

1. Name of Scientist: Dr. Deeksha Joshi
2. Personal biodata:
- (a) Position/ Designation: Senior Scientist
- (b) Contact details:
- (i) ICAR e-mail ID: deeksha.joshi@icar.gov.in
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- (iii) Mobile No. 8400884145
- (c) Joining date in:
- (i) ICAR 28th June 2003
- (ii) IISR 3rd November 2009
- (d) Discipline and Specialization: Plant Pathology
Mycology and biological control of plant diseases
- (e) Training/ advance exposure in area of work
- Attended 9 days training Course on “Mass Production Technology of Biological Control Agents” held at NCIPM, IARI Campus, New Delhi from 18th to 26th February 2004.
 - Attended 6 days training on “Antagonists for Plant Disease Control” held at Project Directorate of Biological Control (PDBC), Bangalore, India from 20th to 25th February 2006.
 - Attended 21 days training on “Biocontrol of Plant Pathogens” held at Centre of Advanced Studies in Plant Pathology, Indian Agricultural Research Institute, Delhi, India from 1st to 21st August 2007.
 - Attended 21 days training on “Adaptive production technologies for sugarbeet cultivation in India” held at Indian Institute of Sugarcane Research, Lucknow from 1st to 21st June, 2011.
- (f) Contribution to the scientific advancement
- Secondary metabolites from *Trichoderma* isolates (established from sugarcane agro-ecosystem) were explored for red rot management and three promising isolates (STr-12, STr-83 and STr-108) exhibiting significant reduction (43-55%) in red rot in field conditions were identified.
 - Identified two *Trichoderma* isolates (STr-83 and STr-108) exhibiting high production of chitinase and cellulase as well as high trash degrading potential.
 - For mass multiplication of *Trichoderma*, sorghum grains and bagasse were identified as the most effective substrates supporting highest population after one month. Moreover the population remained stable for a period of 5 months on these substrates at room temperature, making them optimal for *Trichoderma* mass production.
3. Future planning of research:
- To improve efficacy of *Trichoderma* sp. for red rot control by integrating it with other compatible eco-friendly options and by developing effective delivery system for field



application.

- To standardize technology for effective *in situ* trash degradation by *Trichoderma* and identification of potent isolates for growth promotion in sugarcane.

4. Publications:

1. **Joshi Deeksha**, Singh, P., Singh, A.K., Lal R.J. and Tripathi Nidhi. 2016. Antifungal potential of metabolites from *Trichoderma* sp. against *Colletotrichum falcatum*Went causing red rot of Sugarcane. *Sugar Tech*. DOI.10.10007/s12355-015-0421-y.
2. **Joshi Deeksha**, Singh, P., Singh, A.K., Srivastava, T.K. and Tripathi Nidhi. 2015. Relative effects of different organic amendments on *Trichoderma* communities in soils under a sugarcane plant-ratoon agro-ecosystem. *Indian Journal of Sugarcane technology*. (accepted)
3. **Joshi, Deeksha** and S.C. Misra. 2013. Characterization of *Trichoderma* isolates from sugarcane agro-ecosystem and their efficacy against *Colletotrichum falcatum* causing red rot of sugarcane. *Sugar Tech* 15(2): 192-196.
4. **Joshi, Deeksha**, K.S. Hooda, J. C. Bhatt, B. L. Mina and H. S. Gupta. 2009. Suppressive effects of composts on soil-borne and foliar diseases of French bean in the field in the western Indian Himalayas. *Crop Protection* 28: 608-615.
5. **Joshi, Deeksha**, Hooda, K.S. and Bhatt, J.C. 2009. Integration of soil solarization with bio-fumigation and *Trichoderma* spp. for management of damping-off in tomato (*Lycopersiconesculentum*) in the mid altitude Region of north western Himalayas. *Indian Journal of Agricultural Sciences* 79 (9): 754-757.

5. Other relevant activities of scientist:

- To deliver lectures on various aspects of sugarcane disease management and biological control in various training programs. Also serve in various capacities for organizing seminars/ workshops and other HRD activities.