One thing I hear often, no matter which meeting or class I attend, is graduate students speaking of their specialty. "I am a [fill-in-the-blank]," they always say. This could be any number of things: a plant breeder, a soil chemist, an animal nutritionist, or a geneticist. Every time they state that one specialty, they risk setting themselves up as a "one-trick pony," so to speak. That statement is not to be taken the wrong way. Every individual that goes through a graduate program has to find his or her niche and specialize in a particular discipline. But an aspect of graduate education that is often overlooked, and one which means a great deal in the realm of professional science, is that of the benefits of interdisciplinary research.

The first question to answer is, what is interdisciplinary research? Dr. Russ Muntifering, in a talk given during a symposium at the 2015 Joint Annual Meeting of the American Dairy Science Association and the American Society of Animal Science in July, presented several examples that explain this concept. He cited a 2011 article by Dr. Patricia Duffy stating that interdisciplinary research is a complex model by which researchers may approach problems that are not as easily solved using the knowledge base of a single discipline. At this symposium, Dr. Janet Donaldson explained that most view interdisciplinary research as a team of professionals who join forces to handle a problem in multiple independent and specialized sections. However, this is actually a different practice known as multidisciplinary research. While this topic is being brought up again in the cycle of education and focus at scientific meetings across many disciplines, it is by no means a new concept. In a 1997 article in the Journal of Agribusiness, Duffy and her colleagues from Auburn University point out that this was the topic of an at-length discussion at the 1979 meeting of the American Agricultural Economics Association.

Duffy notes in this article that interdisciplinary research is no easy task to accomplish, citing criticisms from natural scientists of the work from applied and social scientists, and vice versa. That being said, there are many successful individuals who have launched prestigious careers based on interdisciplinary and diverse backgrounds. Dr. Beth Guertal, a professor of turfgrass management at Auburn University, ASA–CSSA–SSSA Fellow, and ASA editor-in-chief, was educated as a soil scientist. Dr. Muntifering is a professor at Auburn University in the Department of Animal Science. His training, however, is rooted in conservation biology. Dr. Monte Rouquette, an ASA and CSSA fellow and professor of forage physiology at Texas A&M University, actually began his schooling with an interest in range science and is now well known for his collaborative efforts in the animal sciences. This is only a sampling of the many examples that could be provided of those who have diverse backgrounds and have effectively worked across disciplines to further the knowledge of real-world problems.

One of the primary ways in which graduate students may start into this path is through diversification of their individual knowledge base. I speak to this because of my own experiences and because I have been mentored by professionals who see interdisciplinary research and collaboration as key components to graduate education. Personally, I received two bachelor’s degrees in animal sciences and agronomy/soils, a master’s degree in animal science (ruminant nutrition), and am currently pursuing a doctoral degree in crop science (forage physiology). I have performed both specialized and collaborative research at each level. I am not saying that one has to go to this extreme in diversification. Listed below are some simple ways in which students may take part in interdisciplinary training and diversification.

Ways to Receive Interdisciplinary Training

- Take classes from other departments. At most, if not all, universities, there is no requirement that a student’s