

Amit Yadav

Senior Research Fellow

Molecular Biology & Genetic Engineering Laboratory,
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Publications

1. **Amit Yadav**, O. K. Sinha and D. Theertha Prasad (2008). Multiplex PCR for Rapid Detection of Two Major Sugarcane Diseases in India. (Manuscript under preparation).
2. Kanchan Nasare*, **Amit Yadav***, Anil Singh*, K.B. Shivasharanappa, Y.S. Nerkar and V. S. Reddy (2007). Molecular and Symptom analysis reveal the presence of New Phytoplasma Associated with Sugarcane in India. **Plant Disease. 91 (11) 1413-1418.**

*Contributed equally to the manuscript

Research Experience

1. Working as a Research Fellow at Molecular Biology and Genetic Engineering Laboratory, Vasantdada Sugar Institute (VSI), Manjari (Bk), Pune, India on '**Development of Diagnostic tool for Sugarcane Grassy Shoot Disease and Sequencing of Associated Phytoplasma Genome**' under the guidance of Dr. D. Theertha Prasad, funded by Department Of Biotechnology (DBT).
2. Working on **Diversity analysis** of 'Sugarcane Grassy Shoot Phytoplasma' using different Phytoplasma specific molecular markers viz. 16S rRNA region, 16S-23S rRNA Internal Transcribed region' (ITS).
3. Working on 'Development **of PCR based multiplex detection** tool for Sugarcane Grassy Shoot disease, Sugarcane Whiptail disease and Sugarcane Viruses under the guidance of Dr. D. Theertha Prasad.
4. Working on development of biotic resistance in sugarcane (*Saccharum officinarum* L.) using **Agrobacterium mediated transformation** method.

Research Achievements

1. **Collected around 700 SCGS samples** by visiting approximately 365 sugarcane-cultivated fields from 56 sugar factory areas in 31 districts of Maharashtra, Karnataka, Tamilnadu and Uttar Pradesh.

Samples were used to evaluate phylogenetic relationship among Phytoplasmas associated with sugarcane varieties across majority-sugarcane-cultivated zones in India.

2. **Detected** 'Sugarcane Grassy Shoot (SCGS) Phytoplasma' in *Saccharum officinarum* (Sugarcane) host by designing phytoplasma specific rRNA primes for 16S rRNA region, 16S-23S rRNA Internal Transcribed region' (ITS) through direct PCR.
3. **Developed** PCR based 'multiplex' detection tool for Sugarcane Grassy Shoot disease and Sugarcane Whiptail disease.
4. **Deposited** 19 rRNA and two partial gene sequences coding trans-membrane protein of SCGS Phytoplasma in EMBL database.

Other Publications

1. Nasare, K. S., **Yadav, A. V.**, Shivsharanappa, K. B., Nerkar, Y. S. and Reddy, V. S. (July 2006) Sugarcane grassy shoot phytoplasma partial secA gene for preprotein translocase secA subunit. Accession No.s AM261835 and AM261834
2. **Yadav, A. V.**, Bembulge, S. K., Nasare, K. S., Nerkar, Y. S. and Reddy, V. S. (July 2006) Sugarcane grassy shoot phytoplasma Internal Transcribed Region 1 (ITS1), isolate PW12. Accession No. AM261833
3. **Yadav, A.**, Nasare, K., Nerkar, Y. S. and Reddy, V. S. (July 2006) Sugarcane Grassy Shoot phytoplasma partial 16S rRNA gene, isolates NS1, ND1, ND7, VG4, GD3, DR2, MA4, CM6, PW12, BV2, VD7, SV1, CM1 AND BO1. Respective Accession No.s AM269743, 44, 45, 46, 47, 48, 49, 50, 51, AM261829, 30, 31, 32 and AM266588.
4. **Yadav, A.**, Nasare, K., Nerkar, Y. S. and Reddy, V. S. (October 2006) Sugarcane Grassy Shoot phytoplasma partial IGS, isolate BO1, CM6, CM1, SV1. Respective Accession No.s AM269739 AM269740 AM269741 AM269742.

Popular Article

1. **Amit Yadav** and Y.S. Nerkar. (2006) Sugarcane Grassy Shoot Disease and its Control. (In Marathi) in 'AgroOwn' published by leading **Marathi Newspaper 'Sakal'**. (Page 6 and 15, dated 6th Nov. 2006)
2. Kanchan Nasare, **Amit Yadav**, K.B. Shivasharanappa and Dr. Y.S. Nerkar (2005) Phytoplasma Diseases of Sugarcane. VSI Bulletin. 5(4) 2

Technical Skills

1. Well versed with basic **microbiological** techniques and techniques in Plant Tissue Culture;
2. Well versed with various techniques in, Construction of Binary vector for **Agrobacterium** mediated transformation; *Agrobacterium* transformation and *Agrobacterium* mediated transformation of plants;
3. Well versed with various techniques in **Plant Molecular Biology** viz. Isolation of Plant DNA, total Proteins, analysis by PAGE and Agarose electrophoresis; PCR, Gel Elution and Cloning of DNA fragment, *E. coli* transformation, Blue-White Screening for checking bacterial transformants, Restriction digestion, total Plant RNA isolation, etc.

4. Computer Operations and Software handled: Sequence analysis software **BioEdit**[®] and Bioinformatics tools viz. ClustalW, www.ncbi.nih.gov for molecular data analysis i.e. compilation, interpretation, retrieval etc. Also, MS-Windows[®]; MS-Office[®].

Seminars and Workshops

Attended four days workshop on '**Sequence analysis and Molecular simulations**' at Center for Biotechnology, Anna University, Chennai during 6th to 9th December 2006 focusing on introduction and sequence analysis using online available biological databases like NCBI, SwissProt, PDB, PDBSUM, SCOP, CATH, GenBank, EMBL, KEGG, WHATIF, TIGR, PAM, WIT and GO. Also, learnt bioinformatics tools like BLAST, PSI/PHI-BLAST, CLUSTALW and software like Rasmol, SwissMol, FtDOC, Gromacs, MD Simulations to analyze protein structure and behavior.

M. Sc. Project

Worked on '**Transformation of *Agrobacterium tumefaciens* with the Binary vector pNFHK1**' under the guidance of **Dr. Sujata Bhargava** at Department of Botany, University of Pune, India during 3rd and 4th semester (July 2003 to March 2004) as a partil fulfilment of the M.Sc. course.

M. Sc. Summer Training Project

Worked on '**DNA Fingerprinting of Rice (*Oryza sativa*), using Simple Sequence Repeats (SSRs) markers**' at Maharashtra Hybrid Seed Co. (**MAHYCO**), Jalana, India in May-June-July 2003 under the guidance of Dr. P. Kadirvel, Biotechnology Scientist and **Dr. Bharat Char**, Principle Investigator, Biotechnology Division, MAHYCO. The work carried out was a part of a Project, 'Establishment of DNA fingerprints of Rice cultivars' cultivated by the MAHYCO.

Presentations and Lectures

1. **Biological databases and Bioinformatics.** Contributory lecture to Students of First year of B.Sc. Biotechnology at Sinhagad College (Feb 2006).
2. **Biological databases and Bioinformatics.** Contributory lecture to Students of First year of B.Sc. Biotechnology at Garware College, Pune (March 2006)
3. **Bioinformatics.** Contributory lecture and practical to students of third year of B.Sc. Biotechnology at Sinhagad College, Pune (Sept 2006)
4. **Biotechnology and Bioethics.** Departmental Seminar during M. Sc. Course (March 2004)
5. **Major World Environmental Issues.** Departmental Seminar during M. Sc. Course (Dec 2003)
6. **Mechanisms in Plant Disease Resistance.** Seminar at MAHYCO during Summer Training as a partial fulfillment of M. Sc. course in June 2003

Other Work Experience

1. Conducting practical and theory classes of **Environmental Biotechnology** for M. Sc. Environmental Science at Vasantdada Sugar Institute, Manjari (Bk), Pune during Academic year 2007-08.
2. Worked as a **Lecturer** in Department of Biotechnology, **Modern College, Pune** from July 2004 to January 2005.

3. Worked part-time as a Reader Relations Executive- Group Leader for India's No. 1 English Daily **The Times of India** from May 2000 to Aug 2002. Also participated in 'Re-launch Campaign' of 'The Times of India', Pune City Edition conducted in June-July 2000. I was one of the four Group Leader participated in the campaign.

Personnel Details

Date of Birth: 2nd June 1979

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Telephone: +91 98909 40180

Nationality: Indian, **Passport No.** G0935378

Mother Tongue: Marathi. Languages I can speak and write: Marathi, Hindi and English.

Marital Status: Single

Educational Qualifications:

Sr.	Examination	Board/University	Year of Passing	Grade
1	M.Sc., Botany (Plant Biotechnology)	Department of Botany, UoPune	July'2004	A
2	B.Sc., Botany	Sir Parshurambhau College, UoPune	July'2002	A
3	H.S.C.	Maharashtra Board (Pune Div)	June'1996	B
4	S.S.C.	Maharashtra Board (Pune Div)	June'1994	Distinction

Computer Knowledge

1	DIT (Diploma in Information Technology)	C-DAC, Pune	Feb' 2000	A
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Names and addresses of Referees:

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Head, Molecular Biology and Genetic Engineering,
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Dr. Prof. Sujata Bhargava

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I hereby declare that all the statements made in this resume are true and complete to the best of my knowledge and belief and nothing has been distorted.

(Amit Yadav)

Place: Pune