

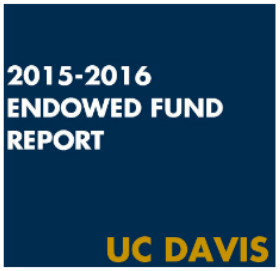

Melvin D. Androus Endowed Professor for Weed Science

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College Celebration

Friday
OCTOBER
14
2016

5:30 - 8:00 p.m.

Pavilion
UC Davis

We hope you will be able to join us.

ENDOWMENT PURPOSE

The Melvin D. Androus Professorship for Rice Weed Control was established in 1996 by the California Rice Research Board in order to provide a permanent source of funding for both basic and mission-oriented weed control research in rice and related cropping systems for the California rice industry. Mr Androus served as the manager of the California Rice Research Board from 1969 – 1997 and was instrumental in securing the funding from CRRB for the endowed chair.

RESEARCH

My primary research goal is to apply expertise and leadership in weed science and plant physiology/ecology for the advancement of both applied and fundamental aspects of weed science. Among others, my research program works toward:

1. Develop knowledge on weed biology and weed-rice competition,
2. Understanding the physiological and biochemical mechanisms of herbicide resistance in key weeds of rice and develop management practices to prevent and manage weed resistance in rice,
3. Improve and optimize weed management programs in rice, and
4. Reduce off-target herbicide movement and study the effect of herbicide drift on nontarget plants.

TEACHING

As an instructor, I strive to provide quality learning experience both in and out of the classroom. I am very excited about what I teach and try to convey that to my students. My approach in training graduate students is to work with them to prepare solid and cutting edge academic experience and provide guidance, support, and encouragement to complete the research. In addition, I work with students to publish their research in reputable journals. I also emphasize the importance of collective thinking and teamwork. During my career, I have taught several courses including: Integrated Pest Management, Seminar in International

Agricultural Development, Integrated Weed Management, Herbicide Interactions, Introduction to Plant Resistance to Pests, and Agronomy Seminar.

Currently, I teach two undergraduate and one graduate course. These courses are:

1. I co-teach the core weed science course for undergraduates (Introduction to Weed Science, PLS 176). It covers most aspects of modern weed science and invasive weeds, emphasizing on concepts, while providing also substantial information for real life weed control.
2. I co-teach the course Introduction to Integrated Pest Management (PLS105). The course encompasses the ecological principles of integrated pest management, the biology of different classes of pests (insects, weeds, plant pathogens, vertebrates) and the types of losses they cause. The course introduces the principles of monitoring and population assessment, review of the different techniques used for pest management including biological, cultural and chemical controls, and how to implement IPM programs in the field. Laboratories emphasize hands-on activities to familiarize students with pest identification and IPM techniques.
3. My graduate-level course (Physiology of Herbicide Action, PBI 212) examines plant physiology through in-depth study of the mode of action and fate of herbicides and discusses environmental implications of herbicide use.

STUDENTS

- Alex Cesesk (Ph.D.student): working on direct seeded rice and resistance to ALS inhibiting herbicide
- Mariano Gallo (Ph.D. student): rice herbicide drift and impact on environment and non-target organisms.
- Feras Almaseri (Ph.D. Student): using AITC as a tool to manage pests in California crops
- Katie Mccauley (Ph.D. student): herbicide resistance in sprangletop and other grasses.

OUTREACH

My extension program has been mainly focusing on weed management in rice and other agronomical crops. The program reaches front-line weed managers. My program has direct contact with natural extenders of weed management information who can multiply my efforts to reach the front-line managers. The goal of my weed management program is to reduce risks of weeds and weed management related strategies. My efforts coordinates the use of weed biology, environmental information, and available technology to prevent unacceptable levels of weed damage by the most economical means, while posing the least possible risk to people, and the environment. Herbicide is important components of any program to manage weeds. However, off-target herbicide movement may cause plants and environmental damage. My extension efforts are also focused on safe application of herbicides by using modern spray technology and understand the physical and environmental factors that contribute to off-target movement.

THANKS

I would like to thank Melvin D. Androus Endowed Professorship donors for supporting the rice weed management program and graduate training at the University of California. The contributions and support of the weed science program to California rice growers cannot be achieved without the support of Melvin D. Androus Endowed Professorship donors.