

List of papers published from 2003-2013

TRA

A. PLANT PHYSIOLOGY AND BREEDING

Journal Publications

1. Duarah I., Deka D.K., Borah D., Deka Boruah H.P., Baruah R., Lahan T., Baruah U. and Barman T.S. (2012). Characterization of soil enzyme activities and physicochemical characteristics of tea soil under waterlogging. *Intl. J. of Tea Science (IJTS)* **8 (3)**: 35-48.
2. Lei L., Xiaoping H., Borthakur D. and Hui N. (2012). Photosynthetic activity and antioxidative response of seagrass *T halassia hemprichii* to trace metal stress. *Acta Oceanol. Sin.* **31(3)**: 98-108. DOI: 10.1007/s13131-012-0210-3.
3. Borah D., Deka D.K., Lahon T., Boruah U. and Barman T.S. (2011). Waterlogging tolerant clone for cultivation in marginal land. *Sci. & Cult.* **77(9-10)**: 419-424.
4. Deka D.K., Borah D., Lahon T., Boruah U., Handique A.K. and Barman T.S. (2011). Selection of waterlogging tolerant tea (*Camellia sinensis* L.) genotypes. *J. Plant. Crops* **39(1)**: 203-209.
5. Saikia J.K., Baruah U., Barman T.S., Saikia H. and Bandopadhyay T. (2011). Impact of tea mosquito infestation on endogenous hormones of tea (*Camellia sinensis* L.). *Sci. & Cult.* **77(9-10)**: 412-415.
6. Barman T.S. (2011). Tea cultivars for northeast India. *Sci. & Cult.* **77**: 391-395.
7. Fan F.Y., Xu Y., Liang Y.R., Zheng X.Q., Borthakur D. and Lu J.L. (2011). Isolation and characterization of high caffeine-tolerant bacterium strains from the soil of tea garden. *African Journal of Microbiology Research* **5(16)**: 2278-2286. DOI: 10.5897/AJMR11.611.

8. Sarmah M. and Bandyopadhyay T. (2009). Colour Variation and Genetic Diversity in Tea Mosquito Bug [*Helopeltis theivora* (Hemiptera: Miridae)] population from Badlabeta Tea Estate, Upper Assam. *Indian J. Entomol.* **6(3)**: 155-160. DOI: 10.3923/je.2009.155.160.
9. Thakur D., Bora T.C., Bordoloi G.N. and Mazumdar S. (2009). Influence of nutrition and culturing conditions for optimum growth and antimicrobial metabolite production by *Streptomyces* sp. 201. *J. Medical Mycol.* **19**: 161-167. DOI: 10.1016/j.mycmed.2009.04.001.
10. Barman T.S., Baruah U. And Saikia J.K. (2008). Irradiance influences tea leaf (*Camellia sinensis* L.) photosynthesis and transpiration. *Photosynthetica* **46(4)**: 618-621. DOI: 10.1007/s11099-008-0104-y.
11. Barman T.S., Baruah U. and Saikia J.K. (2008). Seasonal changes in metabolic activities of drought tolerant and susceptible clones of tea (*Camellia sinensis* L.). *J. Plant. Crop.* **36 (3)**: 259-264.
12. Barman T.S., Saikia J.K. and Baruah U. (2006). Certain physiological traits for characterization and selection of tea germplasm. *J. Plant. Crops* **34 (3)**: 612-615.
13. Barman T.S. and Saikia J.K. (2005). Retention and allocation 14c assimilates by maintenance leaves and harvest index of tea [(*Camellia sinensis* (L.) O. Kuntze)]. *Photosynthetica* **43 (1)**: 283-287. DOI: 10.1007/s11099-005-0046-6.

Two & a Bud

1. Bordoloi R.K., Borthakur D., Dutta R.K., Neog N.J., Saikia H., Thakur D. and Barman T.S. (2012). Applicability of cleft grafting in Breeding program of tea (*Camellia sinensis* (L.) O. Kuntze). *Two and a Bud* **58(1)**: 87-92.
2. Barman T.S., Baruah U., Deka D.K., Borah D., Lahon T. and Saikia J.K. (2011). Selection and evaluation of waterlogging tolerant tea genotypes for plantation in marginal land. (WTSC Abstract No. O-12, p.32.) *Two and a Bud* **58**: 33-8.

3. Bordoloi R.K., Borthakur D., Datta R.K., Neog N.J., Saikia H., Thakur D. and Barman T.S. (2011). Applicability of cleft grafting method in breeding programme of tea [Camellia sinensis (L) O. Kuntze]. (WTSC Abstract No. P-24, p.36.) *Two and a Bud* **58**: 87-92.
4. Bordoloi R.K., Thakur D., Tamuli P. and Barman T.S. (2011). Exploration of quality tea cultivars with high yield potential. (WTSC Abstract No. P-26, p.38.) *Two and a Bud* **58**: 127-31.
5. Das S., Bhagat R.M., Barua P.K., Barman T.S. and Baruah U. (2011). Effect of organic amendments on some soil and biochemical parameters under conservation and newly planted organic tea. *Two and a Bud* **58**: 33-8.
6. Borah D., Deka D.K., Lahon T., Boruah U., Saikia J.K., Handique A.K. and Barman T.S. (2010). Seasonal changes in metabolic activities of tea and soil respiration in Dooars region of North East India. *Two and A Bud* **57**: 59-67.
7. Barman T.S. (2009). Death of young tea after transplanting. *Two and A Bud* **56**: 63-65.
8. Barman T.S. (2008). Abnormal callus growth in tea shoots. *Two and a Bud* **55**: 46-47.
9. Barman T.S. (2008). Use of shade in tea of North East India – a review. *Two and a Bud* **55(1&2)**: 5-16.
10. Thakur D. (2008). Potential for use of tea catechin as an antimicrobial agent. *Two and A Bud* **55(1&2)**: 17-21.
11. Thakur D. and Das S.C. (2008). Breeding of TV clones having antimicrobial activities. *Two and a Bud* **52**: 16-21.
12. Saikia J.K. and Barman T.S. (2007). Zinc deficiency symptoms in tea. *Two and a Bud* **54**: 46-47.
13. Saikia J.K., Rai S., Barua R.K., Pathak S.K. and Barman T.S. (2007). Physiology of pruning in Darjeeling Tea (Camellia sinensis L.). *Two and a Bud* **54**: 29-34

14. Barman T.S., Baruah U. and Saikia J.K. (2007). Effects of light intensity on tea leaf physiology under field conditions. *Two and a Bud* **54**: 22-27.
15. Saikia J.K. and Barman T.S. (2007). Zinc deficiency symptoms in Tea. *Two and a Bud* **54**: 29:34
16. Borthakur A., Das S.C. and Kalita M.C. (2007). Induction of direct embryogenesis in *Anadenanthera peregrina* (L.) Speg., an exotic shade tree used in tea plantations of North East India : I. Somatic embryo development. *Two and a Bud* **54**: 8-13,
17. Barman T.S., Baruah U., Saikia J.K., Borah D., Deka D.K. and Lahon T. (2006). Seasonal variation of physiological activities and yield of tea. *Two and a Bud* **53**: 6-12.
18. Barman T.S., Baruah U. and Saikia J.K. (2005). Effect of light intensity on tea leaf physiology under field conditions. *Two and a Bud* **52**: 22-27.
19. Barman T.S., Baruah U. and Saikia J.K. (2005). Improved methods for germination of tea seeds. *Two and a Bud* **52**: 41-43.
20. Barman T.S., Sarma A.K., Bordoloi S.C. and Baruah U. (2005). *Anadenanthera peregrine* (L.) – A promising shade tree. *Two and a Bud* **52**: 44-45.
21. Das S.C. (2005). New clones released by TRA. *Two and a Bud* **52**: 39-40.
22. Thakur D. and Das, S.C. (2005). Breeding of TV clones having antimicrobial activities. *Two and a Bud* **52**: 16-21.
23. Bordoloi S.C., Bordoloi R.K., Sarma A. K., Das S.C. and Barthakur B.K. (2005). Quick top replacement by cleft grafting for higher production of quality tea. *Two and a Bud* **52**: 35-38.
24. Lahon T., Saikia J.K. and Barman T.S. (2006). Is defoliation required after deep skiff? *Two and a Bud* **53**: 37-38.
25. Barman T.S., Barua U. and Saikia J.K. (2003). Foliar nutrition of potash on starch reserved in tea. *Two and a Bud* **50**: 39-41.

Conference Papers

1. Barman T.S., Baruah U., Saikia J.K., Borah D., Deka D.K. and Lahon T. (2011). *Mitigation of abiotic stresses- Some practical approaches for Dooars and Terai Plantation*. Paper presented in National conference on Tea Science.
2. Barman T.S., Boruah U., Deka D.K., Borah D., Lahon T. and Saikia J.K. (2011). *Selection and evaluation of waterlogging tolerant tea genotypes for plantation in marginal land*. Paper presented in World Tea Science Congress, Tocklai Experimental Station, Jorhat, Assam from 22nd-24th Nov.2011.
3. Barman T.S., Baruah U. and Saikia J. K. (2011). *Effects of Potassium as Antitranspirant on Tea (Camellia sinensis L.) under drought*. Paper presented in World Tea Science Congress, Tocklai Experimental Station, Jorhat, Assam from 22-24 Nov.2011.
4. Barman T.S., Baruah U., Saikia J.K., Deka D.K., Bora D. and Lahon T. (2011). *Mitigation of abiotic stresses: Some practical approaches for Dooars and Terai plantation*. National Conf. on Tea Science “Opportunitatea”, p. 38.
5. Barman T.S. and Das S.C. (2011). *Tea physiology and cultivars of Northeast India. In Two Leaf And A Bud: 100 years of Research*. Published by Wellwish Publisher, Delhi (The Centenary Publication).
6. Lahon T., Deka D.K., Borah D., Saikia J. K., Baruah U. and Barman T.S. (2010). *Impact of enriched Co₂ on the physiology of Tea plant (Camellia sinensis L.)*. Paper presented in National seminar on ‘Climate change and sustainable development’ .1-3rd April, 2010, Tezpur University, Tezpur, Assam.
7. Deka D.K., Lahon T., Borah D., Baruah U., Handique A. K. and Barman T.S. (2010). *Characterization of old seed Jat tea (Camellia sinensis L.) germplasm for waterlogging tolerance*. Paper presented in National seminar on ‘Climate change and sustainable development’ .1-3rd April, 2010, Tezpur University, Tezpur, Assam.

8. Borah D., Deka D.K., Lahon T., Boruah U., Saikia J.K., Handique A.K. and Barman T.S. (2010). *Seasonal changes in metabolic activities and soil respiration in mono cropping tea (Camellia sinensis L.) plantations grown under different soil types*. Paper presented in ‘19th Biennial Symposium on Plantation Crops on Climate Change’, Placrosym XIX and Organized by RRII, Rubber Board, Kottayam 686009, Kerala, India.
9. Borah D., Lahon T. Deka D. K., Boruah U., Saikia J. K., Handique A. K. and Barman T.S. (2010). *Evaluation and characterization of waterlogging tolerant tea (Camellia sinensis L. O. Kuntz) germplasm of Dooars region, West Bengal*. Paper presented in ‘19th Biennial Symposium on Plantation Crops on Climate Change’, Placrosym XIX and Organized by RRII, Rubber Board, Kottayam 686009, Kerala, India.
10. Deka D.K., Borah D., Lahon T., Baruah U., Handique A.K. and Barman T.S. (2009). *Influence of waterlogging on physiological and biochemical attributes of tea (Camellia sinensis L.)*. Paper presented in the ‘National Seminar on Population, Environment & Development in North East India’ held on 20th-21st October, 2009. and organized by Arya Vidyapeeth College and Assam Science Society, Gauhati, Assam.
11. Barman T.S., Baruah U., Bhattacharya N. and Saikia J.K. (2005). *Effect of moisture and environmental stresses on drought tolerant and susceptible clones of tea*. National Symp. on “Physiological approaches for crop stress management under different environmental conditions-Issue and strategies”. 5-7 March, abs.no 86: Pp 93 (TNAU, Coimbatore).
12. Barman T.S., Baruah U., Saikia J.K. (2005). *Plant Hormone- A new tool for quality assessment of tea cultivars*. Proceeding of 34th Tocklai Conference. p. 217.
13. Barman T. S., Baruah U., Bhattacharya N. and Saikia J. K. (2005). *Water stress induced alteration of compatible osmolytes (proline) and wax in tea [Camellia sinensis (L.) O. Kuntze]*. Proc.Intl.Symp. “Innovation in tea science and sustainable development in tea industry”. Nov 11-15, Hangzhou, China, p 124-129.

B. BIOCHEMISTRY

Journal Publications

1. Das S.K., Sabhapondit S., Ahmed G. and Das S. (2013). Biochemical Evaluation of Triploid Progenies of Diploid 3 Tetraploid Breeding Populations of Camellia for Genotypes Rich in Catechin and Caffeine. *Biochem Genet* **51(5-6)**: 358-76. DOI 10.1007/s10528-013-9569-x
2. Sabhapondit S., Karak T., Bhuyan L.P., Goswami B.C. and Hazarika M. (2012). Diversity of catechin in northeast Indian tea cultivars. *The Scientific World Journal* **2012**. DOI: 10.1100/1012/485193.
3. Ghosh A., Tudu B., Tamuly P., Bhattacharyya N. and Bandyopadhyay R. (2012). Improvement of Quality Perception for Black CTC Tea by Means of an Electronic Tongue. Ed. by Kundu M. K. *et al* Springer-Verlag, Berlin, pp. 187-194 (doi: 10.1007/978-3-642-27387-2 - 24).
4. Ghosh A., Tudu B., Tamuly P., Bhattacharyya N., Bandyopadhyay R. (2012). Prediction of Theaflavin and Thearubigin content in black tea using a voltammetric electronic tongue. *Journal of Chemometrics and Intelligent Laboratory Systems* **116**: 57-66. DOI: 10.1016/j.chemolab.2012.04.010.
5. Ghosh A., Tamuly P., Bhattacharyya N., Tudu B., Gogoi N. and Bandyopadhyay R. (2012). Estimation of theaflavins content in black tea using electronic tongue. *Journal of Food Engineering* **110**: 71-79. DOI: 10.1016/j.jfoodeng.2011.12.007.
6. Gohain B., Borchetia S., Bhorali P., Agarwal N., Bhuyan L.P., Rahman A., Sakata K., Mizutani M., Shimizu B., Gurusubramaniam G., Ravindranath R., Hazarika M. and Das S. (2012). Understanding Darjeeling Tea Flavour Due to Biotic Stress on a Molecular Basis. *Plant Mol. Biol.* **78**: 577–597. DOI 10.1007/s11103-012-9887-0.
7. Sabhapondit S., Bhuyan L. P., Goswami B. C. and Hazarika M. (2011) Seasonal and cultivar variation of catechin in north east Indian tea. *Sci. & Culture* **77(9-10)**: 406-411.

8. Thakur D., Das S.C., Sabhapondit S., Tamuly P., Deka D.K. (2011). Antimicrobial Activities of Tocklai Vegetative Tea Clones *Indian J Microbiol.* **51(4):450-455**. DOI 10.1007/s12088-011-0190-6.
9. Bhuyan L.P., Hussain A., Tamuly P., Gogoi R.C., Bordoloi P.K., Hazarika M. (2009). Chemical characterization of CTC black tea of northeast India: correlation of quality parameters with tea tasters' evaluation. *J. Sci. Food Agric.* **89**: 1498-1507. DOI: 10.1002/jsfa.3614.
10. Gulati A., Rajkumar S., Karthigeyan S., Sud R.K., Vijayan D., Thomas B.J., Rajkumar R., Das S.C., Tamuly P., Hazarika M. and Ahuja P.S. (2009). Catechin and Catechin Fractions as Biochemical Markers to study the Diversity of Indian Tea (*Camellia sinensis* (L.) O. Kuntze) germplasm. *Chemistry and Biodiversity* **6**: 1042-1052. DOI: 10.1002/cbdv.200800122.
11. Baruah D., Bhuyan L.P., Tamuly P., Bhattacharya S.K. and Hazarika M. (2008). Effect of level of chemical wither and duration of fermentation on biochemical composition of Made Tea. *International Journal of Tea Science* **7 (1&2)**: 39- 48.
12. Bhattacharyya N., Seth S., Tudu B., Tamuly P., Jana A., Ghosh D., Bandyopadhyay R., Bhuyan M. and Sabhapondit S. (2007). Detection of optimum fermentation time for black tea manufacturing using electronic nose. *Sensors and Actuators B: Chemical* **122(2)**: 627-634. DOI: 10.1016/j.snb.2006.07.013.

Two & a Bud

1. Baruah S. and Hazarika M. (2010). Integrated Perception of Tea Quality. *Two and a Bud* **57**: 44-47.
2. Baruah S. (2010). Medicinal Aspects and Some Diversified Uses of Tea. *Two and a Bud* **57**: 48-51.
3. Baruah S., Boithoque P., Yadav N., Bordoloi P. and Hazarika M. (2009). Study of Polyphenolic Components in Tea and its Utilization in the Development of Tea-Flavoured Milk. *Two and a Bud* **56(1&2)**: 37-41.

4. Baruah S., Bordoloi A.K. and Hazarika M. (2008). Diversified Products: Bakery items of tea – tea biscuits and tea cakes. *Two and a Bud* **55(1&2)**: 48-49.
5. Baruah S., Bordoloi A.K. and Hazarika M. (2007). Tea Toffee – A Value Added Products of Tea. *Two and a Bud* **54**: 48-49.
6. Baruah S., Bordoloi P., Bordoloi A.K., Gogoi R.C. and Hazarika M. (2006). Use of Binders to Enhance the Self-Life of Instant Tea. *Two and a Bud* **53 (1&2)**: 21-25.
7. Baruah S., Bordoloi P., Bordoloi A.K., Gogoi R.C., Tamuly P. and Hazarika M. (2006). Use of Binders for the Addition of Desirable Taste and Flavour to Instant Black. *Two and a Bud* **53(1&2)**: 36.

Conference Papers

1. Ghosh A., Bandyopadhyay R., Tudu B., Tamuly P., Bhattacharyya N. (2012). *Partial least squares modeling of voltammetric electronic tongue for determination of important biochemical compounds present in tea*. National conference on olfaction and e-nose, Bangalore.
2. Akuli A., Pal A., Ghosh A., Bhattacharyya N., Bandyopadhyay R., Tamuly P., and Gogoi N. (2012). *Estimation of theaflavins (TF) and Thearubigins (TR) Ratio in black Tea liquor using Electronic vision System*. International Symposium on electronic nose, New York, pp 253-254 DOI: 10. 1063/1.3626379
3. Kawakami M., Ebisawa K. and Bhuyan L.P. (2010). *Diversity of Darjeeling tea flavor. The 4th International Conference on O-CHA (Tea) Culture and Science*. 26 – 28 Oct, 2010, Shizuoka, Japan.
4. Gohain B., Bora T., Rahman A., Bhuyan L. P., Gurusubramaniam G., Ravindranath S.D., Shimizu B., Mizutani M., Sakata K., Das S. and

Hazarika M. (2007). *Understanding biotic stress regulated gene expression in Darjeeling tea for development of a new type of black tea*. The 3rd International Conference on O-CHA (Tea) Culture and Science. 2 – 4 Nov, 2007, Shizuoka, Japan.

5. Tamuly P., Sabhapondit S., N. Gogoi, Gogoi R.C., Ravindranath S.D. and Hazarika M. (2006). *A Biochemical approach on processing parameters based on Cultivar Characterization*. Presented in the “Tocklai Engineering & Manufacturing Symposium.
6. Tamuly P., Gogoi N., Sabhapondit S., Bordoloi A.K., Baruah B.D., Hussain A., Baruah D., Bhuyan L.P., Hazarika D.J., Sanyal S., Bora S.R., Gogoi R., Hazarika A., Gogoi M. N. and Hazarika M. (2005). *Optimization on processing parameters for quality upgradation-a new approach under controlled environment*. Proceedings 34th Tocklai Conference Strategies for quality. pp 21-29.
7. Baruah S., Tamuly, P., Bordoloi P., Bordoloi A.K., Sabhapondit S., Gogoi R., Kalita J. N., Bhuyan L.P., Gogoi M.N. and Hazarika M. (2005). *Technology for Product Diversification and Value Added Items of Tea*. Proceedings 34th Tocklai Conference Strategies for quality. pp 63-70.
8. Sabhapondit S., Gogoi N., Devi P., Tamuly P. and Hazarika M. (2005). *Biochemical aspects of catechin Biosynthesis in tea*. Proceedings 34th Tocklai Conference Strategies for quality. pp 365-370.
9. Kalita J.N., Bhuyan L.P., Tamuly P., Baruah D., Baruah S. and Hazarika M. (2005). *Super Critical Fluid Extraction for Product Diversification of Tea*. Proceedings 34th Tocklai Conference Strategies for quality. pp 71-79.

C. BIOTECHNOLOGY

Journal Publications

1. Gupta S., Bharalee, R., Bhorali, P., Das, S.K., Bhagawati, P., Bandyopadhyay, T., Gohain, B., Agarwal, N., Ahmed, P., Borchetia, S., Kalita, M.C., Handique, A.K. and Das, S. (2013). Molecular Analysis of Drought Tolerance in Tea by cDNA-AFLP based Transcript Profiling. *Molecular Biotechnology* **53** (3): 237-248. DOI: 10.1007/s12033-012-9517-8.
2. Gupta S., Bharalee, R., Bhorali, P., Bandyopadhyay, T., Gohain, B., Agarwal, N., Ahmed, P., Saikia, H., Borchetia, S., Kalita, M.C., Handique, A.K. and Das, S. (2012). Identification of drought tolerant progenies in tea by gene expression analysis. *Functional & Integrative Genomics* **12**(3): 543-563. DOI: 10.1007/s10142-012-0277-0.
3. Gohain B., Borchetia, S., Bhorali, P., Agarwal, N., Bhuyan, L.P., Rahman, A., Sakata, K., Mizutani, M., Shimizu, B., Gurusubramaniam, G., Ravindranath, R., Kalita, M.C., Hazarika, M., and Das.S. (2012). Understanding Darjeeling Tea Flavour on a Molecular Basis. *Plant Molecular Biology* **78** (6): 577-597. DOI: 10.1007/s11103-012-9887-0.
4. Saikia J.K., Baruah, U., Saikia, H., Barman, T.S. and Bandyopadhyay, T. (2011). Impact of Tea Mosquito Infestation on Endogenous Hormones of Tea (*Camellia sinensis* L.). *Science and Culture* **77** (9-10): 412-415.
5. Sangeeta Borchetia, Chiranjana Bora, Bornali Gohain, Prasenjit Bhagawati, Niraj Agarwal, Neelakshi Bhattacharya, Raju Bharalee, Priyadarshini Bhorali, Tirthankar Bandyopadhyay, Sushmita Gupta, Sourabh K. Das, H. Ranjit Singh, Parveen Ahmed, Madhurjya Gogoi and Sudripta Das. (2011). Cloning and heterologous expression of a gene encoding lycopene-epsilon-cyclase, a precursor of lutein in tea (*Camellia sinensis* var *assamica*). *African Journal of Biotechnology* **10**(32): 5934-5939. DOI: 10.5897/AJB10.2584.
6. Bandyopadhyay T. (2011). Molecular marker technology in genetic improvement of tea. *International Journal of Plant Breeding and Genetics* **5**(1): 23-33. DOI: 10.3923/ijpb.2011.23.33.

7. B.Gohain, S. Borchetia, T. Bandopadhyay, R. Bharalee, S. Gupta, P. Bhorali, N. Agarwala & S. Das. (2011). Identification and validation of stable reference genes in *Camellia* species. *Journal of Biotechnology and Pharmaceutical Research* **2(1)**: 009-018.
8. R. K. Sharma, M. S. Negi, S. Sharma, P. Bhardwaj, R. Kumar, E. Bhattacharya, S. B. Tripathi, D. Vijayan, A. R. Baruah, S. C. Das, B. Bera, R. Rajkumar, J. Thomas, R. K. Sud, N. Muraleedharan, M. Hazarika, M. Lakshmikumar, S. N. Raina, and P. S. Ahuja. (2010). AFLP-based genetic diversity assessment of commercially important tea germplasm in India. *Biochemical Genetics* **48**: 549–564. DOI: 10.1007/s10528-010-9338-z.
9. Baruah A.R., Saikia H., Bera B. (2010). Detection of close genetic relatedness in some tea genotypes of Assam and Darjeeling using RAPD markers. *J. Plant. Crops* **38(1)**: 11-15.
10. Sarmah M. and Bandyopadhyay T. (2009). Colour variation and genetic diversity in Tea Mosquito Bug [*Helopeltis theivora* (Hemiptera: Miridae)] population from Badlabeta Tea Estate, Upper Assam. *Indian Journal of Entomology* **6(3)**: 155 – 160. DOI: 10.3923/je.2009.155.160.
11. Borchetia S., Das S.C., Handique P.J. and Das S. (2009). High multiplication frequency and genetic stability for commercialization of the three varieties of micropropagated tea plants (*Camellia* spp.). *Scientia Horticulturae* **120**: 544 – 550. DOI: 10.1016/j.scienta.2008.12.007.

Two & a Bud

1. Bandyopadhyay T. and Das S.C. (2008). Biotechnology: its prospect in tea improvement. *The Assam Review and Tea News* **97(10)**: 30 – 35 (Reprinted from *Two and a Bud* **52**:3-7).
2. Gohain B., Dutta S., Saikia H., Borchetia S. and Das S. (2005). Coordinate expression of genes involved in catechin biosynthesis. *Two and a Bud* **52**: 35-41.

Conference Papers

1. Barman T.S., Borthakur D., Bandyopadhyay T. and Bera B. (2011). *Integrated tea improvement program at Tocklai: Past, present and future*. Abstract “World Tea Science Congress” 22 – 23rd November, O-11.
2. Saikia H., Barman T.S. and Bandyopadhyay T. (2011). *Protection of Plant Varieties and Farmers’ Rights Act (ppvfra) in protecting tea varieties of North-East India*. Abstract “World Tea Science Congress”t. 22 – 23rd November, P-27.
3. Gogoi M., Zaman A. and Bandyopadhyay T. (2011). *Importance of ITS2 secondary structure in phylogeny of the genus Camellia (Theaceae)*. Abstract “World Tea Science Congress”t. 22 – 23rd November, P-28.
4. Sarmah P., Saikia H., Bera B. (2006). *Studies on plant pathogen interaction in tea – a molecular breeding approach*. In: National Seminar on “Current trends in crop disease management for improving productivity” organized by CSIR-Neist, Jorhat, Assam, Jan.19-20, 2006.
5. Borthakur A., Borthakur D., Borchetia S. and Das S. (2005). *Flavour and aroma – identification of genes, their expression and manipulation for production of speciality tea*. Proceedings of 34th Tocklai Conference on ‘Strategies for Quality’. Jorhat, India . Pp 104-121.
6. Borchetia S., Saikia H., Bera B., Das S.C and Das S. (2005). *Evaluation of Genetic Fidelity in micropropagated and conventionally propagated Tea using Molecular markers*. In: 34th Tocklai Conference. Strategies for Quality. Nov 28-30, Jorhat, India.
7. Saikia H., Baruah A.R. and Bera B. (2005). *Potential of DNA-based molecular markers for the protection of Indian tea*. In: Proc. 2005 International Tea Symposium on ‘Innovation in tea science and sustainable development in tea industry’ held in China during 11-15 Nov., 2005. p. 534-540.
8. Negi M.S., Tripathi S.B., Baruah A.R., Saikia H. and Bera B. (2005). *Potential application of modified AFLP method for molecular documentation and genetic diversity analysis of tea germplasms*. In: Proc. 2005 International Tea Symposium on ‘Innovation in tea science and

sustainable development in tea industry' held in China during 11-15 Nov., 2005. p. 546-554.

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D. MYCOLOGY & MICROBIOLOGY

Journal Publications

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2. Madhab M., Saikia L. R. and Barthakur B. K. (2011). Screening of phosphate solubilizing bacteria isolated from tea soil of Brahmaputra valley showing antagonism against *Fomes lamoensis* and *Ustulina zonata*. *Sci. & Cult.* **77**: 514- 517.
3. Phukan R., Samanta R. and Barthakur B. K. (2011). Phosphatase activity of *Aspergillus niger* : A Native Tea Rhizosphere Isolate. *Sci & Cult.* **77(9-10)**: 403- 405.
4. Das R., Chutia B. C., Sarmah M., Rahman A., Borthakur M. and Barthakur B. K. (2010). Effect of Neem Kernel Aqueous Extract (NKAE) on growth and development of Red Slug Caterpillar, *Eterusia magnifica* Butl in North-East India. *India. J. Biopesti.* **3(2)**: 489-494.
5. Sarmah S.R., Baruah P.K. and Das. S.C. (2010). Effect of different fungicides on die back disease of tea plant. *Jour. Advanced Pl. Sciences* **5(1&2)**: 92-96.
6. Sarmah M., Phukan A.K., Rahman A. and Barthakur B.K. (2010). Field efficacy of thiomethoxam 25 WG and botanical pesticides against tea mosquito bug, *Helopeltis theivora* Waterhouse. *Ind. J. Entomol.* **72**: 94-95.
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Two & a Bud

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9. Phukan I.K., Bhagat R.M., Saikia B.P. and Barthakur B.K. (2011). Soil properties under rehabilitation and non-rehabilitation conditions in tea soils of Assam. *Two & a Bud* **58** (Special issue no. 1): 141-49. (Presented in World Tea Science Congress held at Jorhat, 22-24th November, 2011.)
10. Debnath S., Phukan R., Bordoloi M., Nair S.C. and Barthakur B.K. (2010). Studies on pathogenicity of *Aspergillus flavus* to termite pest of tea published in 2011. *Two & a Bud* **57**(1&2): 41-43.
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 15. Sarmah S.R., Begum R., Dutta P., Phukan I., Bora S., Bora G. and Barthakur B.K. (2006). Alternative means of controlling major foliar disease of tea, (*Camellia sinensis* (L.) O. Kuntze) in N.E. India. *Two & a Bud* **53(1& 2)**: 17-20.
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 18. Debnath S. and Barthakur B.K. (2004). Natural occurrence and infectivity of native entomopathogenic fungus, *Metarhizium anisopliae* var *anisopliae* to termite pests of tea in vitro. *Two & a Bud* **51 (1&2)**: 2004 (Published in November 2007).

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21. Phukan R., Samanta R. and Barthakur B.K. (2004). Survey of weed flora in tea plantation of North East India as alternate host of Arbuscular mycorrhizal fungi (2004) *Two & a Bud* **51 (1&2)**: 2004 (Published in November 2007).
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Conference Papers

1. Debnath S., Nair S.C., Begam R. and Barthakur B.K. (2012). Effect of pesticides on native entomopathogenic fungus *Metarhizium anisopliae* (NCFT- 1232) used for management of termite pests in tea growing areas in Cachar. Presented at International Conference on Global Ecosystems, Biodiversity and Environmental Sustainability in the 21st Century (ICGEBnS- 2012). February 15-17, 2012, at Department of Ecology & Environmental Science, Assam University, Silchar, Assam.
2. Barthakur B.K., Phukan I., Bordoloi M., Madhab M., Bora S. and Nair S. C. (2012). *Role of Soil Microbes in Crop Production of Tea in North East India*. Accepted for oral presentation in the International Conference on Advances in Plant Sciences to be held from November 14-18 at Chiang Mai, Thailand.

3. Debnath S., Tanti A., Phukan I. and Barthakur B.K. (2012). *Caffein induced germination abnormality in Aspergillus flavus*. 5th Advances against Aspergillosis held at Istanbul, Turkey, 26-28 January, 2012. Abstract pp. 30.
4. Baruah P., Borkotoki U., Das A., Barua, N., Barua S., Mahanta J., Barthakur B.K. and Shivaprakash M. R. (2011). *Onychomycosis in green tea pluckers: A clinicomycological study*. World Tea Science Congress held at Jorhat, 22-24th November, 2011. Abstract pp. 109.
5. Debnath S., Tanti A., Sabhapondit S., Phukan I., Dutta P. and Barthakur B.K. (2011). *Storage deterioration of quality of CTC black tea*. World Tea Science Congress held at Jorhat, 22-24th November, 2011. Abstract pp. 100.
6. Tomanr D.S., Bhuyan L.P., Sabhapondit S., Barthakur B.K. and Jha D.K. (2011). *Impact of inoculated mycorrhizal fungi (AMF) on metabolism of flavanols (catechins) and caffeine in tea shoots [Camellia sinensis (L.) O. Kuntze]*. World Tea Science Congress held at Jorhat, 22-24th November, 2011. Abstract pp. 99.
7. Sarmah S.R., Das S.C., Baruah P.K. and Barthakur B.K. (2011). *Effect of phytochemicals and microbials as biocontrol agent against Fusarium solani causing die back disease of tea [Camellia sinensis (L) O. Kuntze.] in Assam*. Presented in the National seminar at Cotton College, Guwahati: 18-19 Feb, 2011.
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of Ecology & Environmental Science Assam University, Dargakona, Silchar, Cachar, Assam, India., March, 4-5, 2010.

10. Sarmah S.R., Baruah P.K., Das S.C. and Barthakur B.K. (2009). *Evaluation of few herbal extracts and microbial bio-agents on vegetative growth of Fusarium sp. isolated from tea Camellia sinensis (L.) O. Kuntze: An in-vitro Approach*. Presented in the National Seminar on Exploration, Utilization and Strategy Action Plan for Sustainable Management of Plant Resources held at Gauhati University Feb. 27- 28, 2009.
11. Sarmah S.R., Baruah P.K. and Das S.C. (2009). *In-vitro evaluation of different physiological requirements for the growth of Fusarium solani, the causal agent of dieback in tea [Camellia sinensis (L.) O. Kuntze] in Assam*. Proceedings of National conference on Frontiers in Plant Physiology Towards Sustainable Agriculture, 5-7 November, 2009, A.A.U. Jorhat Assam. 290-296.
12. Bordoloi M., Phukan R., Bora S., Debnath S. and Barthakur B.K. (2008). *Microbial Diversity of tea soil of Assam in relation to termite infestation*. Proceedings of National Seminar on Bio-piracy held on 7th & 8th November 2008 at D.K. D College, Dergaon. 91-95.
13. Bharali P., Rahman A., Sarmah M. and Barthakur B.K. (2008). *Antifeedant and ovicidal Activity of Neem kernel aqueous extract on tea Mosquito Bug Helopeltis theivora Waterhouse – A sucking pest of tea*. Proceedings of National Seminar on Bio-piracy held on 7 & 8th November 2008 at D.K. D College, Dergaon. 86-90.
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15. Tanti A.J., Debnath S., Sarmah S.R., Begum R. and Barthakur B.K. (2008). *Impact of pesticides on leaf surface micro flora of tea*. Presented in a UGC

sponsored National seminar on Use of pesticides: Problems and Perspectives. Held at Bohona College 27th Sep. 2008.

16. Sarmah S.R., Begum R., Dutta P., Phukan I., Bora S., Bora G. and Barthakur B.K. (2008). *Alternative means of controlling major foliar diseases of tea, Camellia sinensis (L.) O. Kuntze in N.E. India*. Presented in a UGC sponsored National seminar on Use of pesticides: Problems and Perspectives. Held at Bahona College, 27th Sep. 2008.
17. Bora S., Phukan I., Sarmah S. R., Debnath S. and Barthakur B.K. (2008). *Microbial diversity of tea soil under different agroclimatic conditions of Assam and West Bengal*. Presented at National Seminar on Conservation of Bioresources. Held at Manipur university. Feb. 21-22, 2008. Abstract pp.79.
18. Phukan I., Sarmah S.R., Begum R., Phukan R., Dutta P., Debnath S. and Barthakur B.K. (2007). *Prospects of actinomycetes as biocontrol agent in controlling diseases of tea in North East India*. Presented in the National Symposium on Microbial Diversity and Plant Health. Held at BCKV, Kalyani, Nov. 29-30, 2007. Abstract pp.68.
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India with native entomopathogenic fungi. Paper presented in the International Conference on Tea Science and culture held Schizuoka Japan 3-5 November 2007 (1705-2007).

22. Dutta P., Islam M. and Barthakur B.K. (2006). *A new approach in disease management: Control of black rot in tea plantation of North East India.* Presented at Eastern Zonal Conference of Indian Society of Mycology and Plant Pathology held at A.A.U., Jorhat on November 12, 2006.
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25. Sarmah S.R., Dutta P., Begum R. and Barthakur B.K. (2006). *Role of microbials and plant resources in Disease Management of Tea plantation.* Presented at a Regional Workshop on Forestry Extension organized by Rain Forest Research Institute, Jorhat, Indian Council Forest Tree Research and Education. July 14, 2006. Abst. – 35-37.
26. Phukan I., Dutta P., Sarmah S. R., Phukan R., Tanti A. J., Begum R., Debnath S. and Barthakur B.K. (2005). *Studies on Rhizosphere microflora and its effect on tea plantation.* Presented at Indian Phytopathological society Zonal chapter meeting of N. E. India held at R.R.L. Jorhat. 19-20 January. 2006. CTCDM-2006/Abst.-(0)-05.

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30. Dutta P., Sarmah S.R., Begum R., Phukan I., Tanti A.J., Kalita J.N., Debnath S. and Barthakur B.K. (2005). *Native Botanical and Microbial biocides for controlling diseases of tea*. Presented at 34th Tocklai Conference. 28-30. Nov. 2005. Proc. 137-145 pp.
31. Sarmah S.R., Dutta P., Begum R., Tanti A.J., Phukan I., Debnath S. and Barthakur B.K. (2005). *Microbial bioagents for controlling Diseases of tea. 2005 International symposium on innovation in tea science and sustainable development in tea industry Proceedings 767-776*. Organised by Tea Research Institute Chinese Academy of Agricultural Sciences. China Tea science Society, Unilever (China) NOV. 11-15 2005 Hangzhou, China.
32. Dutta P., Sarmah S.R., Phukan I., Tanti. A.J., Begum. R., Phukan. R., Debnath. S. and Barthakur B.K. (2004). *Potentials of Vesicular-Arbuscular Mycorrhiza and Rhizosphere microflora in tea plantation of North East India*. Presented at a National symposium on Rhizosphere biotechnology held at Bhagalpur University. 29-30 Nov. 2004.

33. Sarmah S.R., Dutta P. and Barthakur B.K. (2004). *Systemic fungicides in controlling foliar diseases of tea*. Paper presented in 49th Technical Session of Assam Science Society. At R.R.L., Jorhat 11th January, 2004.
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E. SOILS

Journal Publications

1. Dutta, R., E.M.A. Smaling, R.M. Bhagat, V.A. Tolpekin, and A. Stein (2012). Analysis of factors that determine tea productivity in North Eastern India: A combined statistical and modeling approach. **Experimental Agriculture** 48(1):64-84
2. Rana R.S., Bhagat R.M. Singh M.M., Kalia V. Singh S. and Prasad R. (2012). Trends in climate variability over Himachal Pradesh. *Journal of Agrometeorology* **14**: 104-109.
3. Karak T., Bhagat R.M., Bhattacharyya P. (2011). Municipal solid waste generation, composition and management: the world scenario. *Critical reviews in Environment Science and Technology* **42**: 1509-1630. DOI: 10.1080/10643389.2011.569871.
4. Dutta R., Smaling E., Bhagat R.M., Tolpekin V.A., Stein A. (2011). Analysis of factors that determine tea productivity in North Eastern India: a combined statistical and modeling approach. *Experimental Agriculture* **48**: 64-84. DOI: 10.1017/S0014479711000834.
5. Dutta R., Stein A., Bhagat R.M. (2011). Integrating satellite images and spectroscopy to measuring green and black tea quality. *Food Chemistry* **127**: 866-874. DOI: 10.1016/j.foodchem.2010.12.160.
6. Rana R.S., Bhagat R.M., Kalia V. (2011). Impact of climate change on apple crop in Himachal Pradesh. *Journal of Agrometeorology* **13**: 91-99.
7. Phukan I.K. and Savapondit D. (2011). Vermiwash- An effective organic nutrient amendment for foliar spray in tea cultivation. *Science and Culture* **77(9-10)**: 425-428.

8. Singh A., Dutta R., Stein A. and Bhagat R.M. (2011). A wavelet based approach for monitoring plantation crops (Tea: *Camellia sinensis*) in North East India. *International Journal of Remote Sensing* **33**: 4982-5008. DOI:10.1080/01431161.2012.657364
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1. Saikia M. and Bhagat R.M. (2012). A GIS approach to generation of thematic maps to monitor tea plantations: a case study. *Two & a Bud* **59(2)**: 41-45
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3. Dutta R., Stein A., Smaling E. M. A., Bhagat R.M., and Hazarika M. (2012). Modeling and quantifying tea productivity in North East India. *Two & a Bud* **59(2)**: 56-63
4. Sarmah C., Savapondit D. and Phukan I.K. (2011). Rate of decomposition as an index for suitable organic manure for carbon build-up. *Two & a Bud* **58**: 150-154.
5. Baruah, Phukan I.K. and Bhagat R.M. (2011). Comparison of soil and leaf nutrient status under organic and conventional tea. *Two & a Bud* **58**: 155-159.
6. Das S., Bhagat R.M., Borua P.K., Barman T.S. and Baruah U. (2011). Effects of organic amendments on some soil and biochemical parameters under conversion and newly planted organic tea. *Two & a Bud* **58L**: 65-69.
7. Karak T., Chimpi S., Haque I., Bhagat R.M. and Ahmed K.Z. (2011). Assessment of co-compost quality produced from easily available Biowaste by physic-chemical and exploratory data analysis. *Two & a Bud* **58**: 160-169.
8. Phukan I.K., Bhagat R.M., Saikia B.P. and Barthakur B.K. (2011). Soil properties under rehabilitation and non-rehabilitation conditions in tea soils of Assam. *Two & a Bud* **58**: 150-154.
9. Ahmed K.Z. and Bhagat R.M. (2011). Liming of tea soil a review. *Two & a Bud* **56**.
10. Bhagat R.M., Baruah R.D, Saikia M. and Hazarika M. (2011). Long term climate trends in tea growing areas of North East India *Two & a Bud* **56**: 21-31.
11. Dutta R. and Bhagat R.M. (2010). Application of remote sensing for delineation of waterlogged tea areas and effects of plant age on tea yield. *Two & a Bud* **57**: 52-58.

12. Phukan I.K., Baruah A., Ahmed K.Z. and Bhagat R.M. (2009). Sulphur status of tea soil and its role in tea productivity. *Two & a Bud* **56**: 42-47.
13. Phukan I.K., Boruah A. and Bhagat R.M. (2008). Influence of combine use of organic, inorganic and bio fertilizer sources on chemical, physical and biological properties of tea soil *Two & a Bud* **55(1&2)**: 28-35.
14. Phukan I.K., Bhagat R.M. and Jahan A. (2007). Conversion of biowaste into vermicompost. II. Comparative efficiency of cattle manure and vermicompost on soil properties and growth of young tea. *Two & a Bud* **54**: 42-45.
15. Phukan I.K., Bhagat R.M. and Saffique S. (2007). Conversion of biowaste into vermicompost. I. Suitability of earthworm. *Two & a Bud* **54**: 34-41.
16. Goswami H., Barooah A.K., Saikia B.P. and Boruah A. (2003). Improvement of compact soil under mature tea. *Two & a Bud* **50**.
17. Barooah A.K., Barooah A., Adhyapak M., Phukan I.K., Dutta A. and Gohain K.K. (2002). Generation of data on heavy metals in tea. *Two & a Bud* **49**: 24-29.
18. Phukan I.K., Barooah A.K., Gohain K.K. Dutta A.K. and Kotoky A. (2002). Effect of a few organic manures on growth of tea, soil properties and bio availability of their heavy metal content. *Two & a Bud* **49**: 38-45.

Conference Papers

1. Bhagat R.M. (2012). *Development of packages of practices for organic tea in Assam*. Paper presented at the Tea Board of India sponsored seminar on Darjeeling tea, held at Darjeeling, West Bengal, India on October 3, 2012.

2. Bhagat R.M., Baruah R. D. and Roy S. (2013). *Analysing the impact of climate change on tea production in Assam: Uncertainties in estimation*. Proc. National Seminar on “Climate Change and Climate Resilient Agriculture” during 18-19 March, 2013 held at BN College of Agriculture, Assam Agricultural University, Biswanath Chariali, Sonitpur, Assam pp.61-62
3. Bhagat R.M., Baruah R.D. and Saikia M. (2011). *Climate change and tea ecosystem: vulnerability and adaptation*. National Conference on Tea Science held at Siliguri (west Bengal, India) from March 10-11, 2011.
4. Bhagat R.M., Phukan I.K., Das S., Debnath S. and Sharma A. (2011). *Effect of value added manures on soil quality and yield of organic tea in North East India*. Proc. Of Tea- Organic-Low Carbon International Symposium. Guangyuan, China. June 6-9. pp. 98-108
5. Bhagat R.M., Bordoloi P.K., Buragohain D., Dutta R. and Hazarika M. (2009). *GIS application for tea plantation problems of north-Eastern, India*. Paper presented at ESRI user conference held at San Diego, California, USA from July 13-17, 2009
6. Dutta R., Bhagat R.M. and Singh A (2009). *Monitoring tea plantations in India using remote sensing approaches*. 7th FIG Regional conference on Spatial data serving people: Land Governance and the Environment – Building the Capacity. Hanoi, Vietnam, 19-22 October 2009
7. Phukan I.K., Dutta A.K., Goswami H., Dutta K.A. and Saffiue S. (2005). *Influence of different sources of Biowastes on properties and maturity of Vermicompost*. Proc. 34th Tocklai Conf. pp 308-317.
8. Phukan I.K., Barooah A.K. and Dutta A. (2005). *Mineralization of Organic Manures in Tea Soil*. Proc. 34th Tocklai Conf., pp290-299

9. Boruah A., Yadav A.K., Singh R.N., Gohain K.K. and Adhyapak M.P. (2005). *Soil quality assessment with respect to micronutrient status*. Published in proc. 34th Tocklai conference strategies for quality, Nov.2005
- 10 Boruah A., Boruah A.K., Singh R.N. and Yadav A.K. (2004). *Heavy metal content under 2 different management system*. Abstract National Symposium on Pesticide, Myths, Realities and Remedies, organized by society of pesticide science, New Delhi, during 1st to 3rd December 2004.
- 11 Hazarika M. and Barooah A.K. (2003). *Global prospective of tea quality*. Paper presented in international tea convention 2003, held at Kolkata, March 5-8-2003.
- 12 Boruah A., Boruah A.K., Singh R.N., Yadav A.K. and Thakur R. (2003). *A study on heavy metal in tea ecosystems*. Abstract of papers, 48 Annual Tech. Session, Assam Science Society, Assam University, Silchar.

F. AGRONOMY

Journal Publications

1. Saikia D.N. (2006). Prospects of organic tea cultivation in Assam (N.E. India). *Org. Farming News Letter* **2(1)**: 3-15.

Two & a Bud

1. Saikia D.N., Das R. and Dutta R.C. (2012). Reduction of herbicide load on tea soil by using effective cocktails and increasing weed efficiency by using surfactant. *Two & a Bud* **59(1, WTSC)**: 109-111.
2. Saikia D.N., Sarma J. and Das R. (2011). Effect of mechanical pruning on bush frame and yield of tea (*Camellia sinensis* L.). *Two & a Bud* **58(1, WTSC)**: 123-126.
3. Saikia D.N., Dutta P.K. and Barua D.K. (2011). Prospect of pluckable shoots in developing young plants. *Two & a Bud* **58(1, WTSC)**: 120-122.
4. Saikia D.N., Sarma J., Dutta P.K. and Barua D.K. (2011). Sustainable productivity of tea through conservation of bio-mass, addition of bio-fertilizers and reduction of inorganic fertilizer. *Two & a Bud* **58(1, WTSC)**: 109-117.
5. Saikia D.N. and Sarma J. (2011). Effect of continuous and intermittent shear plucking on yield and quality of plucked shoots in tea. *Two & a Bud* **58(1, WTSC)**: 98-102.
6. Saikia D.N. and Sarma J. (2009). Effect of application of sulphate of potash and murate of potash along with sulphur on yield and quality of tea (*Camellia sinensis* L.). *Two & a Bud* **55(1&2)**: 41-45.

7. Dutta P.K., Baruah D.K., Saikia D.N. and Bhagat R.M. (2009). Potential of pluckable shoots in vegetative propagation of tea (*Camellia sinensis* L.). *Two & a Bud* **56(1&2)**: 52-54.
8. Saikia D.N. and Sarma S.N. (2007). Effect of application of fungal strains for early decomposition of pruning litters and there by effects of pruning litter on some soil chemical properties. *Two & a Bud* **54(1&2)**: 24-28.
9. Sarma S.N., Das R. and Saikia D.N. (2007). Effect of some herbicides on control of weed in tea (*Camellia sinensis* L.). *Two & a Bud* **54(1&2)**: 19-23.

Conference Papers

1. Saikia D.N. and Das R. (2009). *Chemical weed control in tea of N.E. India*. NaTIONAL Workshop on Plant Protection of Tea, UPASI, Valparai, TN, Nov 2009. pp 214-420.
2. Saikia D.N. and Sarma J. (2006). *Application of SOP for yield and quality of tea (Camellia sinensis L.)*. Intr. Symp. on Balance fertilization for sustaining crop productivity, organized by International Potash Institute and PAU at PAU, Ludhiana, Nov., 2006. Pp 419-421.
3. Saikia D.N. and Saikia B.P. (2005). *Influence of certain synthetic soil conditioners on dry matter production, root growth and nitrogen uptake of tea (Camellia sinensis L.)*. Proc. Inter. Symp. on Innovation in Tea science. International seminar on Plant and Sustainable Development in Tea Industry, Tea Research Institute, Nov 11-15, Hangzhou, China. pp 235-237.
4. Saikia D.N., Dutta A.K., Baruah S.P., Borah A.C. and Ahmed K.Z. (2005). *Effect of integrated nutrient management on yield, nutrient availability and quality of tea (Camellia sinensis L.)*. Proceedings 34th Tocklai Conference, Strategies for Quality, Nov 28-30, TRA, Jorhat. pp 254-255.
5. Pathak S.K., Saikia D.N., Pradhan P.S., Bora A.C. and Sarma S.N. (2005). *Skiffing of tea in the growing season to increase crop and quality*.

Proceedings 34th Tocklai Conference, Strategies for Quality, Nov 28-30, TRA, Jorhat. pp 243-253.

6. Goswami S., Dutta A.K. and Saikia D.N. (2005). *Comparative efficiency of different methods for early establishment of young tea*. Proceedings 34th Tocklai Conference, Nov 28-30, TRA, Jorhat. pp 233-242.
7. Dutta P., Phukan I., Ahmed K.Z., Sarma S.N., Das R., Jahan A., Debnath S., Borthakur B.K., Saikia D.N. and Dutta A.K. (2005). *Pruning litter decomposition and its effect on soil nutrition*. Proceedings 34th Tocklai Conference, Nov 28-30, TRA, Jorhat. pp 279-289.
8. Dutta A.K., Sarma J., Bordoloi P.K., Baruah D.K., Ahmed K.Z., Borah A.C. and Saikia D.N. (2005). *Work-study on pluckers' efficiency on utilization of time vis-à-vis quality of harvest in peak season*. Proceedings 34th Tocklai Conference, Nov 28-30, TRA, Jorhat. pp 308-323.
9. Baruah S.K. and Boissya C.L. (2003). *Studies on the effect of shade on the tea shoot growth pattern and its relation to yield*. 2nd Inter. Congress on Plant Physiology on sustainable plant productivity under changing environment. Organized by Indian Soc. Plant Physiol. And Inter. Assoc. for Plant Physiol., Jan 8-12, New Delhi.

Journal Publications

1. Hatibaruah D., Baruah D.C. and Sanyal S. (2012). Microwave Drying Characteristics of Assam CTC Tea (*Camellia Assamica*). *Journal of Food Processing and Preservation* (published online: 2 Mar 2012). doi:10.1111/j.1745-4549.2011.00656.x.
2. Hatibaruah D., Baruah D.C. and Sanyal S. (2011). Modelling Desorption Isotherms and Thermodynamic Properties of Assam CTC Manufactured from Tea Cultivar T3E3. *Journal of Food Processing and Preservation* **35**: 729–738. DOI: 10.1111/j.1745-4549.2010.00508.x.
3. Bhuyan L.P., Hussain A., Tamuly P., Gogoi R.C., Bordoloi P.K. and Hazarika M. (2009). Chemical characterization of CTC black tea of northeast India: correlation of quality parameters with tea tasters' evaluation. *J. Sci. Food Agric.* **89**: 1498-1507. DOI: 10.1002/jsfa.3614.

Two & a Bud

1. Baruah S., Bordoloi P., Bordoloi A.K., Gogoi R.C., Sabhapondit S. and Hazarika M. (2006). Use of Binders to enhance the shelf life Instant Black tea. *Two & a Bud* **53(1&2)**: 21-25.
2. Gogoi R.C., Das D., Ray P., Baruah B.D., Tamuly P. and Sanyal S. (2006). Jute-Based Aluminum Foil Laminated Bag for Packaging Tea. *Two & a Bud* **53(1&2)**: 26-31.

Conference Papers

1. Hazarika D.J., Hazarika A.K., Saikia L.N., Gogoi R.C., Sanyal S. (2011). *A Reappraisal of the Boruah Continuous Roller*. Proc. World Tea Science Congress, TRA, Jorhat (In Press).

2. Sanyal S., Bora S.N., Hazarika D.J., Gogoi R.C., Barua B.D., Sarma B.J., Tamuli P., Hazarika A.K., Saikia L.N. (2011). *A Study on Micronizer as a Tea Processing Machine*. Proc. World Tea Science Congress, TRA, Jorhat (In Press).
3. Sanyal S., Saikia L.N., Hazarika D.J., Gogoi R.C., Hazarika A.K. and Bora S.N. (2011). *Modification of Rolling Table for Darjeeling*. Proc. World Tea Science Congress, TRA, Jorhat (In Press)
4. Sanyal S., Bhuyan L.P., Hazarika D.J., Gogoi R.C., Hazarika A.K., Gogoi N., Das C., Bora S.N. and Saikia L.N. (2011). *Impregnation of Oxygen during Fermentation of CTC Tea*. Proc. World Tea Science Congress, TRA, Jorhat (In Press).
5. Sanyal S., Hazarika D.J. and Hazarika A.K. (2006). *Quality up-gradation of Black Tea by Online Monitoring of Processing*. Proc. of Indian Engineering Congress, Dec '06, Guwahati.
6. Sanyal S., Hazarika D.J. and Hazarika A.K. (2006). *Application of Sensors for quality Assessment of tea and on-line Monitoring of Process Volatiles*. UGC sponsored National Seminar on "The Impact of Sensors in Improving Quality of Tea". Dept. Of Physics, Bahona College, Jorhat.
7. Hazarika K., Hazarika D.J., Baruah B.D. and Ravindranath S.D. (2006). *A New Concept in Enhancing the Rate of Chemical Wither for Black Tea*. Proc. Engineering and Manufacturing Symposium, pp 165-172.
8. Hazarika K., Hazarika D.J., Sabhapondit S., Ravindranath S. D. and Sanyal S. (2006). *Study on Application of Microwave Energy for Determination of Tea Shoot Moisture*. Proc. Engineering and Manufacturing Symposium, pp 154-158.
9. Sanyal S., Hazarika D.J., Hazarika A.K., Borah S.R., Gogoi R.C. and Hazarika M. (2006). *Model Tea Factory: Tea Technologists Sanctum*. Proc. Engineering and Manufacturing Symposium, pp 53-57.
10. Tamuly P., Sabhapondit S., Gogoi N., Gogoi R.C., Ravindranath S.D. and Hazarika M. (2006). *A Biochemical approach on processing parameters based on Cultivar Characterization*. Proc. Tocklai Engineering & Manufacturing Symposium, pp15-25.

11. Sanyal S., Saikia L.N., Hazarika A.K., Hazarika D.J., Borah S.R. and Gogoi R.C. (2005); *Artificial Enhancement of Physical Withering*. Proc. 34th Tocklai Conference, pp 377-381.
12. Baruah S., Tamuly P., Gogoi N., Bordoloi P., Sabhapondit S., Gogoi R.C., Kalita J.N., Bhuyan L.P., Gogoi M.N. and Hazarika M. (2005). *Technology for Product Diversification and Value Added Items of tea*. Proceedings 34th Tocklai Conference, pp 63-70.
13. Tamuly P., Gogoi N., Sabhapondit S., Bordoloi A.K., Baruah B.D., Hussain A., Baruah D., Bhuyan L.P., Hazarika D.J., Sanyal S., Bora S.R., Gogoi R., Hazarika A.K., Gogoi M.N. and Hazarika M. (2005); *Optimization on processing parameters for quality upgradation – a new approach under controlled environment*. Proceedings 34th Tocklai Conference, pp 21-29.
14. Bhattacharjee N., Roy J.K., Akuli A., Auddy A., Saha A.B., Sheshardi T.K. and Sanyal S. (2005). *Information Technology (IT) Anchored Solutions for Black Tea Manufacturing and Quality Assessment*. Proc. 34th Tocklai Conference, pp 44-56.

B. ANALYTICAL SERVICES

Journal Publications

1. Barooah A.K., Borthakur M., Kalita J.N., Hussain T., Chaudhury K. and Nath R. (2011). Pesticide residues in tea and their intake assessment using brew factor. *J. Tea Sci.* **31(4)**: 289-294.
2. Barooah A.K. and Borthakur M. (2008). Dissipation of pesticides in tea shoots and decontamination of their residues. *Pestic. Res J.* **20 (1)**: 121-124.
3. Hazarika S., Talukdar N.C., Borah K., Barman N., Medhi B.K., Thakuria D. K. and Barooah A.K. (2007). Long-term effects of pulp and paper mill effluent on chemical and biological properties of a heavy textured acidic soil in Assam. *J. Ind. Soc. Soil Sci.* **55**: 45-51
4. Barthakur B.K., Dutta P. Sarmah S.R., Begum R., Kalita J.N. Singh K. and Hazarika M. (2005). Effect of VAM association in tea plantation of North East India. *Crop Research* **24(3)**: 441–445.

Two & a Bud

1. Barooah A.K., Barooah A., Adhyapak M.P., Phukan I.K., Dutta A.K. and Gohain K. K. (2002). Generation of data on heavy metal contents in tea. *Two & a Bud* **49**: 24-29.
2. Phukan I.K., Barooah A.K., Yadav R.N.S, Gohain K.K., Dutta A.K, and Kotoky A. (2002). Effect of a few organic manures on growth of tea, soil properties and bioavailability of their heavy metal contents. *Two & a Bud* **49**: 38-45.
3. Barooah A.K., Goswami H., Dutta P.K. and Dutta U. (2001). Reducing top soil erosion from young tea fields on Cachar teelas with Jute Geotextiles. *Two & a Bud* **48(1)**: 8-12.
4. Gohain K.K., Barooah A.K., Phukan I.K., Sharma N. and Dutta P.K. (2001). Nitrogen mineralisation pattern of regional tea soils. *Two & a Bud* **48(1)**: 31-32.

5. Goswami H., Barooah A.K., Gohain K.K., Saikia B.P., Baruah A. and Dutta A. (2001). Soil parameters for higher productivity of tea. *Two & a Bud* **48(1)**: 26-30.

Conference Papers

1. Dutta P.K., Saikia L., George U. and Barooah A.K. (2011). *Monitoring of inputs used in tea fields for assuring quality and recent indications of very low available phosphate in tea soils*. World Tea Science Congress: Abstracts of Papers. pp 28.
2. Barooah A.K., Kalita J.N., Borthakur M., Barooah A. and Barman T. (2011). *Non-tariff trade barriers–pesticide residues and heavy metals in tea and approaches to mitigate them*. World Tea Science Congress: Abstracts of Papers. pp 106.
3. Sharma N., Barman T. and Barooah A.K. (2011). *Changes in chromium contents of tea during processing*. World Tea Science Congress: Abstracts of Papers. pp 107.
4. Barman T. and Barooah A. K. (2011). *Screening of water samples from tea garden areas for arsenic*. World Tea Science Congress: Abstracts of Papers. Pp 108.
5. Barooah A.K. and Borthakur M. and Barthakur B.K. (2010). Reducing Chemical load in tea : Chemicals used in tea, implications of recent regulations, approaches to limit their use and beyond. Paper presented in Tocklai Centenary International Conference, Delhi, May 10-11.
6. Borthakur M., Barooah A.K., Sharma M., Rahman A. and Bora K. (2010). *Current trends in population dynamics of tea pests in northeast India & strategies for their management*. Paper presented in the IXth European

Congress of Entomology ECE2010 held in Budapest (Hungary) 22 to 27 August.

7. Kalita J.N. (2008). *Supercritical Fluid Extraction (SCFE) technology and its use in extraction of plant products*. A paper presented in the National Seminar organized by the Gauhati University, Department of Chemistry.
8. Barooah A.K. (2006). *All about MRLs of pesticide residues and new regulations*. Paper presented in TRA Workshop on Awareness of MRL and related issues, held on 24 Feb at, Kolkata.
9. Barooah A.K. (2005). *Pesticides residues in tea, MRLs and new regulations*. Proc. 34th Tocklai Conference, pp 127-136.
10. Barooah A., Barooah A.K., Yadav, R.N.S., Gohain K.K. and Adhyapak M.P. (2005). *Soil quality assessment with respect to micronutrient status*. Proc. 34th Tocklai Conference, pp 260-266.
11. Phukan I.K., Barooah A.K. and Dutta A. (2005). *Mineralisation of organic manures in tea soils*. Proc. 34th Tocklai Conference, pp 290-299.
12. Barooah A.K. (2005). *Terminal residues of pesticides in tea*. Proc. National Seminar on Pesticide Residues and their risk assessment, held at NIN, Hyderabad, Jan 20-21, pp 103-106.
13. Barooah A.K. (2005). *Current trends in pesticide residue and heavy metal contamination*. In Plant Protection in Tea, TRA Pub. pp 96-104.
14. Kalita J.N., Bhuyan, L.P., Tamuly P., Baruah D., Baruah S. and Hazarika M. (2005). *Super Critical Fluid Extraction for Product Diversification of Tea*. Proceedings of the 34th Tocklai Conference – Strategies for Quality 28-30th November 2005. Pp. 71-79.
15. Baruah S., Tamuly P., Bordoloi P., Bordoloi A.K., Sabhapandit S., Gogoi R., Kalita J.N., Bhuyan L.P., Gogoi M.N. and Hazarika M. (2005). *Technology for Product Diversification and Value Added Items of Tea*. Proceedings of the 34th Tocklai Conference – Strategies for Quality 28-30th November 2005. Pp. 63-70.

16. Dutta P., Sarmah S.R., Begum R., Phukan I., Tanti A., Kalita J.N., Debnath S. and Barthakur B.K. (2005). *Native Botanicals and Microbial Biocides for Controlling Diseases of Tea*. Proceedings of the 34th Tocklai Conference – Strategies for Quality 28-30th November 2005. Pp. 137-145.
17. Barooah A., Barooah A.K. and Yadav R.N.S. (2004). *Heavy metal contents in tea under two different management systems*. In Abstract Paper in the National Symposium on Pesticide: Myths, Realities and Remedies and Pesticide Expo-2004 held on Dec 1-3, at New Delhi, pp 129.
18. Barooah A., Barooah A. K., Yadav R. N. S. and Thakur R. (2003) *A study on heavy metals in tea ecosystems*. Proc. 48th Ann. Tech. Session, Assam Sci. Soc. Vol. 4, pp 111-121.
19. Hazarika M. and Barooah A.K. (2003). *Global perspectives of tea quality*. Paper presented in India International Tea Convention 2003 held at Kolkata, Mar 5-8.
20. Barthakur B.K., Dutta P., Sarmah S.R., Begum R., Kalita J.N. and Singh K. (2003) *Effect of native herbal extracts in controlling leaf diseases of tea*. Paper presented in National Symposium on Biochemical approaches for utilization and exploitation of commercially important plant. Organized by Indian Society of Agricultural Biochemist and Department of Agricultural Biochemistry. A.A.U., Jorhat. 12-14 November, 2003.
21. Barooah A.K. (2001). Prospects of organic tea production on multidimensional basis. In Yadav, A. K. and Raychaudhury S. (Eds.) *Three decades of research in Biofertilizers and Organic farming in North East India*. NERAB, AAU, Jorhat, pp 111-119.
22. Barooah A.K. (2001). *Prospects of biofertilizers in tea*. In Souvenir 2nd North eastern Regional Conf on Biofertilizers, held at AAU, Jorhat.
23. Phukan I., Tanti A.J., George U., Borthakur M. and Barooah A.K. (2001). *Ecotoxicological aspects of a few pesticides: effect on soil microbes*. Abstract In Souvenir 33rd Tocklai Conf. TRA Pub., pp 45.
24. George U., Phukan I. and Barooah A.K. (2001). *Plant growth promoting microbes in tea*. Abstract in Souvenir 33rd Tocklai Conf. TRA Pub., pp 47.

25. Dutta A.K., Barooah A.K. and Deka A. (2001). *Potassium use in plantation crops with special reference to tea*. Paper presented in PPI Canada-India Programme, workshop in Potassium in Assam Agriculture, held on May 25 at AAU, Jorhat.

C. STATISTICS

Journal Publications

1. Bhuyan L.P., Hussain A., Tamuly P., Gogoi R.C., Bordoloi P.K., Hazarika M. (2009). Chemical characterization of CTC black tea of northeast India: correlation of quality parameters with tea tasters' evaluation. *J. Sci. Food Agric.* **89**: 1498-1507. DOI: 10.1002/jsfa.3614.
2. Bordoloi P.K. and Kakoty S.C. (2003). Variation in production, expt. and domestic consumption of tea: An economic study. *Economic Affairs* **48(2)**: 115-120.

Two & a Bud

NIL

Conference Papers

1. Ramakrishna Y.S., Bhagat R.M. and Bordoiloi P.K. (2013). Climate change impacts on tea production in Assam and management strategies. National Symposium on Climate Change and Agericulture on slicing down the uncertainties, 22-23 January, 2013. Central Research Institute of Dryland Agriculture (CRIDA), Hyderabad.
2. Phukan I.K., Bhagat R.M., Saikia B.P., Baruah A., Sarma A.K., Debnath S. and Bordoili P.K. (2013). Soil and plant nutrient management in young and mature tea under organic tea field. Paper presented in National seminar on Organic Tea, 8th January, 2013 at, TRA, Tocklai Expt. Station, Jorhat, Assam.
3. Bordoloi P.K. (2011). Global tea production and export trend with special reference to India. Presented at World Tea Science Congress, 22-24 November, 2013 at TRA, Tocklai Expt. Station, Jorhat, Assam.
4. Dutta A.K., Sarma J., Bordoloi P.K., Baruah D.K., Ahmed K.Z., Borah A.C. and Saikia D.N. (2005). Work-study on pluckers' efficiency on utilization of

time vis-à-vis quality of harvest in peak season. Proceedings of 34th Tocklai Conference, TRA Pub. Pp 318-323.

D. ADVISORY SERVICES (ASSAM)

Journal Publications

1. Pathak S.K. (2012). The menace of Looper Caterpillars in Tea and their management. *The Assam Reviews & Tea News* pp.10-18.
2. Baruah P. (2011). Tea drinking: Origin, perceptions, habits with special reference to Assam, its tribes, and role of Tocklai. *Sci. & Cul.* 77(9&10): 365-372.
3. Baruah P. (2011). Tocklai and a century of excellence in tea research. *The Assam Reviews & Tea News* pp.14-19.

Two & a Bud

NIL

Conference Papers

1. Pathak S.K. (2012). A successful participatory IPM approach against *Hyposidra talaca* Wlk., a devastating pest on tea. Presented at 7th International IPM Symposium, Memphis Tennessee, USA. 17-29 March, 2012.