



## Mohammad Pessarakli (1948-Present)

Research Professor of Plant Sciences/  
Certified Agronomist and Soil Scientist

University of Arizona

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*"Have patience and perseverance." Mohammad Pessarakli, 2006.*

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### Overview

Dr. Mohammad Pessarakli is a professor of plant sciences and a certified agronomist and soil scientist at the University of Arizona. His research interests include soil fertility and plant nutrition (finding optimum nutrient and water requirements of plants/turfgrasses), environmental stress physiology (salinity, drought and heat), and screening plants/turfgrasses for environmental stress tolerance. In terms of career accomplishments, Pessarakli is most proud of his many publications, which include nine books (he is currently working on the 10th, the 3rd Edition of the Handbook of Photosynthesis, Revised and Expanded), about 20 book chapters and roughly 175 journal articles in various scientific and professional journals. He has also made significant scientific contributions to his field: in 2005, Pessarakli developed "Discovery Grass," a type of grass that can withstand far higher levels of environmental stress than its normal counterpart can. Some of his most recent publications include:

- Pessarakli, Mohammad. 2015. Using Bermudagrass (*Cynodon dactylon* L.) *In Urban Desert Landscaping and as a Forage Crop for Sustainable Agriculture in Arid Regions and Combating Desertification*. *International Journal of Water Resources and Arid Environments*4(1):08-14. ISSN2079-7079
- Lotfi, Ramin, Mohammad Pessarakli, Puriya Gharavi-Kouchebagh, and Hossein Khoshvaghti. 2015. Physiological responses of *Brassica napus* to fulvic acid under water stress: chlorophyll a fluorescence and antioxidant enzymes activity. *The Crop Journal*, 3 (5): 434-439. DOI: 10.1016/j.cj.2015.05.006
- Ashrafi, Ensyie, Jamshid Razmjoo, Morteza Zahedi, and Mohammad Pessarakli. 2015. Screening Alfalfa for Salt Tolerance Based on Lipid Peroxidation and Antioxidant Enzymes. *Agronomy Journal*, 107 (1): 167–173, DOI:10.2134/agronj14.0248.

- [Ghanbari, Ali Akbar, Seyyed Hassan Mousavi, and Mohammad Pessarakli. 2015. Accumulation of Reserve Compounds in Common Bean Seeds under Drought Stress. Journal of Plant Nutrition, 38 \(4\): 609–623, DOI: 10.1080/01904167.2014.934479.](#)

*This interview was conducted in 2015.*

## **Early Life and Career**

Mohammad Pessarakli was born and raised in Iran, and says he owes his successful career in the environmental sciences almost entirely to hard work. “I got a government scholarship to continue my [college] education in the United States, which was very difficult to get,” he says. “I studied very hard. It paid off. All my education was free by utilizing either scholarships or assistantships in the U.S.” Pessarakli says his interest in the environmental sciences did not really get started until he was an undergraduate studying in the United States. He is now a Research Professor at the University of Arizona, as well as an Agronomist and Soil Scientist (CPAg/SS), certified by the American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS). Pessarakli is also an Executive Board Member of the American Association of the University Professors, University of Arizona Chapter. He is nationally and internationally well-known and recognized for his accomplishments and productivities. He has been involved in numerous collaborative scientific work at different universities in several countries.

Pessarakli earned his Bachelor of Science in Environmental Resources in Agriculture in 1977, and his Master’s degree in Soil Management and Crop Production in 1978, both from Arizona State University. He received his Doctorate in Soil and Water Science, with a major in soil fertility and plant nutrition and a minor in agronomy and plant genetics, from the University of Arizona in 1981, then completed two years of Post-doctoral research, earning a certificate in soil and water engineering and environmental stress physiology. After completing this program, Pessarakli began work as a faculty member at the University of Arizona, where he has remained throughout his career as a Professor and Scientist. His first position at the University of Arizona was as an Instructor in the Soil, Water, and Environmental Science Department, and he now works as a Research Professor in the School of Plant Sciences. Pessarakli’s work at the University of Arizona includes research and extension services as well as teaching courses on Turfgrass Science, Management, and Stress Physiology; however, he spends the majority of his time on research. His research interests include soil fertility and plant nutrition (finding optimum nutrient and water requirements of plants/turfgrasses), environmental stress physiology (salinity, drought and heat), and screening plants/turfgrasses for environmental stress tolerance.

## **Contributions**

In terms of career accomplishments, Pessarakli is most proud of his many publications, which include nine books (he is currently working on the 10<sup>th</sup>, the 3<sup>rd</sup> Edition of the *Handbook of Photosynthesis, Revised and Expanded*), about 20 book chapters and roughly 175 journal articles in various scientific and professional journals. He has also made significant scientific contributions to his field: in 2005, Pessarakli developed “Discovery Grass,” a type of grass that can withstand far higher levels of environmental stress than its normal counterpart can. Discovery Grass was

widely recognized and written about as an important new invention. Earlier, in 1983, Pessarakli discovered a way to create fertilizer from cotton gin trash rather than burning it, a practice that was creating pollution. He has received numerous awards and accolades, including the Five Star Faculty Teaching Award, has been included in five (Sterling, Marques, Strathmore, Madison, and Continental) Who's Who Directories of America, received a Certificate of Merit from the National Office of the Honor Society of Agriculture, and is a member of three honor societies (Gamma Sigma Delta; Phi Kappa Phi; Pi Lambda Theta, Alpha Alpha Chapter). He has also served as a Consultant of the United Nations (UN) in 1994, 1996, and 1997 for Transfer of Knowledge Through Expatriate National (TOKTEN) in developing countries.

While extremely satisfied with his own career accomplishments, Pessarakli is most proud of his role in a more personal accomplishment: the academic success of his son, Mohammed Mahdi Pessarakli. "Last but not least, I am thankful to God that my son has followed my advice during his education so far," Pessarakli says. "He finished high school in three years as an honor student, completed his BS in biochemistry and molecular biophysics at the University of Arizona also with an honor status, and immediately was accepted and started his medical degree at the University of Arizona, College of Medicine at the age of 21 and earned his MD at the age of 25."

## **Importance of Mentoring to Career**

Pessarakli credits the University of Arizona with having significant minority mentoring programs, with networks connecting minority students and faculty all over the world to each other. Pessarakli has mentored a number of minority students, both domestic and international, and says that his mentoring style depends on the individual. "My activities depend on the person, but I try to show them how I work and lead by example," he says. Pessarakli names his Doctoral Thesis Advisor, belated Dr. T.C. Tucker, as his own major mentor, but notes that later in his career, the "invaluable" encouragement of one of his colleagues and best friends, Dr. Kenneth B. Marcum, also had a significant effect on his success. He has encountered some discriminations in the past, but says, "I see things improving."

## **Advice to Young Professionals**

His advice to minority students considering environmental careers: "Have patience and perseverance. Never get discouraged, and don't be afraid to take risks."

## **For More Information**

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