ICAR-National Institute of Research on Jute & Allied Fibre Technology
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राष्ट्रीय पटसन एवं समवर्गी रेशा प्रौद्योगिकी अनुसंधान संस्थान
12, रीजेन्ट पार्क, कोलकाता - 700040

PROFILE*

1. Full Name : Avijit Das
2. Educational Qualification : Ph. D.
3. Designation : Principal Scientist
4. ARS Discipline : Biochemistry (Plant Science)
5. Date of joining in ICAR : 09/09/1996
6. Date of Joining in ICAR-NINFET : 07/06/2014
7. Working experiences (in years)
    a. Research : 28 Years
    b. Teaching : Faculty of IARI Kolkata Hub
    c. Industry : Nil
8. Area of work (Five areas only)
    a. Retting of lignocellulosic fibres.
    b. Extraction of bio-molecules from natural fibres and their application.
9. Contact details
    a. Mobile No: 7059321946
    b. Email (Including ICAR email): avijitcrri@gmail.com/avijit.das@icar.gov.in
10. Number of project completed (As PI)
    a. Refinement of fungal retting technology of jute
    b. Laccase from microbes for value addition in jute
    c. Extraction of quality keratin from coarse wool
    d. Development of a minimal water retting technology of jute
    e. Upscaling of an eco-friendly microbial extraction method of keratin from waste wool and its application in technical textiles
    f. Development of a faster retting system of jute through strain improvement by CRISPR CAS 9 mediated genome editing system
11. Professional Achievements (Awards / Best Papers/Appreciation)
    a. Received Japanese Govt. Scholarship carrying out research in Japan (2000-2002)
    b. Received best Senior Scientist award from National Rice Research Institute (2010)
    c. Received Nanaji Deshmukh Award – 2018 from ICAR for best Team Work
    d. Served as expert for selection of Assistant Professor in UBKV

e. Served as Member BoS for the Dept of Agril. Biochemistry, BCKVV

12. List of publication (Numbers only)
    a. Research papers in National journal (NAAS rated): 50
    b. Research papers in International journal (NAAS rated): 8
    c. Popular articles: 2
    d. Book Chapter: 26
    e. Books Edited:
    f. Seminar Papers: 30
    g. Bulletin:12
13. Seminar presentation (numbers only)
    a. Invited papers: 6
    b. Research papers: 30
14. Patents Applied (Numbers only): 2
15. Patents Granted (Details): 1
    a. Patent No. 433203: "A leaf proceesing device for extraction of fibre from pineapple leaves" granted 30/05/2023
16. Technology Commercialised (five with details): Two
    a. High protein cultivar CR Dhan 310
    b. High protein cultivar CR Dhan 311
    c. Microbial extraction of keratin from waste wool
17. List the five major achievements in the career
    a. First report on the role of starch phosphorylase in submergence tolerance in rice plant.
    b. Developed a storage method of brown rice with *parad* tablet.
    c. Identified the molecular basis of iron and zinc accumulation in rice plant.
    d. Developed and released world's first high protein rice cultivar in HYV background.
    e. Developed a microbial method of keratin extraction from animal hair.

18. List the 10 best publications in the whole career (Details)

I. **Das Avijit** and Lodha ML (1997). Isolation and characterization of an oxygen mutant of *Azorhizobium caulinodans*. ***Journal of Plant Biochemistry and Biotechnology***. 6: 119 – 123

II. **Das Avijit**, Khanuja SPS and Lodha ML (1997). Expression of *Rhizobium meliloti* symbiotic promoters in *Azorhizobium caulinodans*. ***Indian Journal of Experimental Biology*** 35: 1331 – 1335
III. Fukuzawa H, Arai S, Kawai-Yamada M, **Das Avijit**, Tagawa M and Uchimiya H (2002) Glufosinate-tolerant tobacco plants directed by the promoter of adenylate kinase gene of rice. ***Annals of Botany*** 89: 351-354
IV. **Das Avijit** and Uchimiya H (2002) Oxygen stress and adaptations of a semiaquatic plant, rice (*Oryza sativa*). ***Journal of Plant Research*** 115: 315-320
V. Lee J, **Das Avijit**, Yamaguchi M, Hashimoto J, Tsutsumi N, Uchimiya H and Umeda M (2003). Cell cycle function of a rice B2-type cyclin interacting with a B-type cyclin-dependent kinasse. ***The Plant Journal*** 34(4): 417 – 425
VI. Panda BB, Sharma SG, Mohapatra and **Das Avijit** (2012) Iron stress induces primary and secondary micronutrient stresses in high yielding tropical rice. **Journal of Plant Nutrition,** 35(9): 1359–1373
VII. Panda BB, Sharma SG, Mohapatra PK and **Das Avijit** (2012) Application of excess N, P and K fertilizers leads to lowering of grain Fe content in high yielding tropical rice cultivars. **Communications in Soil Science and Plant Analysis**, 43:2590–2602
VIII. Panda BB, Sharma SG, Mohapatra PK and **Das Avijit** (2014) Iron Nutrition vis-à-vis aconitase activity and ferritin accumulation in tropical indica rice cultivars differing in grain iIron concentration. **American Journal of Plant Sciences**, 5: 2829-2841
IX. Binay Bhusan Panda, Srigopal Sharma, Pravat Kumar Mohapatra and Avijit Das (2016) Iron homeostasis in tropical indica rice (Oryza sativa L.) cultivars having contrasting grain iron concentration. **J. Plant Biochem. Biotechnol.** 25(4):382–391
X. Krishnendu Chattopadhyay, Lambodar Behera, Torit Baran Bagchi, Sshree Sibanee Sardar, Nutan Moharana, Niraja Rani Patra1, Mridul Chakraborti, **Avijit Das**, Bishnu Charan Marndi, Ananta sarkar, Umakanta Ngangkham, Koushik Chakraborty, Lotan Kumar Bose, Sutapa Sarkar1, Soham Ray & Srigopal Sharma (2019) Detection of stable QtLs for grain protein content in rice (Oryza sativa L.) employing high throughput phenotyping and genotyping platforms. **Nature Scientific Reports** 9:3196 (https://doi.org/10.1038/s41598-019-39863-2)

19. Training program attended (Numbers only): 15
20. Training program organized (Numbers only): 3
21. Professional Affiliations (Details)
    a. Life member of the Society for Plant Biochemistry and Biotechnology, New Delhi
    b. Life member of the Association of Rice Research Workers (ARRW), Cuttack
    c. Life member of the Indian Natural Fibre Society (TINFS), Kolkata.