HIGH POINTS IN THE CV
OF
PROF. KUSHAL KUMAR BARUAH

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1. An excellent academic record with first class/first division Degrees and Certificates

2. PhD from one of the best Agricultural Universities in Asia, Punjab Agricultural University, Ludhiana under the guidance of Dr O.S. Singh Professor of Plant Physiology, PAU (Ludhiana)

3. A post doctoral research experience for two and a half years from an internationally reputed institute of Academy of Sciences at Moscow.

4. Experience of visiting scientist in reputed national and international organisation, i)National Physical Laboratory, New Delhi and ii)Institute of Atmospheric Physics-Beijing.

5. Fourteen years of experience as University Professor.

6. Eleven years of administrative experience as Head/Dean at AAU Jorhat and Tezpur University.

7. One year administrative experience as I/C Librarian at Tezpur University.

8. Made significant contribution to research in the form of 72 publications in National and International journals with impact factor , 19 full paper as conference proceedings, 5 book chapters and 01 book I/C Librarian at Tezpur

9. Completed 03 externally funded research projects and 02 projects are on-going as principal investigator.

10.Total experience in teaching,research and extension – 34 years.

11.Involved in large numbers of administrative and academic committees of Tezpur University and other north east Universities

12. Member and fellow of number of academic/scientific societies of India.

Awards:

1. NESA Scientist of the Year Award 2016, by the National Environmental Science Academy.

2. J.C.Bose Gold medal for outstanding research contribution in Plant Physiology by Indian Society for Plant Physiology, 2015

Recent Conferences/Seminars/ Workshops attended 2012: 2013: 2014:2015

1. Attended 3rd International Congress of Plant Physiology, New Delhi. "*Relationship of flag leaf photosynthesis with stomatal density, dry matter partitioning and yield in wheat (Triticum aestivum L.*)". 11-14 December, 2015

2. Attended 4th International Rice Congress , Bangkok, Thailand, "*Effect of organic manures with varied C/N ratios on nitrous oxide emission from winter rice (Oryza sativa)".* 28th October – 1st November 2014

3. Attended 12th IGAC Open Science conference at Beijing from 17th to 21st September 2012 and presented a paper on N2O mitigation.

4. Presented an invited paper at National Seminar on "Physiological and Molecular approaches for development of climateresilent crops" held at Hyderabad from December 12-14,2012.

5. Presented a lead paper at National Seminar on "Climate change and Climate Resilient Agriculture" held at B.N.College of Agriculture, AAU from 18-19 March 2013

6. Presented an invited paper at National Seminar on "Environmental issues and their solutions in North East India" held at Demow College, Sivsagar, Assamin September 20-21, 2013.

7. Presented an invited paper at National Seminar on " Recent Trends in Bio resources Management & Biodiversity Conservation " held at Rajib Gandhi University, Center with Potential for Excellence in Biodiversity from Oct 17-19,2013.

8. Presented a lead paper at National conference held at Nowgong College on "Changing Scenario of Education and Research in Biological Sciences in India " from 9-10 Dec, 2013

9. Attended and presented a lead paper on National conference of Plant Physiology-2013 at Groundnut research institute, Junagadh, Gujarat, 13-16 Dec,2013

10. Presented an invited paper at 101st session ofIndian Science Congress Association on "Climate change and mitigation of green house gas emission" from 3-7th Jan 2014 at Jammu University, Jammu.

11. Presented an invited paper at DBT Sponsored National Seminar on "Emerging Bioinputs in Biotechnology for a green environment" from May 9-10, held at Gauhati University, Assam

Membership of Academic Societies:

1. Life member of Indian Society for Plant Physiology
2. Life member of Indian Science Congress Association
3. Life member of Assam Science Society
4. Member of Botanical Society of Japan
5. Member of Indian Botanical Society
6. Fellow of Indian Society for Plant Physiology
7. Member National Academy of Sciences, India

PUBLICATION LIST OF DR. K. K. BARUAH

80. Bharali, A., **Baruah, K. K.,** Bhattacharya, P. and Gorh, D. (2017): Integrated nutrient management in wheat grown in a northeast India soil: Impacts on soil organic carbon fractions in relation to grain yield. **Soil and Tillage Research.** 168: 81-91.

79. Bharali, A., **Baruah, K. K.** and Gogoi, N. (2016): Methane emission from irrigated rice ecosystem: relationship with carbon fixation, partitioning and soil carbon storage. **Paddy Water Environment.** DOI 10.1007/s10333-016-0541-3

78. Baruah, A., **Baruah, K. K.,** Bhattacharya, P. (2016): Comparative Effectiveness of Organic Substitution in Fertilizer Schedule: Impacts on Nitrous Oxide Emission, Photosynthesis, and Crop Productivity in a Tropical Summer Rice Paddy. **Water, Air and Soil Pollution.** 227: 410-423.

77. Borah, L. and **Baruah, K. K.** (2016): Effects of foliar application of plant growth hormone on methane emission from tropical rice paddy. **Agriculture, Ecosystem and Environment.** 233: 75–84.

76. Bharali, A., **Baruah, K. K.** and Gogoi, N. (2016): Changes in organic carbon pool in a tropical soil planted to rice in relation to photosynthetic carbon fixation. **Australian Journal of Crop Science**. 10:1197-1206.

75. Bordoloi, N., **Baruah, K.K**. and Maji, T.K. (2016): Nitrous oxide emission from transplanted rice field in alluvial soil as influenced by management of nitrogen fertilizer. **Soil Use and Management.** DOI: 10.1111/SUM.12294.

74. Bordoloi, N. and **Baruah, K.K.** (2016): A 2-year field assessment on the effect of slow release of nitrogenous fertilizer on N_2O emission from wheat cropping system. **Soil Research.** 54: 767-776**.**

73. Baruah, A., **Baruah, K. K.,** Gorh D. and Gupta P. (2016): Effect of organic residues with varied Carbon – Nitrogen ratio on grain yield, soil health and nitrous oxide emission from a rice agroecosystem. **Communication in Soil Science and Plant analysis**. 47: 1417–1429

72. Bordoloi, N. , **Baruah, K.K.** and Bhattacharya, P. (2016): Emission estimation of nitrous oxide (N_2O) from wheat cropping system under varying tillage practices and different levels of nitrogen fertilizer. **Soil Research**. 54: 767–776

71. Baruah, A., Bordoloi, N. and **Baruah, K.K.** (2016): Effect of organic amendments with varied C-N ratios on grain productivity and nitrous oxide (N_2O) emission from wheat grown in alluvial soil. **Australian Journal of Crop Science**. 10:460-469.

70. Borah, L. and **Baruah, K. K.** (2016): Nitrous oxide emission and mitigation from wheat agriculture: association of physiological and anatomical characteristics of wheat genotypes. **Environmental Science and Pollution Research.** 23:709-721**.**

69. Baruah, A. and **Baruah, K.K.** (2015): Organic manures and crop residues as fertilizer substitutes: impact on nitrous oxide emission, plant growth and grain yield in pre monsoon rice cropping system. **Journal of Environmental Protection.** 6: 755-770**.**

68. Baroowa, B., Gogoi, N., Paul, S. and Baruah, K.K. (2015): Response of leaf water status, stomatal characteristics, photosynthesis and yield in black gram and green gram genotypes to soil water deficit. **Functional Plant Biology** . CSIRO (Australia) DOI: 10.1071/FP15135

67. Borah, L. and **Baruah, K. K.** (2015): Physiological and anatomical variations in three rice (Oryza sativa L.) genotypes for transport and emission of methane. **Climate change and environmental sustainability**3**:** 58-70

66. Saikia, P., Bhattacharya, S. S. and **Baruah, K. K.** (2015): Organic substitution in fertilizer schedule: Impacts on soil health, photosynthetic efficiency, yield and assimilation in wheat grown in alluvial soil. **Agriculture, Ecosystems and Environment.** 203**:** 102–109.

65. Gogoi, B. and **Baruah, K. K.** (2014): Seasonal and temporal changes in nitrous oxide emission with fertilizer application in rice ecosystem of North Bank Plain Zone of North east India. **International Journal of Environmental Monitoring and Analysis.** 2: 289 – 296

64. Saikia, P. and **Baruah, K.K.** (2014): Carbon fixation, partitioning and storage in field planted with wheat (*Triticum aestivum*) at different moisture regimes. **Climate change and environmental sustainability.** 2:39-47

63. Saikia, T. and **Baruah, K.K**. (2012): Iron toxicity tolerance in rice (*Oryza sativa*) and its association with anti oxidative enzyme activity**. Journal of Crop Science.** 3: 90-94.

62. Gogoi, B and **Baruah, K.K**. (2012). Nitrous oxide emissions from fields with different wheat and rice varieties. **Pedosphere** (Elsevier). 22 **:** 112-121

61. **Baruah, K**.K, Gogoi, B, Borah L., Gogoi, M. and Boruah, R. (2012): Plant Morphophysiological and anatomical factors associated with nitrous oxide flux from Wheat (*Triticum aestivum*). **Journal of Plant Research**. 125: 507-516

60. Gogoi, B. and **Baruah, K.K.** (2011): Nitrous oxide emission from tea (*Camellia sinensis* (L) O. kuntze) planted soils of North East India and soil parameters associated with the emission. **Current Science.** 101**:** 531-536.

59. Uprety, D.C., **Baruah, K.K.** and Borah, L. (2011): Methane in rice agriculture - A review. **Journal of Scientific & Industrial Research.** 70: 401 – 411.

58. **Baruah, K.K**., Gogoi, B, Gogoi, P.and Gupta, P.K. (2010): N_2O emission in relation to plant and soil properties and yield of rice varieties (*Oryza sativa* L.) **Agronomy for Sustainable Development. (EDPSc).** 30**:** 733-742.

57. **Baruah, K.K.,** Gogoi, B. and Gogoi, P. (2010): Plant physiological and soil characteristics associated with methane and nitrous oxide emission from rice paddy**. Plant Physiology & Molecular Biology**. **(Springer).** 16 **:** 79-91.

56. Gogoi, N., **Baruah, K.K**. and Das ,K.K. (2009): Effect of low temperature hardening and growth hormone on growth and yield of summer rice (*Oryza sativa* L.). **Research on Crops.** 10: 193-198**.**

55. Gogoi, N., **Baruah, K.K.** and Das, K. (2009):Effect of growth hormone and cold hardening on summer rice. **Oryza.**. 46 **:** 240-244

54. Gupta, P.K., Gupta, V., Sharma, C., Das, S.N., Purkait, N., Adhya, T.K., Pathak, H., Ramesh, R., **Baruah, K.K.** , .Venkatratnam, L., Singh, Gulab and Iyer, C.S.P (2009): Development of methane emission factors for Indian paddy fields and estimation of national methane budget. **Chemosphere.** 74: 590-598.

53. Gogoi, N., **Baruah, K.K.** and Das, K. (2008):Effect of low temperature treatment in summer rice (*Oryza sativa* L). **Geobios.** 35 (4): 302-306**.**

52. Gogoi, N., **Baruah, K.K**., Gogoi, B. and Gupta, P.K. (2008): Methane emission from two different rice ecosystems (Ahu and Sali) at lower Brahmaputra valley zone of North East India. **Applied Ecology and Environmental Research** (Hungary). 6 : 99-112

51. Gogoi, N., **Baruah, K.K.** and Gupta, P.K. (2008): Selection of rice genotypes for lower methane emission. **Agronomy for Sustainable Development** (EDP Sc). 28: 181-186.

50. Das, K. and **Baruah, K.K.** (2008):Methane emission associated with anatomical and morpho physiological characteristics of rice (*Oryza sativa* L.) plant. **Physiologia Plantarum** (Black Well). 134: 303-312.

49. Das, K. and **Baruah, K.K.** (2008):Association between contrasting methane emissions of two rice (*Oryza sativa* L.) cultivars from the irrigated agro-ecosystem of northeast India and their growth and photosynthetic characteristics**. Acta Physiologiae Plantarum** (Springer). 30: 569-578.

48. Das, K. and **Baruah, K.K.** (2008): A comparison of growth and photosynthetic characteristics of two improved rice cultivars on methane emission from rainfed agro-ecosystem of north east India. **Agriculture, Ecosystem and Environment** (Elsevier). 124: 105-113.

47. **Baruah, K.K.**, Das, S., and Das, K. (2007): Physiological disorder of rice associated withhigher level of iron in growth medium. **Journal of Plant Nutrition** (Taylor & Francis**).** 30**:** 1871-1883.

46. Sundareshwar, P.V., Murtugudde, R., Srinivasan, G., Singh, S., Ramesh, K.J., Agarwal, D., Baldocchi, D., Baru, C.K., **Baruah, K.K**. (2007):Indoflux: A Biogeochemical monitoring network for India, **Science** (USA**).** 316**:** 204-205.

45. **Baruah, K.K**., Rajkhowa, S.C. and Das, K. (2006): Physiological analysis of growth, yield development and grain quality of some deep water rice (*Oryza sativa* L.) cultivars. **Journal of Agronomy and Crop Science** (Black well). 192: 228-232**.**

44. Gogoi, B., Das, K., and **Baruah, K.K**. (2005): Effect of aqueous extract of some weeds on germination and seedling growth of rice (*Oryza sativa* L.). **Geobios.** 32**:** 69-74.

43. Gogoi, N., **Baruah, K.K**., Gogoi, B.and Gupta, P.K. (2005): Methane emission characteristics and its relations with plant and soil parameters under irrigated rice ecosystem of northeast India. **Chemosphere** (Elsevier). 59: 1677-1684.

42. Gogoi, N., **Baruah, K.K**., Gogoi, B. , Gupta, P. K. and Das, K.K. (2003): Physiological parameters of rice (*Oryza sativa* L.) associated with emission of methane from different agroecosystem. **Indian Journal of Plant Physiology** (special issue). 597-601.

41. Neog, B., Gogoi, N. and **Baruah, K.K**. (2002):Morpho-physiological changes associated with water logging in rice (*Oryza sativa* L.). **Indian Journal of Agricultural Sciences**. 72:402-405**.**

40. Deka, M., Saikia, C.N. and **Baruah, K.K**. (2002): Studies on thermal degradation and termite resistant properties of chemically modified wood. **Bioresource Technology** (Elsevier). 84**:** 151-157.

39. Gogoi, B., Das, K. and **Baruah, K.K**. (2002): Allelopathic effects of weeds on growth and development of upland rice (*Oryza sativa* L.).**Indian Journal Plant Physiology**. 7: 119-125.

38. **Baruah, K.K**., Gogoi, N., Gogoi, B. , Barman, B. and Gupta, P. K. (2002): Plant and soil factors associated with methane emission from irrigated rice ecosystem of Assam. *In* "**Non CO_2**

green house gases: scientific understanding, control options and policy aspects". Edtrs. Van Ham J.*et al.* Millpress, The Netherlands. 101-106**.**

37. Medhi, A.K. and **Baruah, K.K.** (2001): Response of rice growth to exogenous application of gibberellic acid (GA_3) in winter season. **Oryza.** 38:160-161.

36. Gogoi, N.and **Baruah, K.K**. (2001). Effect of natural gas flare on growth, flowering and yield of rice (*Oryza sativa* L.).**Pollution Research**. 20:337-341.

35. **Baruah, K.K**., Nath, B.C. and Gogoi, N. (2001): Physiological and biochemical traits of rice (*Oryza sativa* L.) genotypes associated with tolerance of iron toxicity. *In*: **Plant Nutrition: Food security and sustainability of agro ecosystems through basic and applied research**. Edtrs. Horst, W.J. *et al.* Kluwer (London). 476-478.

34. Gogoi, N.and **Baruah, K.K**. (2000): Effect of cold hardening and GA_3 on growth and yield of *boro*rice (*Oryza sativa* L.) **Indian Journal of Plant Physiology**. 5:339-343

33. Deka M., Saikia C.N. and **Baruah K.K**. (2000): Treatment of wood with thermosetting resins: Effect on dimensional stability, strength and termite resistance. **Indian Journal of Chemical Technology.**7:322-327.

32. Gogoi, B., Das, K. and **Baruah, K.K**. (2000): Effect of allelochemicals on germination and seedling growth of rice (*Oryza sativa* L.) cultivars. **Allelopathy Journal**. 7. 279-284.

31. Deka, M.and **Baruah, K.K**. (2000): Comparable studies of rainfed upland rice (*Oryza sativa* L.) cultivars for drought tolerance. **Indian Journal of Agricultural Sciences**. 70: 135-139.

30. Gogoi, N.and **Baruah, K.K**. (1999): Effect of chemical hardening on growth, yield and some biochemical characters in *boro* rice (*Oryza sativa* L.). **Indian Journal of Plant Physiology.** 4: 179-184.

29. Deka, M.and **Baruah, K.K**. (1998):Studies on physiological traits of rice (*Oryza sativa* L.) cultivars under moisture stress situation. **Indian Journal of Ecology**. 25:192-196.

28. Deka, M. and **Baruah, K.K**. (1998): Moisture stress induced changes in seed germination and seedling growth of upland *ahu* rice (*Oryza sativa* L.). **Indian Journal of Ecology**. 25: 133-137.

27. **Baruah, K.K**., Bhuyan, S.S., Ghosh, T .J. and Pathak, A.K. (1998): Response of rice (*Oryza sativa* L.) genotypes to moisture stress imposed at seedling stage. **Indian Journal of Plant Physiology**. 3: 181-184.

26. **Baruah, K.K**., Parashar, D.C., Gupta, P. K., Sharma, R.C., Jain, M.C. and Mitra, A.P. (1997): Effect of water management and rice genotypes on methane emission from paddy field. **Indian Journal of Radio and Space Physics.** 26:77-81.

25. **Baruah, K.K**. and Nath, B.C. (1997): Ion uptake, metabolism and yield of rice (*Oryza sativa* L.) at excess in the growth medium. *In*: **Plant nutrition for sustainable food production and environment**. Edtr. Ando, T. etal, Kluwer Academic Publ., London. 403-404**.**

24. **Baruah, K.K**. and Nath, B. (1996): Changes in growth, ion uptake and metabolism of rice (*Oryza sativa* L.) seedlings at excess iron in growth medium**. Indian Journal of Plant Physiology. (New Series).** 1: 122-125.

23. **Baruah K.K**. (1996): Physiological disorder in rice. I. Effect of flooding. **Indian Journal of Agricultural Res**earch. 30: 101-108.

22. Goswami, R.K. and **Baruah, K.K**. (1994): Physiological potential of some rice cultivars for tolerance to moisture stress at seedling stage. **Bulletin of Pure & Applied Science.**13: 41-45.

21. Goswami, R.K. and **Baruah, K.K**. (1994): Effect of water potential treatments on germination and seedling growth of some upland rice cultivars**. Indian Journal of Plant Physiology**. 37: 61-63

20. **Baruah, K.K**. and Medhi, A. (1994): Effect of seedling hardening treatments on cold acclimation in rice (*Oryza sativa* L.). **Indian Journal of Plant Physiology.** 37: 190-192.

19. **Baruah, K.K**. and Medhi, A. (1993): Growth and metabolic response of rice (*Oryza sativa* L.) to low temperature stress. **Indian Journal of Plant Physiology.** 36: 53-55.

18. Novitskaya, G.B., **Baruah, K.K**. and Suvorova, T.A. (1992)**..**: Changes in the lipid composition of winter wheat seedlings during hardening to low temperature**. Applied Biochemistry and Microbiology (In Russian).** 28: 134-135.

17. **Baruah, K.K** (1990): Effect of some growth regulators on growth and yield of rainfed wheat. **Indian Journal of Ecology**. 17: 188-190.

16. Karasev, G.S., Narleva, G.I., **Baruah, K.K**. and Trunova, T.I. (1990): Dynamics of the polypeptide composition and content during winter wheat adaptation to low negative temperatures. **Physiology Biochemistry of Field Crop** (In Russian). 23: 480-486.

15. **Baruah, K.K**., Aleyoshina, N.B., Astakhova, N.V. and Trunova, T.I. (1990): Characterization of plasma membrane of winter wheat seedlings and changes in ATP hydrolysing activity under low temperature stress. **Biologia Plantarum** (PRAHA). 32: 211-217**.**

14. Aleyoshina, N.B., **Baruah, K.K**., Astakhova, N.V. and Trunova, T.I. (1988): Isolation and properties of plasma membrane from winter wheat seedlings by aqueous two polymerphase system. **Soviet Plant Physiology**. 35: 1050-1057.

13. Astakhova, N.V., Bocharova, M.S., **Baruah, K.K**., Klimov, S.V. and Trunova, T.I. (1988): Effect of cartolin on chloroplast structure and photosynthesis in winter wheat on hardening to frost. **Soviet Plant Physiol**. 35: 359-364.

12. Konwar, D. and **Baruah, K.K**. (1985): Petroleum like hydrocarbon from (*Mesua ferrea* L) seeds. **Chemistry and Industry**, London. 447-448.

11. **Baruah, K.K**. and Singh, O.S. (1985): Effect of different level of organic manure and moisture regimes on iron chlorosis in rice (*Oryza sativa* L.) seedlings. **Journal of Indian Botanical Society**. 64: 120-123

10. Konwar, D. and **Baruah, K.K**. (1984): Refining of the crude oil obtained from (*Mesua ferrea* L.) seeds. **Chemistry and Industry**, London, June 1984. 413-414.

9. Konwar, D. and **Baruah, K.K**. (1984): Renewable crude oil from (*Mesua ferrea* L.) seeds. **Chemistry and Industry**, London, March 1984. 184-185.

8. **Baruah, K.K.** (1984): Iron induced yellowing in rice (*Oryza sativa* L.). **Indian Journal of Ecology**. 11 :31-32

7. **Baruah, K.K**. and Singh, O.S. (1983): Effect of soil moisture regimes on root reducing power and ion uptake by rice (*Oryza sativa* L.). **Plant Physiology & Biochemistry**. 10**:** 148-156.

6. **Baruah, K.K**. (1982): Effect of flooding on growth and yield of barley (*Hordeum vulgare* L.). **Indian Journal of Plant Physiology**. 25:432-436.

5. **Baruah, K.K**. and Singh, O.S. (1982): Physiological growth analysis in field grown rice (*Oryza sativa* L.). **Journal of Research. AAU**. 3: 4-11.

4. **Baruah, K.K**. and Singh, O.S. (1982): Effect of different type of nursery bed on the magnitude of chlorosis in paddy (*Oryza sativa* L.) seedlings. **Indian Journal of Agricultural Research**. 16: 125-130.

3. Singh, O.S., Singh, O. and **Baruah, K.K**. (1981): Physiological parameters associated with fibre development in cotton. **Journal of Research. AAU**. 2: 86-89.

2. **Baruah, K.K**. and Singh, O.S. (1980). Effect of iron on micronutrient uptake by paddy (*Oryza sativa* L.) seedlings. **Indian Journal of Experimental Biology**. 18: 1205-1207**.**

1. **Baruah, K.K**. and Singh, O.S. (1980): Effect of moisture regimes and iron levels on chlorosis and ion uptake by paddy (*Oryza sativa* L.). **Indian Journal of Experimental Biology**. 18: 184-197.

BOOK

1. Barua,h K.K. (2009), Alternative Sources of Energy (in Assamese), Banimandir, Guwahati.

CHAPTERS IN BOOK:

1. **Baruah, K.K**. and Bharali, A. (2015) : Physiological Basis of Iron Toxicity and Its Management in Crops. Recent Advances in Crop Physiology Vol 2. Amrit Lal Singh. Pub. DAYA Publishing House p. 203-224.

2. **Baruah, K.K.** (2012) Natural resource management with reference to biodiversity. **In Sustainable development in north east region** EdtrsSarmah B.K. and Dutta, M.K. Pub. UGC. p. 11-29

3. **Baruah, K.K.**, Borah, L. and Baruah, A. (2012). An overview of mitigation option for green house gas emissions from rice based agro-ecosystems in the north eastern region. In **Land management in marginal mountain Regions: Adaptation and vulnerability to global change**. Edtrs. Saxena K.G. *et al*. Bishen Singh Mahendra Pal Singh Pub. (New Delhi) p 245-263

4. **Baruah, K.K**., Das, K. and Gogoi, B. (2010). Allelopathic effect of medicinal herbs on rice growing environment. In **Medicinal Plants in Changing Environment.**Edtrs.Ahmad A. etal. Capital Pub (New Delhi)p. 359-368.

5. **Baruah, K.K.** (2008).Environmental Challenges and Future Strategies. In **India's North-East New Vistas for Peace**. Edtrs. Das, P. and Goswami, N. Manas Publications, (New Delhi) p. 155-166.

6. **Baruah, K.K.,** Das, K. and Gogoi, N. (2005). Vegetation recovery in flood degraded wasteland of Majuli. In **Science and technology for Regional Development: Case for North East India**. Edtrs. Dolui S.K. and Mahanta C. Tezpur University and IIT, Guwahati. p. 20-26.

7. Gupta, P. K., Das, S.N., Adhya, T.K., Pathak, H., Ramesh, R., **Baruah, K.K**. and Mitra, A.P. (2004). Reducing uncertainties in methane emission from rice cultivation *In*: **Climate Change and India Uncertainty Reduction in Greenhouse Gas Inventory Estimates**. Edtrs, Mitra, A.P. *etal.* , University Press (Hyderabad). p. 171-222.

8. **Baruah, K.K**. and Nath, B.C. (2001). Physiological and biochemical traits of rice associated with tolerance to iron toxicity (Review) In: **Stress and Environmental Plant Physiology**. Edtrs. Bora K.K. etal. , .Pointer Publisher, (Jaipur). p. 296-306.

9. Deka, M. and **Baruah, K.K**. (2000). Effect of simulated drought on germination, seedling growth and metabolism of upland *ahu* rice (*Oryza sativa* L.) cultivars. *In*: **Plant Physiology for Sustainable Agriculture**. Edtrs. Srivastava, G.C. Daya Publishing House (New Delhi). p. 380-387.

10. **Baruah, K.K.** (1982). Ecophysiology of yield development in wheat (*Triticumaestivum* L.) under rainfed condition in Assam. *In*: **Role of Science and Technology in Rural Development of India**. Edtr. B.N. Pandey S. C. and Co., NewDelhi. p. 154- 163

CONFERENCE PAPERS (PROCEEDINGS):

1. **Baruah, K**.**K**., Borah, L. and Gogoi, B. (2012): Climate Change, green house gas emissions and mitigation: Physiological processes involved. **In Proceedings National Seminar on Physiological and molecular approaches for development of climate resilientcrops**. Dec 12-14, ISPP. New Delhi, p. 186-195

2. Gogoi, N., **Baruah ,K.K**., Gupta, P.K. and Das, K.K. (2002). Methane emission from irrigated rice ecosystems of Assam: Differences due to cultivars and soil characteristics *In* "**Role of plant physiology for sustaining quality and quantity of food production in relation to environment**" Edtrs. Chetti M.B. *et al*. ISPP. p. 16-19.

3. Nath, B.C., Gogoi, N., and **Baruah, K.K.** (2001). Iron toxicity induced physiological changes in rice (*Oryza sativa* L.). **Proc. National Seminar on Water and Land management including CAD for socioeconomic upliftment of NE region**., Published by NERIWALM. p. 132-135.

4. **Baruah, K.K**., Gupta. P.K., Gogoi N., Gogoi, B., Goswami, S. and Barman, B. (2001). Methane emission from two agroecological situations of Assam: Differences due to cultivars and soil characters. **Proc. International Symposium on Organic recycling**. Chiba, Japan. p. 211-212**.**

5. **Baruah, K.K**. (1991). Physiological disorder in rice with reference to leaf yellowing. **Proc. 27th Annual Convention of Agril. Service Association, Govt. of Assam**. p. 16-18.

6. **Baruah, K.K**. (1990). Effect of petroleum pollution on field grown rice. **Proc. Intnl. Symp. Rice Research**, DRR, Hyderabad, [.443-447.

7. **Baruah, K.K**. and Konwar D. (1985): *Messua ferrea* L. a source of renewable fuel oil. *In*: **Production and Conservation Forestry**. Edtr. P.K. Khosla et al., ISTS. p. 187-189**.**

CONFERENCE PAPERS (ABSTRACTS):

1. Baruah, K. K. (2016): Hormonal regulation of plant-mediated greenhouse gas transport- a potential for emission reduction and mitigation of agricultural greenhouse gas. National Conference of Plant Physiology, University of Agricultural Sciences, Bengaluru.

2. Baruah, K. K. (2016): A comparision of growth, photosynthetic characteristics and anatomical configuration of few improved rice cultivars on greenhouse gas emission from rainfed agroecosystem. National Conference of Plant Physiology, at BHU, Varanasi.

3. Baruah, K. K. and Bharali, A. (2015). Carbon Sequestration by rice (*Oryza sativa*) agro-ecosystem in relation to photosynthesis, partitioning and soil carbon stock. Proc. of 102nd Indian Science Congress at Mumbai. Abstr. p. 52-53

4. Baruah, K. K. (2015): Relationship of flag leaf photosynthesis with stomatal density, dry matter partitioning and yield in wheat (*Triticum aestivum L.).* 3rd International Congress of Plant Physiology, New Delhi.

5. Baruah, K. K. (2014): Biotic carbon sequestration and photosynthesis: a physiological analysis. National Conference of Plant Physiology. OUAT, Bhubaneswar.

6. Bharali, A. and **Baruah, K. K**. (2014). Photosynthetic response in seven wheat cultivars with anatomy and yield. Proc. Of NCPP – 14 at Bhubaneswar, Odisha. Abstr. p. 219.

7. Bordoloi, N. and **Baruah, K. K.** (2014). Reduction of nitrous oxide (N_2O) emission from Wheat agriculture under varying tillage practices and different level of Nitrogen fertilizer. Tropical Ecology Congress – 2014. Abstr. p. 42 – 43

8. Baruah, A., Gorh, D. and **Baruah, K. K.** (2014) Effect of organic manures with varied C/N ratios on nitrous oxide emission from winter rice (*Oryza sativa*). 4th International Rice Congress (IRC-2014) at Bangkok, Thailand.

9. Baruah, K. K. and Bharali, A. (2014). Carbon sequestration by rice (*Oryza sativa*) agro-ecosystem in relation to genotypic differences for fixation and partitioning of carbon. 4th International Rice Congress (IRC-2014) at Bangkok, Thailand.

10. Baruah, K. K. , Gogoi, B. and Bordoloi, N. (2014). Climate change and greenhouse gas emission from anthropogenic sources – emission estimation and mitigation strategies through plant and soil management. Proc. 101st Indian Science Congress at Jammu. Abstr. p. 49-50.

11. Baruah, K.K. and Borah, L. (2013): Agricultural greenhouse gas emission and mitigation with reference to diversity in plant species Proc. Emerging bio-inputs in biotechnology for a greener environment, Institute of Science and Technology, Gauhati University, Guwahati, Abstr p. 13

12. Baruah, K.K. , Bordoloi, N. and Bharali, A (2013): Diversity with reference to North east India ; Regional Seminar on Eco-restoration for development in North east India ; Cotton College, Guahati, Assam

13. Baruah, K.K. and Bordoloi, N. (2013). Changing scenario of education and research in biological sciences in India. Proc.National conference on sustainable quality of biological science education, Department of Botany, Nowgong College, Assam, Abstr. p. 15-16

14. Baruah, K.K. , Bordoloi, N. and Borah, L. (2013) Genetic Diversity and structure in the Rice species(*Oryza sativa gramineae*) associated with emission and mitigation of greenhouse gases Proc. national seminar on "Recent trends in bio-resources management & Biodiversity conservation" , Rajiv Gandhi University, Itanagar, Arunachal Pradesh, India, Abstr. p. 16

15. Baruah, K. K.(2013) : Impact of Climate Change on Agriculture with reference to N.E. India. UGC sponsored National Semina on Environmental Issue and their solutions in NE India. Demow College, Demow, Assam.

16. Saikia, T. and **Baruah, K. K.** (2013). Iron toxicity induced changes in nutrient status in rice cultivars. Proc. Of NCPP – 2013, Current trends in plant biology research at Junagarh, Gujarat. Abstr. p. 315 – 316

17. Baruah, K. K. and Bharali, A.(2013). Physiological potential of rice genotypes for carbon sequestration-biological control of atmospheric carbon. Proc. Of NCPP – 2013, Current trends in plant biology research at Junagarh, Gujarat. Abst. p. 282-283

18. Baruah, K.K., Bharali, A. and Gogoi, N. (2013). Carbon stock in Rice fields of North Bank Agro Climatic Zone of Assam and it's Potential for Carbon Sequestration. Proc National Seminar on "Climate Change and Climate Resilient Agriculture", Biswanath Chariali, Assam, Abstr. p. 62 – 63

19. Baruah, K.K. and Borah, L. **(**2013). Greenhouse gas emission from agricultural sources, mitigation with reference to climate change. Proc national seminar on "Climate Change and Climate Resilient Agriculture", Biswanath Chariali, Assam Abstr. p. 25 – 26.

20. Baruah, K.K (2012): Management of plant genotypes and soil C-N ratio as biological mitigation potion for nitrous oxide emission from wheat agriculture. The 12th International Global Atmospheric Chemistry (IGAC) Science Conference, Beijing, China.

21. Saikia, P., **Baruah, K.K** and Baishya, S.: (2012): Soil carbon storage in rice agro ecosystem - a sink for atmospheric carbon dioxide. Proc. National Seminar on managing land resources for sustainable agriculture, Nagpur Abstr. p. 81.

22. Borah, L. and **Baruah, K.K.** (2012): Cultivar differences in nitrous oxide emission from wheat and associated plant physiological and anatomical characteristics. Proc. National seminar on Physiological and Molecular approaches for development of Climate resilient crops, Hyderabad, Abstr. p. 161

23. Baruah, K.K., Gogoi, B. and Borah, L.(2012): Plant mediated green house gas, nitrous oxide emission from wheat agriculture. Proc 99th Indian Science Congress at Bhubaneswar Abstr. p. 40.

24. Baruah, K.K., Borah, L. and Goswami, M. (2011): Greenhouse gas emission from agriculture and climate change. Proc 98th Indian Science Congress at Chennai Abstr. p. 7.

25. Baruah, K.K., Gogoi, B. and Gogoi, P (2010): Emission of Nitrous Oxide a green house gas associated with climate change from rice-wheat cropping system of North East India. Proc 97th Indian Science Congress at Thiruvananthapuram. Abstr. p. 115.

26. Gogoi, B., Gogoi, P and **Baruah, K.K. (**2009**):** Fertilizer management as suitable mitigation option for nitrous oxide emission reduction from agricultural field. Proc National Seminar on Climate Change and Sustainable Development at Tezpur University. Abstr. p. 56.

27. Baruah, K.K. (2009): Environmental degradation of N.E. and Biodiversity. Nat ional Seminar on Environmental Degradation and sustainable development, Sonari College, Assam.

28. Baruah, K.K., Gogoi, B., Gogoi, P. and Gogoi, N. (2009): Green house gas emission from monsoon rice- measurements and mitigation. Proc 96th Indian Science Congress at Shillong. Abstr. p. 18

29. Baruah, K.K. (2008): Mitigation of Greenhouse gases. Challenges to Mitigation of Global Warming, Nazira College, Sivasagar.

30. Gogoi, N., **Baruah, K.K**. and Das, K.K. (2007): Cold tolerance in rice- genotopic response to physical hardening. Proc National Conference on Environmental Challenges and Management at Coimbatore, Abstr. p. 160.

31. Baruah, K.K., Gogoi, B. and Gogoi, P. (2007): Nitrous oxide emission from upland rice ecosystem of NE India: Measurement and Mitigation. Proc 77th Annual Session of NASI at CFTRI, Mysore Abstr. p. 52.

32. Baruah, K.K., Gogoi, N., Gogoi, B. and Gupta, P. K. (2006): Green house gas emission from agricultural sources -with reference to methane from different rice agroecosystem in alluvial soils of Northeast India. Proc. 2nd Intnl Rice Congress, New Delhi, Oct 9-13 Abstr. p. 456**.**

33. Baruah, K. K., Gogoi, N. and Gupta, P. K. (2006): Carbon balance in terrestrial ecosystems. In Indo-US Workshop on Indoflux. Chennai, 12-16 July, Abstr. p. 25-26.

34. Baruah, K. K., Das, K. and Gogoi, B. (2005): Allelopathic effect of medicinal weeds on rice growing environment at upland rice agroecosystem. Proc. Herbal drug and environmental pollution: a satellite session of Third International Conference on Plants and Environmental Pollution. Hamdard University, New Delhi 4 December, Abstr. p. 3-4.

35. Baruah, K. K., Gogoi, N., Gogoi, B. and Gupta, P. K. (2003): Green house gas emissions from wet and dryland crop ecosystem of Assam. Proc. National Symposium on plant biology and biodiversity in changing environment. Hamdard University, New Delhi, 29-31December, Plenary lectures, Abstr. p. 13.

36. Das, S. and **Baruah, K. K.** (2003): Effect of higher levels of iron in the growth medium on growth and yield of rice. Proc. 2nd International Congress of Plant Physiology, New Delhi 8-12 Jan, Abstr. p. 391.

37. Gogoi, N., **Baruah, K. K**. and Gupta, P. K. (2003): Cultivar variation in methane efflux at different growth stages from irrigated rice ((*Oryza sativa* L.) ecosystem of Assam. Proc. 2nd International Congress of Plant Physiology, New Delhi 8-12 Jan, Abstr. p. 440.

38. Baruah, K. K., Gogoi, N. ,Gogoi, B. and Gupta, P. K. (2003): Physiological parameters of rice (*Oryza sativa* L.) associated with emission of methane from different agro-ecosystem. Proc. 2nd International Congress of Plant Physiology, New Delhi 8-12 Jan, Abstr. p. 434.

39. Baruah, K. K., Gogoi, N., Gogoi, B., Goswami, S. and Barman, B. (2001): Plant and soil factors associated with emission of methane from irrigated *boro* rice (*Oryza sativa* L.) Proc. 5thAgril. Sci. Congr. Guwahati, April 4-7, Abstr. p.40

40. Baruah, K. K., Aleyoshina, N. B., Astakhova, N. V. and Trunova, T. I. (1988). The involvement of a Mg^{2+} ATP ase from purified plasma membrane fraction in cold acclimation of winter wheat (*Triticum aestivum L*). Seedlings. Proc. Intnl. Congr. Plant Physiology, New Delhi, Abstr. p. 161.

41. Aleyoshina, N. B. and **Baruah, K. K**. (1988): Adaptation to low temperature and activity of Mg - ATP ase in pure fraction of plasma membrane of winter wheat seedlings. Proc. III All Union Conference of Young Scientists on Cellular Physiology. April 18-22, Petrozabod, Russia, Abstr. p. 119.

42. Aleyoshina, N. B., **Baruah, K. K.** and Trunova, T. I. (1987): Characterization of plasma membrane ATPase of winter wheat seedlings isolated by aqueous two polymer phase system. Proc. XIV International Botanical Congress, West Berlin, Abstr. p. 483.

43. Baruah, K. K., Konwar, D. and Handique, B. C. (1986): Energy plantation for rural development in North Eastern Region of India. Proc. Natl. Symp. Research in Social Forestry, New Delhi, Abstr. p. 23

44. Baruah, K. K. (1986): Interaction of organic manure and moisture regime on iron chlorosis in rice seedlings. Proc. 73rd Indian Science Congress Part III, Abstr. p. 24.

45. Baruah, K. K. (1985): Effect of some growth regulators on growth and yield of rainfed wheat (*Triticum aestivum* L).Proc. 72nd Indian Sci. Congr. Part IV, Abstr. p. 155.

46. Baruah, K. K. and Singh, O. S. (1985): Carry over effect of chlorosis at seedling stage on growth and yield of rice (*Oryza sativa* L.).Proc. Intl. Symp. on Iron Nutrition and Interaction in Plant, Nebraska (USA).

47. Baruah, K. K. (1984): Physiology of growth and metabolism in rainfed wheat (*Triticum aestivum* L.). Annual Meeting Society for Plant Physiology and Biochemistry, March 12-14, Abstr. p. 44.

48. Baruah, K. K. (1983): Effect of iron chlorosis on growth and yield of rice in field condition. Proc. 70th Indian Sci. Congr. Part III, Abstr. p. 101.

49. Baruah, K. K. (1982): Effect of water logging on growth and yield of some rice cultivars in Assam soil. Proc. 69th Indian Sci. Cong. Part III, Abstract. p. 143.

50. Baruah, K. K. (1981): Varietal response of paddy for water logging tolerance. Proc. 68th Indian Sci. Congr. Part III. Abstr. p. 110.