

Profile of Scientist



1. Name of the Scientist: Pushpa Singh

2. Personal Biodata:

a) Position/Designation: Principal Scientist

b) Contact Details:

i. ICAR Email ID: pushpa.singh@icar.gov.in

ii. Personal Email ID: parampushpa@yahoo.com

iii. Mobile No.: 9415786036

c) Joining date in:

i. ICAR: June 11, 1991

ii. IISR: June 11, 1991

d. Discipline and Specialization

ARS Discipline Organic Chemistry

Specialization Bio- organic Chemistry

e. Trainings / Advanced Exposure in the Area of Work

- 12 day Management Development Programme on "Leadership Development (pre-RMP cadre), NAARM, Hyderabad, November 26 to December 7, 2013.
- Indo Brazil Workshop Organized by DST, CSMRI & Brazilian Academy of Sciences, *Bhavnagar*, Aug, 2011
- Ethical, Legal and Gender Issues in Science, Administrative Staff College of India (ASCI), *Hyderabad*, 2010.
- Recent Developments in Plant Sciences, CIMAP, *Lucknow*, 2003
- Recent Developments on Physiology of Vegetable Crops, N.D University of Agriculture and Technology, *Faizabad*, 2002
- National Training, IPR and WTO, 2001

3. Contributions to the Scientific Advancement

- **Isolation of active plant principles / allelochemicals** for their role in crop growth, *Allelopathy Journal*, **2003**, 12: 71-80); **2008**, 23 (1), 203-212. *Plant growth regulation*, 38: 69-74.
- **Process development for post-harvest products** : Ready-to-use bioclarificant for jaggery, Process for "Sugarcane Juice Concentrate, *J Food Sci. Technol.* **2002**, 39:96-98; *JFST*, **2007**, 44:315-318
- **Waste management** : Conversion of sugarcane lignocellulosic biomass to ethanol, *World J. Microbiology and Biotechnology*, **2008**, 24: 667-673
- **Post harvest management:** Minimization of sucrose deterioration. *J*

- **Low temperature stress management:** Improving juice quality and stubble bud sprouting under low temperatures , *J Agric and Food Chemistry*, **2008**
- **Disease management :** Cellular and molecular interaction analysis of the bacterial isolates in the major disease in sugarcane, *World J Microbiology and Biotechnology*, **2005**, 21:1135-1140
- **Rhizospheric engineering - Sugarcane ratoon management:** *Comm. in Soil Sci& Plant Analysis* , **2013**, 44:1849-1861,*Comm. in Soil Sci& Plant Analysis*, **2015**, 46(4) 454-475)
- **Addressing yield barriers:** Optimization of plant population for improving physiological efficiency of sugarcane:*Journal of Plant Growth Regulation*, **2016**(DOI 10.1007/s00344-016-9655-5)

4. Current Area of research

- Rhizospheric elucidation of carbon and nitrogen dynamics during the crop growth cycle
- Improving physiological efficiency
- Overcoming biological barriers to lignocellulosic ethanol and chemical building blocks

5. Publications (*Corres author, NAAS Rating 2016)

- **Pushpa Singh**, Shahi, H.N & Suman, A (**2001**), Sugarcane juices concentrate preservation, preparation and storage, *Journal of Food Science and Technology*, 39(1) 96-98. (NAAS :8.2)
- **Pushpa Singh**, Archna Suman, Shahi HN (**2007**), Improving cane juice clarification for jaggery manufacture. *Journal of Food Science and Technology*, 44: 3: 315-318(NAAS:8.2)
- **Pushpa Singh**, Archna Suman, Priyanka Singh, Namita Arya and Shrivastava AK, (**2007**), Biological pretreatment of sugarcane trash: A potential source for production of ethanol. *World Journal of Microbiology and Biotechnology*, **24(5): 667-673**.(NAAS: 7.78)
- **Pushpa Singh**, Namita Arya, Priyanka Tiwari, Archna Suman, RK Rai, AK Shrivastava, S Solomon (**2008**), Use of glutaraldehyde and benzalkonium chloride for minimizing post-harvest physio-chemical and microbial changes responsible for sucrose losses in sugarcane.*Journal of Agricultural and Food Chemistry*, 56, 7176-7183. (NAAS : 8.91)
- Archna Suman, Shrivastava AK, Gaur A, **Singh Pushpa Singh J**, Yadav RL (**2008**) Nitrogen use efficiency of sugarcane in relation to its BNF potential and population of endophytic diazotrophs at different N levels, *Plant Growth Regulation*, 54:1-11, (NAAS :7.67)
- **Pushpa Singh**, A.K. Shrivastava, A. Suman, N. Arya, P. Tiwari, Rai RK, (**2008**), Allelopathic effects of hydroxamic acids from sugarcaneleaves on germination and growth of crops. *Allelopathy Journal*, 23 (1), 203-212.(NAAS :6.52)
- Rai RK, **Pushpa Singh**, AK Shrivastava, Archna Suman, (**2008**),

Modulation of low temperature induced biochemical changes by potassium, zinc and Ethrel to improve sugarcane bud sprouting, *Journal of Agricultural and Food chemistry*, 56(24):11976-82, (NAAS : 8.91)

- Archna Suman, K.P Singh, **Pushpa Singh**, RL Yadav(2009), Carbon Input ,Loss and storage in sub- tropical Inceptsol under multi-ratooning sugarcane, *Soil and Tillage Research*, , 104(2);221-226, (NAAS : 8.62)
- **Pushpa Singh**, RK Rai, Archna Suman, TK Shrivastava, KP Singh, RL Yadav, (2014), Soil root interface alterations in sugarcane plant and ratoon crop : Implications in dry matter accumulation, *Communication in Soil Science and Plant Analysis*, 46(4) 454-475) (NAAS : 6.52)
- Rama Kant Rai, Nidhi Tripathi, Deeksha Gautam, **Pushpa Singh***(2016), Exogenous application of *Ethrel* and Gibberellic acid stimulates physiological growth of late planted sugarcane with short growth period in sub-tropical India, *Journal of Plant Growth Regulation*, DOI10.1007/s00344-016-9655-5(NAAS : 8.24)
- **Total Number of Publications:** About **200** (Research Papers, Seminar/ Conf Proc, Edited Books, Book Chapters, Research Bulletins and Policy Paper)

6. Awards and Fellowships

- RK Rai, **Pushpa Singh**, S Solomon (2014), Best sugarcane agriculture paper award for Sugar and Allied Industries, **Bhartiya Sugar**, Khardi, Pune

7. Other Relevant Activities

- Chairman / chairperson of national level committees & decision /policy making bodies
- Member in several important committees /decision /policy making bodies of Int /National level
- Guidance for B. Tech /M.Sc/ Ph.D dissertation as major guide / success of student
- External examiner and paper-setter of PG level for Universities and Boards
- Reviewer of peer-reviewed NAAS listed journals International / National Journals
- Compilation of reports and divisional documents
- Contribute to linkages : Harinagar Sugar Mills Ltd, Bihar and Shamli Sugar Mill, Shamli
- Involved in field impact assessment of technology