



Dr. Mrinal Kanti Ghosh,

Director,
CSR&TI, Pampore

Service tenure: Spanning about 35 years in CSB; joined as a fresher as Senior Research Assistant for Research and extension in 1982 in BSM&TC, Patelnagar, Birbhum, WB and served REC, Taldangra, Bankura, WB; RTRS, Imphal, Manipur for over four years as Senior Research Officer; subsequently transferred to CSR&TI, Berhampore, promoted to Scientist-C and subsequently to Scientist-D in 2010. During April, 2015 transferred to RSRS, Koraput, Odisha and joined CSR&TI, Pampore on 23rd January, 2016.

Contributions in the field of specialization:

➤ **Development of Mulberry varieties:**

In the quest for high yielding mulberry genotypes, throughout the service career it was my mission to select and/or develop varieties with sustainable yield to cater the need of specific agro ecological conditions in the context of ever shrinking arable land and stiff competition from the food crops. Some of the significant ones are as follows:

- (i) **C-2038** with a yield potential of **55-56 t/ha/year** (Project Code PIB-3290) **under irrigated Gangetic plains of WB**
- (ii) **Tr-23** for **acidic soil of hilly regions** (Project Code PIE-3310)
- (iii) **C-2028** with a yield potential of 36 t/ha/year for **flood / water logging condition** (Project Code PIP-3194)
- (iv) **C-3** and **C-9** suitable for **low nutrient soils** (Project Code PIB-3340 & PIB-3481)
- (v) **Gen-1**, an early sprouter, disease resistance high yielding (60 t/ha/year) genotype (Project Code PIB-3422).

Since the new age plant breeding is Marker Assisted Breeding (MAB), with the collaboration of Bose Institute, Kolkata, two of the aforesaid significant genotypes (**C-2038** and **Gen-1**) have been validated through state-of-art molecular techniques.

➤ **Protection of Mulberry germplasm and useful genes:**

The genotype specific markers developed and the useful genes are protected in form of **16 NCBI GenBank submissions** for the mulberry varieties (Accession KM210515-KM210520; KF154100-KF154109 (<http://www.ncbi.nlm.nih.gov/>); in collaboration with Bose Institute, Kolkata.

Academics:

Graduation and Post Graduation in Botany from University of Calcutta; Ph.D. from Manipur University.

Recognitions & Awards:

- a. Recognized as **Plant Physiologist** in India (IARI, New Delhi – 2004)
- b. Recognized and acted as a **Ph D Guide** (University of Kalyani, WB, 2008)
- c. **Life Member** of “**National Academy of Sericulture Sciences, India (NASSI) – 2009**”
- d. **Life Member of Crop and Weed Science Society**, BCKV, Kalyani.- 2009
- e. Recognized as **APSI distinguished Plant Scientist Award** - 2012
- f. Recognized and acted as a **Ph D Guide** (University of Gaur Bangal, WB, 2015).

Publications (International/National/Others): 110

Books and Brochure: 14 Nos. in Hindi, English, Bengali, Assamese and Oriya

Publications including papers in refereed journals:

(a) Publications – **International** (20 best publications)

Authors	Year	Title with full reference*	Journal with volume & page number	#
Ghosh, Mrinal. K. & Srivastava, Ramesh, C.	1993	Foliar treatment with optimum doses of agrochemicals can improve the quality of oak-tasar cocoons.	Current Science. Vol. 65(9): 714-718.	1
Ghosh, M. K. and Srivastava, R.C.	1994	Effect of Mg, Zn and Mo salts on Nitrate reductase activity and soluble protein content in leaves of <i>Quercus serrata</i> .	Biologia Plantarum. 36 (4): 599-605.	2
Ghosh, M. K., Noamani, M.K.R., Das, P.K. and Srivastava, R.C.	1994	Role of N,P and K nutrients on in vivo Nitrate reductase activity in leaves of <i>Quercus serrata</i> Thun.	Sericologia. 34 (4): 779-784.	3
Ghosh, M. K. and Srivastava,R.C.	1995	Effect of KCl on chlorophyll, total sugars, soluble protein and in vivo Nitrate Reductase activity in leaves of <i>Quercus serrata</i> and correlation studies.	Israel Journal of Plant Sciences. Vol.43 : 63-68.	4
Ghosh, M. K., Babu, C.M., Ponnuvel, K.M. and Srivastava, R.C.	1996	Correlation between female moth weight and fecundity in the oak tasar silkworm, <i>Antheraea proylei</i> J.	Sericologia. 36 (3): 561-564.	5
Ghosh, M. K. and Srivastava, R.C.	1996	Effect of pruning time on the nutritive value of <i>Quercus serrata</i> leaves, the primary food plant of <i>Antheraea proylei</i> J. and its impact on oak tasar silkworm rearing.	Sericologia. 36 (1) : 139-141.	6
Ghosh, M. K., Das, B.K., Das, C., Misra, A.K., Mukherjee, P.K. and Rajee Urs, S.	2004	Relationship of Nitrate Reductase Activity to leaf yield, protein, sugar and Physiological attributes in Mulberry (<i>Morus alba</i> L.).	Int. J. Indust. Entomol. 8(1) : 67-71.	7
Ghosh, M. K., Das, B.K., Misra, A.K., Das, C., Mukherjee, P.K. and Rajee Urs, S.	2006	Physio-biochemical evaluation of some improved mulberry varieties in the Gangetic alluvial soils under irrigated conditions.	Ind. J. Plant Physiol.. (An international Journal of plant Physiology) Vol.11, No.3 : 246-252.	8
Ghosh, M. K., S. Roy Chowdhuri, Shiv Nath, P. K. Ghosh, S. Debnath, I. Roy and P. L. Ghosh.	2007	Harvest index and Biological yield as selection criteria for Mulberry (<i>Morus</i> spp.).	Indian J. Genet. 67(2): 196-197.	9

Ghosh, M. K., Sahu, P.K., Roychowdhury, S., Sil, S.K., Chakrabarty, S. and Bajpai, A.K.	2009	Genetic diversity evaluation in exotic mulberry germplasm.	Journal of Newseeds 10 (Taylor & Francis).10: 41-50.
Ghosh, M.K., Misra, A.K., Nath, S., Chakrabarti, S.P. Ghosh, P.K., Ghosh, A., Mazumdar, M.K. and Bindroo, B.B.	2011	Mulberry Genotypes suitable for Northern West Bengal.	Journal of Crop and Weed. 7(2): 143-147.
S. K. Dutta, Ghosh, M .K. A. Borah and B.B.Bindroo.	2012	Development of disease forecasting model for leaf rust of mulberry (<i>Morus alba</i> L.) of Dimapur of North East India.	Nature and Science 12 (Marsland Press). 10(8): 66-69.
Kar, R., Bindroo, B.B., Ghosh, M. K. and Majumder, S. K.	2013	Carbon credit in soil under a long-term fertilizer experiment on mulberry.	Nature and Science 13 (Marsland Press), 11 (3): 77-81.
Ghosh, M.K., Shiv Nath, Ghosh, P.K., Roy Chowdhuri, S., Singh M.K. and Bindroo, B.B.	2013	Development of Low Fertility Stress Tolerant Mulberry Varieties Suitable for Eastern and North-Eastern India.	Advances in Plant Sciences (An International Journal). 26 (1):283 – 288.
Arora, V., Ghosh, M. K and Gangopadhyay, G.	2014	SSR Markers for assessing the hybrid nature of two high yielding mulberry varieties.	International Journal of Genetic Engineering and Biotechnology. 5 (2): 191 – 196.
Arora, V., Ghosh, M. K, Bindroo, B.B and Gangopadhyay, G.	2014	Phenomic analyses of indigenous and exotic accessions of Mulberry (<i>Morus</i> spp.).	International Research Journal of Biological Sciences. 3 (7): 40 – 48.
Kar, R., Ghosh, M. K., Majumdar, M.K., and Nirmal Kumar, S.	2014	Induction of DRIS for foliage diagnosis of cationic micronutrients for mulberry (<i>Morus</i> sp.) growing under plains of West Bengal.	Nature and Science 17 (Marsland Press). :12(4). 101-105.
Arora, Vivek, Ghosh, M. K., Ghosh, P.K., Nirmal Kumar, S. and Gangopadhyay, G.	2015	Molecular Markers to Assess the Hybrid nature of an Improved Mulberry Genotype.	Journal of Plant Science & Research. Vol. 2(1):112-116.
Ghosh, M. K., Kar, R., Dutta, S.K., Ghosh, P.K. and Nirmal Kumar, S.	2015	Nitrogen Harvest Index and Biological Yield for screening of better genotypes in Mulberry (<i>Morus</i> spp.).	Bioscience Discovery. Vol 6(2): 102-105.
Kar, R., Chatterjee, S., Ghosh, M. K., Dutta, S.K. and Nirmal Kumar, S.	2015	The diagnosis and recommendation integrated system (DRIS) for evaluating cationic micronutrients of mulberry (<i>Morus</i> sp.) under Darjeeling hills.	Nature and Science 20 (Marsland Press). 13(5): 110-114.
Arora, V., Ghosh, MK., Singh, P and Gangopadhyay, G.	2016	Light regulation of nitrate reductase gene expression and enzyme activity in the leaves of mulberry (<i>Morus</i> spp.)	Indian J Expt Bio 21 (Accepted)

(b) Publications – National (20 best publications)

Authors	Year	Title with full reference*	Journal with volume & page number	#
Ghosh, Mrinal. K. and Srivastava, Ramesh, C.	1993	Effect of dimecron and bavistin on in vivo Nitrate Reductase Activity and soluble protein in leaves of oak (<i>Quercus serrata</i> Thun.).	Proc. Nat. Acad. Sci. India. 63 (B) III : 347-352.	1
Ghosh, M.K. and Srivastava, R.C.	1993	Correlation between larval body weight and shell weight in oak tasar silkworm <i>Antheraea proylei</i> J.	Indian J. Appl. Ent. 7 : 67-68.	2
Ghosh, M.K. and Srivastava, R.C.	1994	Effect of foliar treatment of NPK fertilizers on seedling growth of <i>Quercus serrata</i> .	Acta Botanica Indica. 22 : 236-241.	3
Ghosh, M.K., Noamani, M.K.R., Das, P.K., Babu, C.M. and Srivastava, R.C.	1994	Role of Mg, Zn and Mo salts on in vivo Nitrate reductase activity in leaves of <i>Quercus serrata</i> Thun.	Indian J. Seric. Vol.33 (2) : 118-121.	4
Ghosh, Mrinal. K. and Srivastava, Ramesh, C.	1995	Effect of GA ₃ on N-metabolism and leaf biomass of Oak (<i>Quercus serrata</i>).	Plant Physiol & Biochem. Vol 22 (1) : 48-52.	5

Ghosh, M. K. and Srivastava, R. C.	1995	Evaluation of four oak species by leaf biochemical analysis and bioassay with <i>Antheraea proylei</i> J.	Acta Botanica Indica. 6 23 : 161-164.
Ghosh, M. K. and Srivastava, R. C.	1995	Impact of certain biochemical constituents of food leaves on cocoon weight of four oak tasar silkworm <i>Antheraea proylei</i> J. (Saturniidae : Lepidoptera).	J.Adv. Zool. 16 (1) : 7 44-47.
Ghosh, M. K. and Srivastava, R. C.	1995	Relationship of protein and carbohydrate constituents of <i>Quercus serrata</i> leaves with the larval weight of oak tasar silkworm <i>Antheraea proylei</i> J.	Uttar Pradesh J. Zool. 8 15 (1) : 39-42.
Ghosh, M. K. and Srivastava, R.C.	1996	Effect of GA ₃ on leaf constituents of <i>Quercus serrata</i> and its impact on rearing performance of silkworm <i>Antheraea proylei</i> J.).	J. Indian Bot. Soc. 9 Vol. 75 : 155-156.
Ghosh, M. K.	1996	Effect of Zinc sulphate on leaf constituents of <i>Quercus serrata</i> and its correlation with oak tasar silkworm (<i>Antheraea proylei</i> J.) rearing.	Indian J. Applied & Pure Biol. Vol. 11 (1) : 25-30.
Ghosh, Mrinal. K. & Srivastava, Ramesh, C.	1996	Effect of ammonium sulphate on leaf constituents of <i>Quercus serrata</i> and its correlation with oak tasar silkworm (<i>Antheraea proylei</i> J.).	Nat. Acad. Sci. Letters. Vol.19 (3&4) : 53-58.
Ghosh, M.K., S.Roy Chowdhuri, Shiv Nath, P.K.Ghosh, S. Chakrabarti and A.K.Bajpai.	2007	Study of Genetic Divergence in relation to leaf quality parameters of Exotic Mulberry (<i>Morus</i> sp.) Germplasm.	Advances in Plant Sciences 20 (II) : 1-7.
Ghosh, M. K., S. Roy Chowdhuri, S. Chakrabarti and S.K. Das	2008	Influence of leaf of newly developed Mulberry genotypes on cocoon production.	Uttar Pradesh J. Zool. 13 28(2): 255-257.
Ghosh, M. K., N.K. Das, Shiv Nath, P.K. Ghosh, A. Ghosh and A.K. Bajpai.	2009	Studies on Heterosis and Yield Stability in improved Mulberry hybrids under Irrigated Gangetic alluvial soils of West Bengal.	Journal of Crop and Weed. 5(1): 11-18.
Ghosh, M.K., N.K. Das, Shiv Nath, P.K. Ghosh, R.N. Datta and A,K, Bajpai.	2009	Heterosis for leaf yield and its components in mulberry (<i>Morus</i> sp.).	Indian Journal of Agricultural Sciences. 79 (10): 804-807.
Ghosh, M. K., S.P. Chakrabarti, Shiv Nath, P.K. Ghosh, R.N. Datta and A.K. Bajpai.	2010	Impact of Improved Mulberry genotypes on Cocoon production in Acidic soils of Hills and Foot Hills.	Uttar Pradesh J. Zool. 30 (2): 197-199.
Ghosh, M. K., Shiv Nath, P.K. Ghosh, A.K. Misra, A. Ghosh and A.K. Bajpai.	2012	Genetic Divergence in relation to Physiological parameters in Exotic Mulberry (<i>Morus</i> sp.) Germplasm Accessions.	Advances in Plant Sciences. 25(I): 219-225.
Ghosh, M. K., Misra, A.K., ShivNath, Das, C., Sengupta, T., Ghosh, P.K., Singh, M.K. and Bindroo, B.B.	2012	Morpho-physiological evaluation of some mulberry genotypes under high moisture stress condition.	Journal of Crop and Weed. 8(1): 167-170.
Ghosh, M. K., S.K. Dutta, Shiv Nath, P.K. Ghosh, and B.B. Bindroo.	2012	Evolution of low temperature stress tolerant mulberry genotype for Eastern and North-Eastern plains of India.	Nature and Science. 10 (12): 23-32.
Ghosh, M. K., Bindroo, B.B., Das, N.K. and Singh, M.K.	2013	Yield Stability in mulberry over different regions of Eastern and North-Eastern India.	Journal of Crop and Weed. 9 (1):103 – 105.

Books Published

Item	Year	Details	Publisher	Pages	#
M.K. Ghosh (English & Bengali version) Shiv Nath (Hindi version)	2008	Manual Improved Technologies of Sericulture[In Hindi, Bengali and English]	CSR&TI, Berhampore	57 pages	1
by- M.K. Ghosh and B.B. Bindroo	2011	Mulberry Breeding This book will be helpful for	CSR&TI, Berhampore	154 pages	2

		students and faculty members pertaining to PGDS, B.Sc and M.Sc sericulture.			
M.K. Ghosh and B.B. Bindroo	April, 2013	Mulberry Cultivation [In Bengali & English]	CSR&TI, Berhampore	Ben. 43 pages Eng. 41 pages	3
M.K. Ghosh , B.B. Bindroo and S. Nirmal Kumar	Nov. 2013	Mulberry Cultivation [In Hindi]	CSR&TI, Berhampore	57 pages	4
SN Gogoi, T.K. Biswas, M.K. Ghosh and S Nirmal Kumar	June, 2013	Translated in Assamese Nuni Kheti (Mulberry Cultivation [In Assamese])	RSRS, Jorhat	29 pages	5
Rushi Sahu, M.K. Ghosh and S Nirmal Kumar	2013	Translated in Oriya Tunt Chas (Mulberry Cultivation) [In Oriya]	RSRS, Koraput	43pages	6

Brochure

M.K. Ghosh , S. Roy Chowdhury and B.B. Bindroo.	Mar. 2012	Mulberry Varieties suitable for Eastern and North Eastern India.	CSR&TI, Berhampore	No.5 (Eng.) 8 pages	1
R. Kar, S. K. Majumder, M.K. Ghosh and B.B. Bindroo	Dec. 2012	Sulphur application for augmentation of mulberry productivity	CSR&TI, Berhampore	No.7 4 pages	2
A.K. Misra, M.K.Ghosh and B.B.Bindroo	Dec. 2012	Mulberry based inter-cropping system under irrigated condition	CSR&TI, Berhampore	No.8 6 pages	3
A.K. Misra, M.K.Ghosh and B.B.Bindroo	Dec. 2012	Stress Management in Mulberry through Foliar Application of Jalsanjivani (Potassium Chloride)	CSR&TI, Berhampore	No.10 4 pages	4

Pamphlet

Pamphlet in English: by M.K. Ghosh and B.B. Bindroo	July, 2011	Mulberry Variety for irrigated Zone S-1635.	CSR&TI, Berhampore	No.01 (Eng.) 2 pages	1
Pamphlet in Bengali: by M.K. Ghosh and B.B. Bindroo	July, 2011	Shech Prapta Elakar Jaynya Tut Prajati S-1635.	CSR&TI, Berhampore	No.02 (Beng.) 2 pages	2
Pamphlet in Hindi: by M.K. Ghosh and B.B. Bindroo	July, 2011	Sinchit Khetro Ke Lia Shatut Prajati S-1635	CSR&TI, Berhampore	No.03 (Hindi) 2 pages	3
Pamphlet in Bengali: by S. K. Dutta, M.K. Ghosh and B.B. Bindroo	Mar. 2013	Toot gacher rog o pratikarer upay	CSR&TI, Berhampore	No. 9 2 pages	4
Pamphlet in Bengali: by MK Ghosh , R Kar, SK Dutta, SK Mukherjee, S Rajaram and S Nirmal Kumar	Feb. 2015	Tunt Patar Adhik Phalan Pete S-1635	CSR&TI, Berhampore	No. 20 2 pages	5
Pamphlet in English: by MK Ghosh , P.K. Ghosh, R Kar, SK Dutta and S Nirmal Kumar	July, 2015	C-2038: A New Mulberry variety for irrigated zone	CSR&TI, Berhampore	No. 21 2 pages	6
Pamphlet in Bengali: by Sandip Kumar Dutta, Mrinal Kanti Ghosh , Swapan Kumar Mukhopadhyaya and S Nirmal Kumar	July, 2015	Tunt Gacher shikarer roug, poka o tar pratikar	CSR&TI, Berhampore	No. 23 2 pages	7

- Supervision of Ph.D. thesis (as co-guide** with Prof. Partha Deb Ghosh, Dept. of Botany, University of Kalyani, Nadia, West Bengal) entitled "Studies on Relationship between yield attributes, anatomical and physio-biochemical characters of Mulberry Genotypes tolerant to high moisture stress condition" of Sri Sudipta Kumar Sil, Associate Professor under University of Gour Bango, Malda, **thesis awarded for the degree 'Doctor of Philosophy'** in Science (Botany) by the University of Kalyani, on 04.12.2012.

2 Google Scholar citation:



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Title 1-20

	Cited by	Year
<input type="checkbox"/> Correlation between female moth weight and fecundity in the oak tasar silkworm, <i>Antheraea proylei</i> J. MK Ghosh, CM Babu, KM Ponnuel, RC Sivastava <i>Sericologia</i> . 36 (3), 561-564	4	1996
<input type="checkbox"/> Foliar treatment with optimum doses of agrochemicals can improve the quality of oak-tasar cocoons. MK Ghosh, RC Sivastava <i>Current Science</i> 65 (9), 714-718	4	1993
<input type="checkbox"/> Physio-biochemical evaluation of some improved mulberry varieties in the Gangetic alluvial soils under irrigated conditions. MK Ghosh, BK Das, AK Misra, C Das, PK Mukherjee, S Raje Urs <i>Ind. J. Plant Physiol.. (An international Journal of plant Physiology)</i> 11 (3 ...	3	2006
<input type="checkbox"/> Role of Mg, Zn and Mo salts on in vivo Nitrate reductase activity in leaves of <i>Quercus serrata</i> Thun. MK Ghosh, MKR Noamani, PK Das, CM Babu, RC Sivastava <i>Indian J. Seric.</i> 33 (2), 118-121	3	1994
<input type="checkbox"/> Variability, heritability and genetic advance in nine germplasm lines of mulberry (<i>Morus</i> spp.). SG Doss, MS Rahman, S Debnath, MK Ghosh, H Sau, PL Ghosh, ... <i>Indian J. Seric.</i> 66 (2), 169-170	2	2006

Focus: Multi-disciplinary and Multi-Institutional Research; Implementation of developed technology and information dissemination; Demand driven Research; Research activities through network partnerships.

(Mrinal Kanti Ghosh)