List Of On-going Projects

	Name of the Project	Name of the Project Leader and Associate(s)
	Nagpur	
	Crop Improvement	
1.	Collection, conservation, evaluation, documentation and utilization of cotton genetic resources of cultivated species of *Gossypium (G.hirsutum & G.arboreum)*	PL: VV Singh Assoc: Punit Mohan
2.	Genetical and anatomical studies on drought tolerance in cotton *G.hirsutum.*	PL:SB Singh Assoc: NK Perumal
3.	Studies on development of practically usable cytoplasmic genic male sterility and restorer lines and genetic male sterility system in cotton.	PL:SB Singh
4.	Conservation of wild species of *Gossypium* and introgressive hybridization for the improvement of cultivated species of cottons.	PL: Vinita Gotmare Assoc: MK Meshram, S Vennila, KB Hebbar,G. Balasubramani
5.	Breeding for high yielding and long staple genotypes of *G.arboreum* cotton with high fibre strength.	PL: Punit Mohan Assoc: P Singh
6.	Studies of genetic enhancement of upland cotton *(G.hirsutum)*.	PL: TR Loknathan Assoc:P Singh, DK Agarwal, Vinita Gotmare,S Vennila, MK Meshram
7.	Studies on genetic base of upland cotton varieties in India.	PL: DK Agarwal Assoc: TR Loknathan V Santhy, P Singh
8.	Improvement of upland cotton for GOT and fibre properties through population improvement approaches.	PL: VN Waghmare Assoc: P Singh, Vinita Gotmare
9.	Seed yield and quality in *G.arboreum* cultures with low input management under different soil depths.	PL: RK Deshmukh Assoc: V Santhy, Punit Mohan P. Singh
10.	Assessment of seed vigour traits in cotton.	PL: V Santhy Assoc: RK Deshmukh KB Hebbar, R Vijayakumari
11.	Development of transgenic cotton for Insect Resistance through backcrossing and advancement of generation.	PL: B. M. Khadi Assoc: KR Kranthi AB Dongre, SB Singh, SB Nandeshwar G Balasubramani
12.	Genetical studies on cotton seed with particular reference to germination and dormancy.	PL: PR Vijayakumari Assoc: P Singh, DK Agarwal, V Santhy
13.	Evaluation of cotton germplasm through molecular techniques.	PL: AB Dongre Assoc: J Amudha SB Nandeshwar, VV Singh

14. Development of tissue culture protocol for use in breeding and genetic transformation.	PL: SB Nandeshwar Assoc: AB Dongre
15. Molecular mapping of leaf curl virus resistance gene in cotton genome.	PL: J Amudha Assoc: D Monga G Balasubramani
Crop Production	
16. Integrated approach for yield maximization of hybrid cotton under drip irrigation	PL: K.S.Bhaskar
17. Long term effect of fertilizer and INM on productivity, soil fertility and quality of rainfed hybrid cotton	PL: Jagvir Singh Assoc: D Blaise
18. Effect of nutrients on yield and fibre quality of rainfed Bt hybrid	PL: Jagvir Singh
19. Tillage and green manure effects on growth and yield of cotton and soil properties	PL: D Blaise
20. Improving the efficiency of cotton + arhar strip cropping in vertisols	PL: A.R.Raju
21. Studies on the efficacy of micro nutrients application and moisture management on yield and fibre properties of rainfed cotton	PL: A.R.Raju
22. Development of package of practices for organic cotton production	PL: A.R. Raju
23. Adoption and refinement of cotton picker and cleaning system	PL: A R Raju
24. Evaluation of suitable moisture management practice for rainfed cotton in shallow soil	PL: K.S.Bhaskar
25. Demonstration trial on organic farming and INM technology	PL: Jagvir Singh
26. Agronomical evaluation of Nuziveedu Bt cotton	PL: Jagvir Singh
27. Physiological evaluation of cotton germplasm under rainfied conditions.	PL: MRK Rao Assoc.: NK Perumal, K B Hebbar
28. Physiological and biochemical studies on abiotic stress with particular reference to heat and drought in cotton.	PL: NK Perumal Assoc.: M Chakrabarty
29. Assessment of gossypol content in cotton germplasm	PL: Mukta Chakrabarty
30. Physiological and biochemical basis of salinity tolerance	Assoc: K.B.Hebbar
31. Physiological and biochemical basis of waterlogging tolerance	PL: K.B.Hebbar
32. Evaluation of cotton production technologies for yield, fibre quality and economic viability	PL: H. Gajbhiye
33. A study on technology adoption behaviour of cotton growers: Structural perspective.	PL: HL Gajbhiye
34. Study on accessibility to mass media and information technology of potential users in cotton based production system.	PL: SM Wasnik Assoc.: PR Deoghare

Crop Protection	
35. Identification and characterisation of elite germplasm lines against key pests of cotton.	PL: S Kranthi Assoc: VV Singh
36. Biochemical basis of induction of defense related proteins in cotton against the Gram pod borer *Helicoverpa armigera*.	PL: S Kranthi Assoc: SB Nandeshwar
37. Interaction effects of cultivars, agro-techniques, insect pests and entomophages in cotton ecosystem.	PL: S Vennila
38. Studies on multiple disease resistance in upland cotton.	PL: Sheo Raj Assoc: NK Taneja, VV Singh
39. Studies on seed transmitted pathogenic infections and other seed microflora of cotton.	PL: PM Mukewar
40. Studies on evolution of races of *Xanthomonas axonopodis* pv. *malvacearum (Xam)* and utilization of HVS in identification of resistant sources .	PL: MK Meshram Assoc: Sheo Raj
41. Evaluation of cotton germplasm against Alternaria and Myrothecium leaf spot diseases.	PL: NK Taneja
42. Efficacy of antagonist fungal microflora from rhizosphere of cotton, its growth and development including disease control.	PL: RC Ukey
43. Studies on plant parasitic nematodes associated with cotton.	PL: N G-Narkhedkar
44. Molecular basis of pathogenicity and race specificity of *Xanthomonas axonopodis* pv *malvacearu (Xam)* and characterization of its antagonists.	PL: PK Chakrabarty Assoc: MK Meshram Sheo Raj
45. Study on accessibility to mass media and information technology of potential users in cotton based production system.	PL: SM Wasnik Assoc: PR Deoghare
Regional Station, Coimbatore	
46. Development of high yielding intra *hirsutum* hybrid	PL : K.N.Gururajan Assoc: S Manickam
47. Breeding new *G. hirsutum* cotton varieties with new plant types - Development of medium staple varieties	PL : K.N.Gururajan Assoc: S Manickam
48. Development of Extra long staple high spinning hybrids of interspecific origin with wide adaptability	PL: K.P.M.Dhamayanthi Assoc: S Manickam
49. Development of extra long staple *G. barbadense* varieties with improved fibre properties	PL: K.P.M.Dhamayanthi Assoc: K.Rathnavel
50. Development of high yielding and high spinning Extra long staple cotton	PL: S Manickam Assoc: K.N.Gururajan
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
55. Assessment of organic residues along with *in situ* 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 G. hirsutum and G. barbadense cotton.	PL : K. Sankaranarayanan Assoc: P. Nalayini, C.S. Praharaj
57. Evaluation of cotton based cropping system for higher production and economic return	PL : K. Sankaranarayanan Assoc: P.Nalayini, C.S. Praharaj
58. Polymulching for water, weed and nutrient management in cotton based cropping system	PL : P. Nalayini Assoc: K. Sankaranarayanan
59. Response of elevated carbon-di-oxide on physiology and productivity.	PL: S.E.S.A Khader Assoc: N. Gopalakrishnan
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
66. Studies on population dynamics of cotton pests and their natural enemies	Pl : K Natarajan Assoc: B. Dhara Jothi
67. Studies on Bioecology and management of cotton stem weevil *Pempherulus affinis*	PL: B. Dhara Jothi Assoc: T. Surulivelu
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. Farm level economic benefits of Bt cotton in Tamilnadu.	PL: Isabella Agarwal

71. Adoption, impact and returns to research investment on improved cotton cultivars in Tamilnadu	PL: Isabella Agarwal
72. Economic analysis of contract farming in cotton in Tamilnadu.	PL: Isabella Agarwal
73. Expert System on Cotton pest/insect	PI: M. Sabesh Assoc.: S. Vennila B. Dhara Jothi
Regional Station, Sirsa	
74. Evaluation of parents in *Gossypium hirsutum* for heterotic potential and useful heterosis for replacement of existing cultivars under north Indian conditions.	PL: OP Tuteja
75. Development of varieties and hybrids (MS based) of medium staple length in Gossypium arboreum L.	PL: SK Verma
76. Development of male sterility based hybrids of *G.hirsutum* for north India.	PL: OP Tuteja Assoc: D Monga, P Jeyakumar
77. Development of *G.hirsutum* cultivars with high fibre strength suitable for high speed spinning.	PL: SL Ahuja Assoc: OP Tuteja, SK Verma, D Monga, P Jeyakumar, VV Singh, KN Gururajan
78. Genetic enhancement in diploid cotton	PL: SL Ahuja Assoc: SK Verma Punit Mohan, Vinita Gotmare, D Monga TR Loknathan, P Jeyakumar,
79. Collection, conservation, evaluation and maintenance of genetic resources.	PL: RA Meena
80. Studies on seed technological aspects of hybrids and varietal seed production in north zone.	PL: RA Meena Assoc: OP Tuteja, D Monga
81. Effect of light on stability and efficacy of neem in IPM	PL: P Jeyakumar Assoc: D Monga
82. Studies on cotton leaf curl virus disease and development of resistant varieties and hybrids for its management.	PL: D Monga Assoc: OP Tuteja, RA Meena, SK Verma,P Jeyakumar
Externally Funded Projects	
83. Assessing potassium requirements of cotton + pigeonpea cropping system	PL: Blaise
DBT Projects	
84. Genetic improvement of strains of entomopathogenic nematodes for tolerance to environment and enhanced efficacy against Helicoverpa armigera, cotton bollworm.	PL: N G-Narkhedkar
85. Studies on toxicity of Bt (Cry) toxins to cotton pests, assessment of impact of Bt transgenic cotton plant on	PL: KR Kranthi Assoc: S Kranthi

the ecosystem and development of resistance to Bt toxins in cotton bollworm Helicoverpa armigera.	
Network Project	
86. Development of Bt transgenic cotton with indigenously synthesized gene	PL: A.B.Dongre
Mahyco Funded	
87. Monitoring for shifts in baseline susceptibility (development of tolerance/resistance) in the cotton bollworms toxin in various cotton growing regions of the country.	PL: S Kranthi Assoc: KR Kranthi

Technology Mission On Cotton (TMC MM-I)

Project No.	Name of the Project	Name of the Project Leader and Associate(s)
MM 1.1	Development of diploid cotton cultivars with high fibre quality	CCPI : Punit Mohan, S K Verma
MM 1.2	Development of tetraploid cotton cultivars with high fibre quality and resistance to drought and biotic stresses	PI : K N Gururajan CCPI : V N Waghmare S L Ahuja
MM 1.3	Genetic diversity through introgression of useful genes in cultivated species of cotton	PI : V Gotmare CCPIs : S B Nandeshwar G Balasubramani S Manickam O P Tuteja
MM 1.4	Improvement of cotton seed oil	PI : D K Agrawal Co PI :M. Chakrabarty CCPIs : KPM Damayanthy N Gopalakrishanan,
MM 1.5	Maintenance breeding, seed production and marker based purity evaluation	CCPI : O P Tuteja, K Rathinavel A B Dongre, T R Loknathan, V Shanthy, R A Meena
MM 2.1	Integrated nutrient management for high quality fibre and yield	PI : D Blaise Co-PI : J V Singh
MM 2.2	Integrated water management system for quality fibre production	CCPI : K S Bhaskar K Shankarnarayan
MM 2.3	Bioinoculants for sustainable and cost effective production of high quality fibre	P Nalayini
MM 2.4	Refining regional -level prediction of yield	PI : M R K Rao Co-PI : K B Hebber CCPI : A H Prakash
MM 2.5	Ergonomically efficient implements for cotton production	PI : A R Raju
MM 3.1	Integrated pest management (IPM) at village level for cost effective, quality production	CCPI : S Vennila, T Surulivelu A Kannan, P Jeyakumar D Monga,
MM 3.2	Development of diagnostic tools for differentiation and detection of biotypes/races of insect pests and pathogens of cotton	PI : P K Chakrabarty Co-PIs : M K Meshram S Kranthi, P Chidambaram CCPIs : B Dharajyothi D Monga
MM 3.3	Commercialisation of bioagent mass -production technologies in intensive cotton districts	CCPI : N Gokte Narkhedkar
MM 5.1	Evaluation of cotton production technologies for yield, fibre quality and economic viability	PI: H L Gajbhiye Co-PI : P Ramasunderam CCPI : I Agrawal, S K Verma
MM 5.2	Information, cotton website and documentation	PI : M Sabesh CCPI : A R Raju
MM 5.3	TMC -MMI Coordination and Monitoring cell	M Chakrabarty,