

Alma Edith Rodriguez Estrada

University of Minnesota, Department of Ecology, Evolution and Behavior
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EDUCATION

- Ph.D., Plant Pathology** **2005 – 2008**
The Pennsylvania State University, Department of Plant Pathology
- M.S., Plant Pathology** **2003 – 2005**
The Pennsylvania State University, Department of Plant Pathology
- B.S. Biology**, Area of expertise: Biotechnology **1998 – 2002**
University of Veracruz, College of Biological and Agricultural Sciences

RESEARCH EXPERIENCE

University of Minnesota, Department of Ecology, Evolution and Behavior **2008 – present**

Postdoctoral Research Scientist

- Fungal ecology: the role of secondary metabolites and other mechanisms of interaction between endophytic isolates of *Fusarium verticillioides* and the pathogen *Ustilago maydis* in maize plants (*Zea mays*).
- Studies of fungal endophyte diversity and community dynamics in various genotypes of *Zea mays*
- Evaluation of corn smut (*Ustilago maydis*) incidence in *Zea mays*: effects of plant genotype and presence of endophytic organisms

The Pennsylvania State University, Department of Plant Pathology **2003 – 2008**

Research Assistant

- Enhancement of antioxidants concentration (selenium and ergothioneine) in *Pleurotus eryngii* var. *eryngii* basidiomata
- Phylogenetic studies of the genus *Pleurotus* with emphasis on *Pleurotus eryngii* species complex
- Studies on the influence of substrate composition and mushroom lines on yield and development of bacterial blotch disease of *Pleurotus eryngii* (DC) Quel.

SELECTED PUBLICATIONS

- **Rodriguez Estrada, A. E.**, Royse, D. J. and Jimenez-Gasco, M. M. 2009. Improvement of yield of *Pleurotus eryngii* var. *eryngii* by substrate supplementation and use of a casing overlay. *Bioresource Technology* 100:5270-5276.

- **Rodriguez Estrada, A. E.**, Lee, H. J., Beelman, R. B., Jimenez-Gasco, M. M. and Royse, D. J. 2009. Enhancement of the antioxidants ergothioneine and selenium in *Pleurotus eryngii* var. *eryngii* basidiomata through cultural practices. World Journal of Microbiology and Biotechnology. DOI 10.1007/s11274-009-0049-8.
- **Rodriguez Estrada, A. E.** and Royse, D. J. 2007. Yield, size and bacterial blotch resistance of *Pleurotus eryngii* grown on cottonseed hulls/oak sawdust supplemented with manganese, copper and whole ground soybean. Bioresource Technology 98:1898-1906.
- **Rodriguez Estrada, A. E.**, Royse, D. J. and Jimenez-Gasco, M. M. 2008. Nucleotide sequence polymorphisms of the partial β -tubulin gene in two varieties of *Pleurotus eryngii*. 17th Congress of the International Society for Mushroom Science. Cape Town, South Africa. Mushroom Science 17:83-96 (CD-ROM)
- **Rodriguez Estrada, A. E.** and Royse, D. J. 2005. Determination of *Pseudomonas tolaasii* threshold concentrations required to produce symptoms of bacteria blotch disease in *Pleurotus eryngii*. Proceedings of the 5th International Conference on Mushroom Biology and Mushroom Products [Acta Edulis Supplement] 12:379-382

SKILLS

- Molecular techniques: PCR, Real Time-PCR, cloning, molecular markers and primer design
- Analytical chemical instruments: HPLC (High Performance Liquid Chromatography) and UPLC-TOF-MS (Ultra Performance Liquid Chromatography – Time of Flight – Mass Spectrometer)
- Software: Microsoft Word, PowerPoint, Excel, Minitab, JMP, Sequencher, MEGA, CLCbio workbench, QuanLynx, MarkerLynx.
- Spawn making, inoculum preparation and mushroom production of several species of mushrooms
- Disease diagnosis in mushroom crops
- Excellent proficiency in Spanish (native) and English
- Good proficiency in speaking, reading and understanding French and Portuguese

LEADERSHIP AND SERVICE

- **Treasurer.** World Society for Mushroom Biology and Mushroom Products (WSMBMP), Present
- **Manuscript reviewer.** Revista Mexicana de Micologia (Mexican Journal of Mycology), 2009
- **Biotechnology Committee Member.** American Phytopathological Society, 2008 – present
- **Outreach Committee Member.** The Pennsylvania State University. Plant Pathology Department, 2007-2008
- **Guest Speaker.** Mushroom, mushrooms and more mushrooms. Boalsburg Elementary School, Panorama Village Elementary School and Forest Elementary School. State College, PA, USA. 2006
- **Translation reviewer.** Spanish version of “Shiitake Cultivation” and “Oyster Mushroom Cultivation”, The Mushroom Growers’ Handbook. Mush World, 2005 and 2007
- **Secretary.** Plant Pathology Association, College of Agricultural Sciences, Pennsylvania State University, 2004-2005
- **Guest Speaker.** Fungi have many stories to tell. Latin American Student Association Conference Series. The Pennsylvania State University. State College, PA, USA. 2005