i>G. hirsutum</i> cotton varieties with new plant types - Development of medium staple varieties	PL : K. N. Gururajan Assoc: S. Manickam
49.	Development of high yielding and high spinning Extra long staple cotton	PL: K. N. Gururajan Assoc: S. Manickam
50.	Development of Extra long staple high spinning hybrids of interspecific origin with wide adaptability	PL: K. P. M. Dhamayanthi
51.	Development, maintenance and utilization of cytoplasmic and genetic male sterility for hybrid cotton seed production and fertility restoration in cotton	PL : S. Manickam
52.	Maintenance and evaluation of cotton germplasm	PL: S. Manickam

53.	Studies on viability, vigour and longevity of cotton seeds	PL: K.Rathinavel Assoc: K. Natarajan P.Chidambaram
54.	Studies on the long term effect of continuous application of nutrients in fixed cotton based crop rotation on the productivity, nutrient balance and sustainability of the cropping system	PL: C.S. Praharaj Assoc: K. Sankaranarayanan S.E.S.A. Khader K.K. Bandyopadhyay
55.	Assessment of organic residues along with <i>in situ</i> incorporation of green manures on soil fertility dynamics and cotton productivity.	PL : C.S.Praharaj Assoc: K. Sankaranarayanan S. E. S. A. Khader
56.	Water management in <i>G. hirsutum</i> and <i>G. barbadense</i> cotton	PL : K. Sankaranarayanan Assoc: P. Nalayini C.S. Praharaj K.K. Bandyopadhyay
57.	Evaluation of cotton based cropping system for higher production and economic return	PL : K. Sankaranarayanan Assoc: P. Nalayini C.S. Praharaj K.K. Bandyopadhyay
58.	Polymulching for water, weed and nutrient management in cotton based cropping system	PL : P. Nalayini Assoc: K. Sankaranarayanan
59.	Simulation of effect of irrigation and nitrogen on soil water and nitrogen dynamics, productivity and input use efficiency of Bt cotton in a vertic Ustropept	PL : K.K. Bandyopadhyay Assoc : A.H. Prakash K.Sankaranarayanan B. Dharajothi
60.	Identification and utilization of adaptive responses to abiotic stress in cultivated species of cotton	PL: S.E.S.A. Khader Assoc: N. Gopalakrishnan K.N. Gururajan
61.	Physiological and molecular elucidation of fibre development process in cotton for enhancing fibre yield	PL: A.H. Prakash Assoc: N. Gopalakrishnan
62.	Source-sink alteration with reference to flower induction as a tool to improve physiological efficiency and productivity in cotton	PL: A.H. Prakash Assoc: N. Gopalakrishnan
63.	Studies on biochemical mechanisms of resistance to bollworm of cotton	PL: N. Gopalakrishnan Assoc: T. Surulivelu
64.	Studies on developmental biochemistry of cotton pest/ Disease interaction	PL: N. Gopalakrishnan Assoc: T. Surulivelu K. Natarajan P. Chidambaram
65.	Studies on the role and effect of insecticides in cotton ecosystem	PL : T. Surulivelu Assoc: K. Natarajan,
66.	Studies on the host plant relationship and development of resistant/tolerant varieties to insect pests of cotton	PL: K. Natarajan Assoc: T. Surulivelu S. Manickam
67.	Studies on population dynamics of cotton pests and their	PL : K. Natarajan





	natural enemies	Assoc: B. Dhara Jothi
68.	Bio ecological studies in Pink Bollworm	PL: B. Dhara Jothi Assoc: K. Natarajan
69.	Studies on the epidemiology and management of fungal foliar diseases of cotton	PL: P. Chidambaram Assoc: K. N. Gururajan N. Gopalakrishnan
70.	Identification of hotspots for plant parasitic nematodes in cotton growing zones of India	PL: Gulsar Banu
71.	Exploration of novel insecticidal proteins from bacterial symbionts of native entomopathogenic nematodes	PL: Gulsar Banu
72.	Farm level economic benefits of Bt cotton in Tamilnadu	PL: Isabella Agarwal
73.	Adoption, impact and returns to research investment on improved cotton cultivars in Tamilnadu	PL: Isabella Agarwal
74.	Economic analysis of contract farming in cotton in Tamilnadu	PL: Isabella Agarwal
75.	Expert system on cotton pest/insect	PI: M. Sabesh Assoc.: S. Vennila B. Dhara Jothi
<b>Regional Station, Sirsa</b>		
76.	Evaluation of parents in <i>Gossypium hirsutum</i> for heterotic potential and useful heterosis for replacement of existing cultivars under north Indian conditions	PL: O. P. Tuteja
77.	Development of varieties and hybrids (MS based) of medium staple length in <i>Gossypium arboreum</i> L.	PL: S. K. Verma
78.	Development of male sterility based hybrids of <i>G. hirsutum</i> for north India	PL: O. P. Tuteja Assoc: D. Monga P. Jeyakumar
79.	Development of <i>G. hirsutum</i> cultivars with high fibre strength suitable for high speed spinning	PL: S. L. Ahuja Assoc: O.P.Tuteja, S.K.Verma R. A. Meena, D. Monga, P. Jeyakumar, V. V. Singh K. N. Gururajan
80.	Genetic enhancement in diploid cotton	PL: S. L. Ahuja Assoc: S. K. Verma Punit Mohan Vinita Gotmare TR Loknathan P. Jeyakumar, D. Monga
81.	Development of male sterility based hybrids of <i>G. hirsutum</i> for north India	PL: O. P. Tuteja Asso.: D. Monga P. Jeyakumar
82.	Collection, conservation, evaluation and maintenance of genetic resources	PL: R. A. Meena

83.	Studies on seed technological aspects of hybrids and varietal seed production in north zone	PL: R. A. Meena Assoc: O. P. Tuteja, D. Monga
84.	Effect of light on stability and efficacy of neem in IPM	PL: P. Jeyakumar Assoc: D. Monga
85.	Studies on cotton leaf curl virus disease and development of resistant varieties and hybrids for its management	PL: D. Monga Assoc: O.P. Tuteja, R.A. Meena S.K. Verma, P. Jeyakumar
<b>Externally Funded Projects</b>		
<b>DBT Projects</b>		
1	Identification of molecular markers linked to QTLs for fibre strength and oil content in cotton ( <i>G. hirsutum</i> L.)	V.V. Singh
2	Molecular mapping of fibre quality and lint yield traits : construction of a frame work linkage map in <i>desi</i> cotton ( <i>Gossypium</i> spp.)	V.N. Waghmare, A.B. Dongre Vinita Gotmare
3	DNA based diagnostic approaches to identify biotype diversity in race 18 of <i>Xanthomonas axonopodis</i> pv. <i>malvacearum</i> and commercialization of a PCR detection kit	P.K. Chakrabarty
4	Development of disease resistant transgenic cotton against CLCuV	P.K. Chakrabarty S.B. Nandeshwar
5	Engineering virus resistant cotton through dsRNAi mediated targeting of cotton leaf curl virus	P.K. Chakrabarty B.M. Khadi, D. Monga S.B. Nandeshwar
6	Development of cotton transgenics with improved fibre strength using cellulose synthase gene from Arabidopsis	B.M. Khadi G. Balasubramani P.K. Chakrabarty
7	Genetic improvement of strains of entomopathogenic nematodes for tolerance to environment and enhanced efficacy against <i>Helicoverpa armigera</i> , cotton bollworm	PL: N-G-Narkhedkar
<b>Mega Seed Project</b>		
8	Seed production in Agricultural Crops and Fisheries	L.A. Deshpande P.R. Vijayakumari R.A. Meena, K. Rathinavel
<b>DUS Project</b>		
9	Characterisation of genotypes for DUS testing under PVP and FR Act	V. Santhy, P.R. Vijayakumari R.K. Deshmukh
<b>Network Project</b>		
10	Transgenics in Crops (NPTC)	G. Balasubramani K.R. Kranthi S.B. Nandeshwar Suman Bala Singh, J. Amudha





	<b>Mahyco Funded</b>	
11	Monitoring for shifts in baseline susceptibility (development of tolerance/resistance) in the cotton bollworms ( <i>Helicoverpa armigera</i> , <i>Pectinophora gossypiella</i> and <i>Earias vitella</i> ) against cry1 Ac toxin in various cotton growing regions of the country	PL: S. Kranthi
12	Monitoring for shifts in baseline susceptibility (development of tolerance/resistance) in the cotton bollworms ( <i>Helicoverpa armigera</i> , <i>Pectinophora gossypiella</i> and <i>Earias vitella</i> ) against cry2 Ab and bollgard II toxin in various cotton growing regions of the country	PL: S. Kranthi
13	Monitoring for shifts in baseline susceptibility (development of tolerance/resistance) in the cotton bollworms ( <i>Helicoverpa armigera</i> , <i>Pectinophora gossypiella</i> and <i>Earias vitella</i> ) against JK-cry1 Ac toxin in various cotton growing regions of the country	PL: S. Kranthi
	<b>Dupont, India Funded</b>	
14	Studies on <i>Helicoverpa armigera</i> response to new proprietary molecules of Dupont	PL: K. R. Kranthi Assoc: S. K.ranathi
	<b>Ministry of Agriculture, GOI, New Delhi</b>	
15	Development of technology for detecting of GMO in an unknown sample and its utilization in dealing with bulk samples	PL: K. R. Kranthi
	<b>DST</b>	
16	DNA fingerprinting of released cotton cultivars hybrids and their parents	PL : S. K. Verma
	<b>SRTT</b>	
17	Promotion of cotton varieties and hybrid seed production technology at village level to improve farmers livelihood	PL : R. A. Meena
18	Improvement of productivity and quality of cotton at village level	PL : D. Monga
	<b>IOC</b>	
19	Indian oil Experiment	PL : Rishi Kumar
	<b>Fast Track Project of DST</b>	
20	Molecular mapping of fibre quality trait QTL's and marker assisted selection (MAS) in upland cotton ( <i>Gossypium hirsutum</i> L.) -	PL: V. N. Waghmare
	<b>NAIP</b>	
21	A Value Chain for Cotton Fibre, Seed and Stalks: an innovation for higher economic return to farmers allied stakeholders	Consortium Lead partner: N.Gopalakrishnan CoPI: Sankaranarayanan Team Leader : PR.Bharambe, Dilip Monga

## Technology Mission on Cotton (TMC)

Project code	Name of the Project	Name of the Project Leader and Associate(s)
MM 1.1	Development and promotion of medium and long linted diploid cottons ( <i>G. arboreum</i> and <i>G. herbaceum</i> )	PI: Dr. S. K. Verma Associates: Dr. P. R. Loknathan
MM 1.2	Development of Extra long staple <i>G. barbadense</i> cotton with improved fibre qualities to meet the requirements of textile industry	PI: Dr. K. N. Gururajan / Dr. Damayanti
MM 1.3	Identification of <i>G. hirsutum</i> genotypes suitable for machine picking and development of agronomic package	Associates: Dr. V.V.Singh / Dr. V. Gotmare Dr. S.L.Ahuja
MM 1.4	Development and promotion of Bt transgenic cotton for bollworm resistance	Associates: Dr.Suman BalaSingh Dr. S. B. Nandeshwar / Dr. S.M.Palve, Dr. Manickam
MM 1.5	Molecular characterization of cotton germplasm using DNA Markers	Associates: Dr. A. B. Dongre
MM 1.6	Exploitation of Apomixis and TGMS system in hybrid cotton seed production	PI: Dr. S.M.Palve Associates: Dr. V. Santhy Dr. Vinita Gotmare
MM 2.1	Development of production technologies for Bt cotton and improvement of water and nutrient use efficiency with precision farming techniques	PI: Dr. Jagvir Singh Associates: Dr. P. R. Bharambe Dr. C.S.Parharaj Dr. K. Sankaranarayanan
MM 2.2	Identification of innovative Bt. cotton based cropping systems, improvement of water and nutrient use efficiency with precision farming techniques	Associates: Dr A.R. Raju Dr. R. A. Meena
MM 2.3	Mechanization of cotton production	PI: Er. Gautam Majumdar Associates: Dr. A. R. Raju
MM 2.4	Physiological manipulation of Bt plant morphoframe for enhanced productivity under varied agro-climatic conditions	PI: Dr. A. H. Prakash Associates: Dr. R. K. Deshmukh
MM 3.1	Emerging and key pests of Bt cotton- their characterization, taxonomy, genetic diversity and control	PI: Dr. K. R. Kranthi Associates: Dr. Sandya Kranthi / Dr. S. Vennila Dr. Vishlesh Nagarale Dr. D. Monga Dr. T. Surulivelu, Dr. Dharajyoti Dr. P. Chidambaram
MM 3.2	Development and validation of IPM/ IRM strategies for Bt cotton under different ecosystems	Associates: Dr. S. Vennila Dr. D. Monga



MM 3.3	Development, validation, utilization and / or commercialization of bio-pesticides and bio inoculants	Associates: Dr. N. Narkhedkar Dr. S. Vennila Dr. D. Monga Dr. Dharajyoti, Dr. Gulsar Bhanu
MM 3.4	Development of farmer friendly diagnostic kits for transgenic event seed purity	Associates: Dr. K. Kranthi
MM 5.1	Total factor productivity of cotton in India	PI: Dr. Isabella Agarwal Associates: Dr. A.R.Reddy
MM 5.2	Studies on social dynamics of cotton production in distress areas	Associates: Dr. S. M. Wasnik
MM 5.3	Indian cotton portal	PI: Sh. M. Sabesh Associates: Er. G. Majumdar
MM 5.4	TMC MMI Co-ordination and Monitoring Cell	PI: Dr. V. Santhy



### 11.3: Consultancy, Patents, Commercialization of Technology

#### Breeder Seed Production

Breeder seed production for the following varieties

was under taken as per the Govt. of India (Dept. of Agril. & Cooperation) indent.

Variety	Breeder Seed Indent (q)	Production (q)
LRA 5166	0.76	1.50
Anjali	0.01	0.50
Surabhi	0.56	2.50
Supriya	0.10	0.50
MCU 5 VT	0.50	1.50
Sumangala	0.03	0.25
Suvin	Nil	1.50

**Following patents are under processing by ITMC, CICR, Nagpur**

- \* Bullock drawn vertical rotor precision planter
- \* Cotton seed blower

### 11.4: Significant Decisions of RAC, IRC and other Important Meetings

#### Research Advisory Committee (RAC)

The 3<sup>rd</sup> meeting of the Research Advisory Committee was held on 3 August 2007 at the CICR, Nagpur. Dr. S. N. Puri, Vice-Chancellor, CAU, Imphal (Manipur) as Chairman of the RAC presided over the meeting. The following members attended the meeting 1) Dr. S. Sreenivasan, Director, CIRCOT, Mumbai, 2) Dr. N. K. Singh, Principal Scientist, NRCPB, New Delhi, 3) Dr. S. K. Ghosh, Principal Scientist, CRIJAF, Barrackpore, 4) Dr. J. Prasad, Principal Scientist, CIAE, Bhopal, 5) Dr. B. M. Khadi, Director, CICR, 6) Shri Nanabhau Embadwar 7) Shri Ankushrao Tope, Non-official member.

Dr. Puri, in his introductory remarks, appreciated the efforts made in the development of indigenous Bt genotypes and expressed his concern about the

spurious Bt seeds which are posing major problems. Dr. Khadi presented the status of cotton production in the country in the year 2006-07 and highlighted the fact that states like Gujarat and Punjab achieved productivity levels close to the world average productivity figures of 715 kg/ha. Dr. Khadi presented in detail the scientific achievements of the Institute and Regional Stations and informed the house that CICR had received its first International patent for the Bt kits from South Africa.

Shri Embadwar suggested that not more than 2-3 varieties of cotton be cultivated in a region in rotation with other crops. He emphasized the need for public sector Bt hybrids/varieties, and a bullock drawn planter and picker. Shri Tope emphasized the adoption of technologies and practical utility of research. Utility

of polymulch as a tool to conserve moisture and nutrients needs to be demonstrated to farmers growing cotton under rainfed situation and contract farming should be promoted.

Dr. Sreenivasan mentioned that China was actively promoting the concept of value added products. On similar lines, he desired that the machinery required for the production of value added products in the cotton sector in the country be strengthened. Dr. Singh emphasized that DNA marker assisted selection for biotic and abiotic stresses needs to be strengthened. Dr. Ghosh appreciated the work carried out in the area of diagnostics and requested that it be documented. Dr. Prasad informed that intercultural machinery, tractor operated poly mulch spreading machine could be developed in due course of time.

Dr. Puri in his concluding remarks desired to know as to when the Public sector Bt hybrids/varieties would be released. Transfer of Technology to farmers is weak; hence, the need for strengthening of Social Sciences and collaboration with the State Agriculture Departments was also expressed. He felt that machines need to be developed for the plant types rather than tailoring plant to suit the machine. Dr. Puri was also concerned on the reduction in susceptibility to *Cry1Ac* in the bollworm populations of Gujarat. He was happy that the productivity figure of the country now stands at 525 kg/ha. The meeting ended with a formal vote of thanks proposed by Sh. M. K. Meshram.

The proceedings of the meeting were approved by the Council. The following are specific RAC recommendations/suggestions:

- 1) Commercial release of public sector Bt hybrids within the next 2 years.
- 2) Develop robust resistance management strategies for delaying the development of resistance in the bollworm.
- 3) Validate the use of polymulch in Vidarbha as a method of water conservation in rainfed cotton cultivation.
- 4) Strengthening of facilities for marker assisted breeding for biotic and abiotic stresses.

#### **Institute Research Council (IRC)**

The Annual Institute Research Council Meeting of CICR was held at CICR, Nagpur from 15-17 May, 2007 under the Chairmanship of Dr. B. M. Khadi,

Director, who presented cotton scenario during 2006-07 in India. He reiterated that increase in production was due to cultivation of Bt cotton hybrids in larger area and adoption of IPM and IRM technology. During 2006-07, 92 Bt cotton hybrids have been released for commercial cultivation in different cotton growing areas. Director suggested that the criteria for release of Bt hybrids should include yield, G.P., fibre quality and mill test. Research findings of work carried out during 2006-07 were presented by each scientist and technical programme for each project was also finalized by the house after detailed discussion. Director critically reviewed all the research projects including TMC and made his valuable comments and suggestions for further improvement.

The IRC meeting of Regional Station, Sirsa was held on 29<sup>th</sup> April, 2007. Dr. B. M. Khadi, Director CICR, Nagpur chaired the meeting. Dr. D. Monga, Head, CICR Regional Station, Sirsa welcomed the Director and appraised the house about the on-going research programmes at the station. All the scientists of the station presented their results obtained during 2006-07 and technical programmes for the 2007-08 were approved by the house. Dr. B. M. Khadi appreciated the good work done at CICR Regional Station, Sirsa and congratulated the scientists for their concerted efforts to develop the hybrids and varieties.

At CICR, Regional station Coimbatore, IRC was held on 31 July and 1 August 2007 under the chairmanship of Dr. B. M. Khadi, Director, CICR, Nagpur. Dr. N Gopalakrishnan, PC & Head, CICR RS, Coimbatore explained in detail about the achievements made by Scientists of the Regional Station and presented the research findings, which were critically assessed by the members of the IRC. Dr. K. R. Kranthi, Dr. P. R. Bharambe, Dr. L. A. Deshpande, Heads of divisions of CICR, Nagpur, Crop Protection, Production and Improvement, respectively, also attended the meeting. After detailed presentations by individual scientists, the technical programme for year 2007-08 was finalized.

#### **Review Meeting of ICAR Regional Committee No. VII**

A meeting was convened on 28 June, 2007 to review to status of Action Taken on various points of recommendations made in XIX meeting of ICAR Regional Committee No. VII held on 18-19

November, 2005. Chairman Dr. Nawab Ali, DDG, (Agrl. Engg.), ICAR, New Delhi in his opening remarks mentioned the purpose of review committee meeting and highlighted the two way interaction channel operating between farmers and SAU's /State Departments. He appraised that the transfer of technology to the farmers from the source of origin, and feedback on their performance with associated problems obtained serve to revise the research programmes that would provide best possible solutions on mission mode. Hence, he suggested the review of action taken report to be timely and critical. Dr. Khadi, Director, CICR presented the ATR consisting a total of 52 points that included 18 from Crop Sciences, four of Horticulture, three of NRM, nine of Animal Sciences, 12 from Fisheries, one from Agriculture Engineering, and three each of Extension and Agriculture Education. Review of each point for action was made. Dr. P. Chandra, ADG (PE), Dr. B. M. Khadi, Director, CICR; Dr. S. Singh, Director, NRCC; Dr. P. S. Lonkar, DoR, MAFSU; Dr. A. Chaturvrdi, Head, Land Use Planning, NBSSLUP; Dr. R. H. Pandey, DCF, Dr. P. G. Patil, Head, GTC; Dr. L. A. Deshpande, Head, Crop Improvement, ICR; Dr. P. R. Bharambe, Head, Crop Production, Dr. M. R. K. Rao, Head, RCM Unit; Sh. M. B. Yeole, Technical Officer, S. L. Baviskar, Divn. SAO, JDA, Nagpur; Dr. (Mrs.) K. A. Serothia, Research Officer, MAFSU, Nagpur were also present.

#### **20<sup>th</sup> Meeting of ICAR Regional Committee No. VII**

The 20<sup>th</sup> Meeting of the ICAR Regional Committee No. VII was organized by the Central Institute for Cotton Research, Nagpur on 29<sup>th</sup> February & 1<sup>st</sup> March, 2008 at Nagpur to discuss key issues related to agricultural research, education and extension of the region which includes Maharashtra, Madhya Pradesh, Chhattisgarh and Goa. Dr. Mangala Rai, Secretary DARE & Director General, ICAR, chaired the meeting. Dr. B. M. Khadi, Director, CICR, Nagpur & Member Secretary of ICAR Regional Committee No. VII welcomed the chairman and members of the committee. Dr. Nawab Ali, Deputy Director General (Agriculture Engineering) & Nodal Officer of the region gave a brief outline of priorities of the region particularly soybean and its value addition. The Director General, ICAR and Chairman expressed the importance of agriculture of the region in national perspective and requested the members to focus the

discussion on emerging issues and problems of the region and to find out plan of action to overcome the problems. The Chairman emphasized the need to re-orient agriculture research and education, in view of the emerging global scenario. He also stressed the need to develop expertise in form of human resources and infrastructure facilities. The need to develop modalities for diversification and commercialization of Agriculture was also emphasized. The Chairman urged the members to identify the potential and opportunities of the zone for increasing agricultural productivity. The major priority areas as deliberated by the members included quality seed production and distribution, rainwater harvesting and utilization, crop diversification, farm mechanization, processing and value addition etc. The Chairman felt that there is need to give priority to live stock development and arid horticulture in rain fed areas and further research on fertigation relating to different crops. He emphasized the need to develop innovative methods for technology transfer as many of the technologies developed were not satisfactorily transferred to the stake holders.

Two publications namely 'CICR-at a glance-2008' and 'Cotton bollworm control in small-scale production systems-A hand book' were released by the Hon'ble Secretary, DARE and Director General, ICAR on 29<sup>th</sup> Feb, 2008.

The meeting was attended by Dr. P. L. Gautam, DDG (Crop Science), Dr. H. P. Singh, DDG (Horti.), Dr. A. K. Singh, DDG (NRM), Dr. S. Ayyappan, DDG (Fy.), Dr. P. Das, DDG (Agri. Extn.), Dr. K. M. Bujarbaruah, DDG (AS), Dr. R. K. Mittal, ADG (EQR), Dr. J. P. Mishra, ADG (Coord.) from ICAR Head quarters; Dr. J. S. Samra, CEO, National Rainfed Authority of India; Dr. G. Kalloo, VC, JNKVV, Jabalpur, Dr. Arun Ninawe, VC, MAFSU, Nagpur, Dr. V. M. Mayande, VC, Dr. PDKV, Akola, Dr. R. B. Deshmukh, VC, MPKV, Rahuri, Dr. S S Kadam, VC, MAU, Parbhani, Dr. Vijay Mehta, VC, Dr. BS KKV, Dapoli, Director of Research, Extension and Dean from seven agricultural universities of this region, Directors of ICAR Institutes of the region, Project Coordinators and Head of Regional Stations of this region as well as Directors of NBPGR, New Delhi and IGFRI, Jhansi attended the meeting. The senior officers from various State Departments of Maharashtra, Madhya Pradesh, Chhattisgarh & Goa also attended the meeting.



## 11.5 : Workshops/Farmer's Day Organized

### **AICCIP Annual Workshop**

Annual Workshop of All India Coordinated Cotton Improvement Project was organised at Navsari Agricultural University, Navsari (Gujarat) during 11-13, April, 2007. It was marked by the gracious presence of Hon'ble Director General, ICAR, ADG (CC), ICAR, Director, CICR, Nagpur, Director, CIRCOT, Mumbai, Hon'ble Vice-Chancellor, NAU, Navsari, Hon'ble Chairman and Hon'ble Members of QRT, CICR & AICCIP. Project Coordinator (Cotton) presented the highlights of the activities of AICCIP. More than 300 delegates participated in the workshop and deliberations were fruitful for formulation of cotton R&D programme.

### **Kapas Field Day**

Kapas Field Day was organized at premises of CICR Nagpur on 10<sup>th</sup> January, 2008 to build up the confidence of the villagers in scientific innovations and to create general awareness about latest cotton production technologies in the districts of Vidharbha. Dr. B.M. Khadi, Director, CICR Nagpur appealed to the farmers to adopt full packages of low cost production technologies generated by CICR and reduce production costs in cotton farming. He advised the farmers to select only best 3-4 promising

varieties/hybrids demonstrated at CICR Nagpur instead of testing a large number of varieties available in markets. Dr. L. A. Deshpande, Head, Division of Crop Improvement educated the farmer about the improved cotton varieties and hybrids including Bt cotton recommended for commercial cultivation. Dr. P. R. Bharambe, Head Division of Crop Production gave tips for increasing cotton productivity. He advised the farmers to get their soil tested and use micro-nutrients in addition to the major nutrient requirement as per soil test report. Dr. K. R. Kranthi, Head, Division of Crop Protection discussed the importance of plant protection in cotton production. He cautioned the farmers about the threats of emerging minor pests like mealy bug and mirid bug in cotton. Dr. S.M. Wasnik, Principal Scientist (Agriculture Extension) and Coordinator of the programme requested officials to provide timely guidance to farmers timely for full adoption of latest scientific innovations to get maximum benefits from the available cotton production technologies. A visit to various experimental fields and demonstration plots was also organized on the occasion. The farmers were satisfied with the performance of latest cotton technologies demonstrated at experimental fields. A question-answer session was also organized.



## 11.6 : Participation of Scientists in Seminars/Symposia/ Workshops/Trainings

Sr. No.	Seminars/Conferences /Symposia/ Workshops/Trainings	Place and Date	Participants
1.	Annual Group Meeting of All India Co-ordinated Cotton Improvement Project	Navsari Agricultural University, Navsari, Gujarat 11 - 13 April, 2007	Dr.B.M.Khadi Dr. N.Gopalakrishnan Dr.K.R.Kranthi Dr. P. R. Bharambe Dr.P.K.Chakraborty Dr. T.Surulivelu Dr. P.Chidambaram Sh. K.N.Gururajan Dr.S.M.Palve Dr. S.Manickam Dr. A.H.Prakash Dr. C.S.Praharaj Dr. B.Dharajothi Dr. S.Usharani Dr. M.Sabesh
2.	One day methodology workshop for DBT-Project "Policy Initiatives in Biotechnology"	TNAU, Coimbatore April 20, 2007.	Dr. N.Gopalakrishnan Dr. S,Usha Rani
3.	XXII Annual group meeting of AICRP - National Seed Project (Crops)	UAS, Dharwad April 24 - 26, 2007	Dr. K.Rathinavel
4.	Standing committee meeting on Technology Mission-II	New Delhi May 16, 2007	Dr. K.R.Kranthi
5.	National level consultation on Agro-Biodiversity hot spots and Biodiversity heritage sites	Shillong, Meghalaya June 1-2, 2007	Dr. K.Rathinavel
6.	Novel genes for sucking pest management in cotton' at the CSIR center for the NMITLI project	CSIR center, New Delhi June 10, 2007	Dr. K.R.Kranthi
7.	One day orientation meeting of Vidharbha KVKs for finalization of Cropping System Model	Nagpur June 12, 2007	Dr. S.M. Wasnik
8.	Cotton scientist meet organized by Centre for plant Breeding and Genetics,	TNAU, Coimbatore June 16,2007	Dr. K.Sankaranarayanan
9.	Workshop on Genetically Modified Crops	Virudhunagar July 3,2007	Dr. K.Sankaranarayanan
10.	National Seminar on "Implications of the Protection of Plant varieties and Farmers Rights Act 2001 to Forestry sector"	Coimbatore July 4-5, 2007	Dr. K.Rathinavel
11.	Pre Seasonal area conference	Tiruchirapalli July, 13, 2007	Dr. N.Gopalakrishnan Dr. K.Rathinavel



12.	National Consultation workshop on "Agro-biodiversity Hotspots and Access and Benefit Sharing"	Annamalai University, Chidambaram July 19-20 <sup>th</sup> 2007	Dr. S. Manickam Dr. Punit Mohan
13.	Stakeholders meet of NAIP project "A Value Chain for Cotton Fibre, Seed and Stalks: An innovation for higher economic returns to farmers and allied stakeholders"	CIRCOT, Mumbai July 19-20, 2007	Dr. N. Gopalakrishnan Dr. K. Sankaranarayanan
14.	Cotton Advisory Board Meeting	August 8 <sup>th</sup> , 2007	Dr. P.R. Bharambe
15.	World Cotton Research Conference'	Lubbock, Texas, USA, September 12, 2007	Dr. B. M. Khadi Dr. K.R. Kranthi
16.	National Seminar on Green Treasure : An Interdisciplinary approach : Prospects and Promise for Human welfare	Nagpur October 6 <sup>th</sup> , 2007	Dr. A. B. Dongre
17.	Model Training Course on Insecticide Resistance Management in Cotton	CICR, Nagpur, October 23- 30th, 2007	Dr. Vishlesh Nagrare
18.	The special interactive workshop on 'Administrative and financial matters' for the ICAR institutes placed under southern/western zone	NIANP, Bangalore October 26-27, 2007	Dr. K.R. Kranthi
19.	National Symposium on Potentials of Bio-Control Agents in Agriculture - Prospects and Perspective	College of Agriculture, Nagpur October 27-28, 2007	Dr. P.M. Mukewar, Shri M. K. Meshram, Dr. N.G. Narkhedkar Dr. A. B. Dongre
20.	Annual convention of the Indian Society of Soil Science	Ranchi November 2-5, 2007	Dr. K.K. Bandyopadhyay
21.	Management of rain fed cotton	Perambalur November 4-5, 2007	Dr. N. Gopalakrishnan Dr. K. Rathinavel
22.	Workshop on Biosafety Capacity building project	New Delhi November 6, 2007	Dr. G. Balasubramani
23.	Workshop on "Consultation of Libability Redress in the context of Cartagena Protocol on Biosafety"	New Delhi Nov. 14-17, 2007	Dr. G. Balasubramani
24.	World Neem Conference	Coimbatore, Nov. 21-24, 2007	Dr. T. Surulivelu Dr. K. Natarajan Dr. B. Dharajothi
25.	National Workshop on Agrarian Crisis and farmers' suicide in India	Mussoorie, November 23-24, 2007	Dr. P.R. Bharambe
26.	National Seminar on microbial developments and biochemical research.	UGC, New Delhi. November 29-30, 2007	Dr. K.R. Kranthi
27.	International Conference on Emerging and Re-emerging Viral diseases of the	New Delhi Dec 10- 14, 2007	Dr (Mrs) J. Amudha

	Tropics and Sub-tropics		
28.	National meeting on consultation of herbicides tolerant G.M. crops	NASC complex, New Delhi, Dec. 11, 2007	Dr. P.R. Bharambe
29.	48 <sup>th</sup> Annual Conference, Association of Microbiologists of India, Microbes: Biofactories of the future	Madras, Chennai December 18 - 21, 2007	Dr. Ashok B. Dongre,
30.	National Conference on Current Trends in Biochemistry,	Nagpur December 27-29, 2007	Dr. A. B. Dongre, Dr. Punit Mohan
31.	Workshop on Prospects of Bt cotton in India	Jalna, January 8, 2008	Dr. Vishlesh Nagrare
32.	Launching workshop and consortium advisory committee meeting of NAIP project-A Value Chain for Cotton Fibre, Seed and Stalks: An innovation for higher economic returns to farmers and allied stakeholders	CIRCOT, Mumbai Jan.9-10,2008	Dr. N.Gopalakrishnan Dr. K.Sankaranarayanan
33.	Meeting of DBT Task Force on 'Biopesticides and Crop Management'	New Delhi Jan.10, 2008.	Dr. N. G. Narkhedkar
34.	Cotton Advisory Board Meeting	January 11, 2007	Dr. P. R. Bharambe
35.	National Consultation on Insecticide Resistance Management on Bt cotton	New Delhi. Jan 21 and 22 , 2008,	Dr. K. R. Kranthi, Dr. S. Kranthi
36.	National seminar on Livelihood security through rainwater management	Nagpur Jan. 22-23, 2008	Dr. Jagvir Singh
37.	13th Vasant Rao Naik Memorial National Agriculture Seminar on Livelihood Security through Rainwater Management	College of Agrl., Nagpur Jan 22-23, 2008	Dr. K. Sankaranarayanan
38.	National consultation meet on Mealy bugs	CICR, Nagpur. 28-29 January, 2008.	Dr. S.Vennila Shri M.K.Meshram, Dr. V. Nagrare, Dr. Sandhya Kranthi, Dr. K.R.Kranthi Dr. T. Surulivelu Dr. B. Dharajothi
39.	Stakeholders's workshop of NAIP for full project proposals	PDBC Bangalore 24 - 25 January, 2008	Dr. S.Vennila
40.	India Regional Meeting of Organic Exchange - 2008	Organic Exchange Aurangabad, January 25-29, 2008	Dr S. Manickam
41.	National Workshop on Technology Impact Assessment in Agricultural Crops	NCAP, Pusa, New Delhi Jan. 30-31, 2008	Dr. P.R. Bharambe
42.	ICAR-CAS training on Modern	TNAU, Coimbatore.	Dr. V.Santhy



	Approaches in Heterosis Breeding	Feb. 12-3, March, 2008	
43.	Meeting of Scientific Advisory Committee of Krishi Vigyan Kendra, Yeotmal.	KVK, Yeotmal 12 Feb. 2008.	Shri M.K.Meshram
44.	Capacity Building Programme on Intellectual Property Protection and Technology Licensing in Agriculture under Indo-US Agricultural Knowledge Initiation	Kerala Agricultural University February 18-20, 2008	Dr. Vinita Gotmare
45.	National Training on Seed Quality Regulation and Seed Health Testing	Varanasi February 18-22, 2008	Dr. Vinita Gotmare
46.	National Level Training Programme on Cotton seed and its utilization	Guntur February 21-22, 2008.	Dr. S.M.Palve
47.	International Conference on Plastics and Environment	Chennai. February 22-23 , 2008	Dr. P. Nalayini
48.	National Seminar on Integrated Nutrient Management in Rainfed Agro-ecosystem	CRIDA, Hyderabad March 3-4, 2008	Dr. C. S. Praharaj Dr. Jagvir Singh
49.	Training programme on Intellectual Property Rights	NIIPM, Nagpur 10-14 March 2008.	Dr. S.M.Palve
50.	National Seminar on Advances in Legume Research (ALR 2008)	Annamalai University, Chidambaram March 6-7, 2008	Dr. K.Sankaranarayanan
51.	Training on Entrepreneurship Development in Agriculture	Dr. PDKV, Akola March 17-18, 2008	Shri M.K.Meshram
52.	Training programme on Imparting Journalistic skills to enhance the communication performance of extension workers in scientific conservation and management of land and water	TNAU, Coimbatore. March 18-20, 2008	Dr. K.K.Bandyopadhyay Dr. P.Nalayini Dr. S.Usharani
53.	Training cum workshop on Sustainability of Bt Cotton, Detection and Quantification of Cry Toxins	ANGRAU, Hydrabad, March 24 to 26, 2008	Dr. B.Dharajothi
54.	Workshop on Harnessing the benefits of Biotechnology under the Indo-US Agricultural Knowledge Initiative (AKI)	NASC, New Delhi March 27-29, 2008	Dr (Mrs) J.Amudha
55.	Regional Workshop on Management and monitoring of field trials of genetically modified crops	CICR Nagpur March 28, 2008	Dr. S. M. Palve Dr. Suman Bala Singh Dr. Vinita Gotmare Dr.G. Balasubramni
56.	Regional workshop on management and monitoring of field trials of genetically modified crops	CICR, Nagpur. 28 March, 2008	Dr. S.Vennila. Dr. S.Kranthi, Shri M.K.Meshram

## 11.7 : Distinguished Visitors

Name & Designation	Organisation	Date
<b>Nagpur</b>		
Dr. Nawab Ali, DDG (Agrl. Engg.)	ICAR, New Delhi	28.06.2007
Dr. P. Chandra, ADG (PE)	ICAR, New Delhi	28.06.2007
Dr. S. N. Puri, Vice Chancellor & Chairman, RAC, CICR	CAU, Imphal	03-08-2007
Dr. S. Sreenivasan, Director	CIRCOT, Mumbai	03-08-2007
Dr. P. L. Gautam, DDG (CS)	ICAR, New Delhi	29.02.2008
Dr. H. P. Singh, DDG (Hort.)	ICAR, New Delhi	29.02.2008
Dr. G. Kalloo, Vice Chancellor	JNKVV, Jabalpur	29.02.2008
<b>Coimbatore</b>		
Dr. S. Sreenivasan, Director	CIRCOT, Mumbai	20-06-2007
Dr. T. P. Rajendran, ADG (Plant Protection)	ICAR, New Delhi	25-06-2007
Dr. V. Santhanam, Ex-FAO expert (Cotton)		15-12-2007
Dr. Anupam Barik, Director	DOCD, Mumbai	27-02-2008
Dr. M. S. Khairon, Ex-Director, CICR, Nagpur		26-02-2008
Dr. K. C. Jain, ADG (Commercial Crops)	ICAR, New Delhi	18-03-2008
Dr. S. Nagarajan, Chairman	PPV&FRA, New Delhi	20-03-2008
<b>Sirsa</b>		
Dr. S. N. Puri, Chairman, Dr. S. S. Narayanam, Member Dr. Siwa Reddy, Member Dr. Narayan Rishi, Member Dr. N. Gopalakrishnan, Secretary Dr. B. M. Khadi, Director	QRT-CICR & AICCIP	28-29 April, 2007
	CICR, Nagpur	5-08-2007
Sh. Ankushraoji Tope, Member CICR IMC	Ex-MP, Maharashtra	
Sh. Nanabhau Embadwar, Member CICR IMC.	Ex-Agriculture Minister of Maharashtra Govt.	
Dr. O. M. Bambawale, Director	NCIPM, New Delhi	10-10-07
Dr. B. L. Jalali, Ex-Director of Research	CCS HAU, Hisar	
Dr. O. M. Bambawale, Director	NCIPM, New Delhi	17-10-07
Dr. Clive James, Chairperson ISAAA	Directors of ISAAA	24-10-07
Sh. Anup Malik, Director (Plant Protection)	Department of Agriculture & Cooperation, Ministry of Agriculture, New Delhi	5-2-08
Dr. O. M. Bambawale, Director	NCIPM, New Delhi	



## 11.8 : Personnel

Name of Officers/Scientists	Designation
<b>DIRECTOR</b>	
B M Khadi	Director
<b>PROJECT COORDINATOR (Cotton)</b>	
<b>Coimbatore</b>	
N Gopalakrishnan	Project Coordinator (Cotton) & Head
<b>PLANT BREEDING</b>	
<b>Nagpur</b>	
L. A. Deshpande	Head, Crop Improvement Division
Phundan Singh	Principal Scientist
V V Singh	Principal Scientist
Smt. S B Singh	Principal Scientist
S M Palve	Principal Scientist
T R Loknathan	Senior Scientist
V N Waghmare	Senior Scientist
<b>Coimbatore</b>	
KN Gururajan	Principal Scientist
DK Agarwal	Scientist (SG)
<b>Sirsa</b>	
S L Ahuja	Principal Scientist
O P Tuteja	Principal Scientist
S K Verma	Senior Scientist
<b>GENETICS &amp; CYTOGENETICS</b>	
<b>Nagpur</b>	
S B Nandeshwar	Principal Scientist
Smt. V Gotmare	Scientist (SS)
<b>Coimbatore</b>	
Smt. K P M Damayanthi	Senior Scientist
S Manickam	Senior Scientist
<b>SEED TECHNOLOGY</b>	
<b>Nagpur</b>	
R K Deshmukh	Principal Scientist
Smt. P R Vijaya Kumari	Senior Scientist
Smt. V Santhy	Scientist (SS)

**Coimbatore**

K Rathinavel Principal Scientist

**Sirsa**

R A Meena Principal Scientist

**ECONOMIC BOTANY**

**Nagpur**

Punit Mohan Senior Scientist

**AGRONOMY**

**Nagpur**

PR Bharambe Head, Crop Production Division

D. Blaise Senior Scientist (Transferred to IISS, Bhopal on 22.12.2007)

A R Raju Scientist

**Coimbatore**

C S Praharaj Senior Scientist

K Shankaranarayanan Senior Scientist

Smt.P Nalayani Senior Scientist

**SOIL SCIENCE**

**Nagpur**

Jagvir Singh Principal Scientist

**Coimbatore**

K. K. Bandyopadhyay Senior Scientist

**AGRICULTURAL ENGINEERING**

G Majumdar Scientist (SG)

**PLANT PATHOLOGY**

**Nagpur**

P M Mukewar Principal Scientist

N K Taneja Principal Scientist (Retd. on 30.4.07)

M K Meshram Principal Scientist

R C Ukey Principal Scientist

SG Gawande Scientist (Joined on 03.03.08)

**Coimbatore**

P Chidambaram Principal Scientist (Retd. on 31.03.08)

**Sirsa**

Dilip Monga Head, Regional Station, Sirsa

**ENTOMOLOGY****Nagpur**

K R Kranthi	Head, Crop Protection
Smt. S Kranthi	Senior Scientist
Smt. S Vennila	Senior Scientist
VS Nagrare	Scientist (SS) (Joined on 16.07.07)
Smt. M Amutha	Scientist (Joined on 18.05.07)

**Coimbatore**

T Surulivellu	Principal Scientist
K Natarajan	Principal Scientist
Smt. B Dhara Jothi	Senior Scientist

**Sirsa**

Rishi Kumar	Senior Scientist (Joined on 05.10.2007)
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**NEMATOLOGY****Nagpur**

Smt. Nandini Narkhedkar	Principal Scientist
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**Coimbatore**

Smt. J Gulsar Banu	Senior Scientist
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**PLANT PHYSIOLOGY****Nagpur**

M R K Rao	Principal Scientist
N K Perumal	Principal Scientist
K B Hebbar	Senior Scientist (Transferred to IISS, Bhopal on 11.7.07)

**Coimbatore**

S. E. S. A. Khader	Principal Scientist
A H Prakash	Senior Scientist

**BIOCHEMISTRY****Nagpur**

AB Dongre	Principal Scientist
Smt. M. Chakrabarty	Scientist (SG)

**MICROBIOLOGY (PS)**

K. Velmourougane	Scientist (Joined on 18.05.07)
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**BIOTECHNOLOGY**

PK Chakrabarty	Principal Scientist
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G Balasubramani	Senior Scientist
Smt. J Amudha	Senior Scientist
<b>AGRICULTURE EXTENSION</b>	
<b>Nagpur</b>	
HL Gajbhiye	Principal Scientist (expired on 19.06.07)
S M Wasnik	Principal Scientist
<b>Coimbatore</b>	
Usha Rani	Scientist (SS)
<b>AGRICULTURAL ECONOMICS</b>	
<b>Nagpur</b>	
PR Deoghare	Principal Scientist
AR Reddy	Senior Scientist
<b>Coimbatore</b>	
Smt. Isabella Agarwal	Senior Scientist
<b>COMPUTER APPLICATION</b>	
<b>Coimbatore</b>	
M Sabesh	Scientist (SS)
<b>KVK</b>	
S N Rokade	Senior Scientist
<b>Administrative Officer</b>	
MS Murthy	
<b>Finance and Accounts Officer</b>	
Prashant Kumar	(transferred to IVRI on 09.07.07)
GC Pant	(Joined on 06.9.07)

