

Three Is a Magic Number

Janna Beckerman, Purdue University, janna@purdue.edu, and Bill Schneider, USDA ARS, William.Schneider@ARS.USDA.GOV



For scientists, discovery is the ultimate product of research. Regardless of whether it is a fact, a theory, a technique, or an invention, it is a process of creation where something is developed that did not exist

before. Similarly, knowledge is the product of learning and when it occurs as a process, it is called education. Transferring that discovery or knowledge to the public and applying it for the greater good is extension and engagement. Discovery, learning, and extension/engagement comprise the three missions of the land-grant institution. However, to successfully implement these missions requires successful leadership.

Successful leaders share numerous traits with successful scientists, chief among them being creativity and perseverance. Successful leaders possess traits of great educators, including the ability to motivate others and explain complex subjects with clarity and coherence. Successful leaders need what are often referred to as the “soft skills” that extension specialists often possess, as well as the ability to work across disciplines and develop teams to achieve their vision.

And yet, when we look at the vast literature on leadership, the university contribution is not only lacking, it is nearly nonexistent. In agriculture, this absence is noteworthy: I would submit our two biggest public failures born out of this lack of leadership in the agricultural sciences exist within the context of the ongoing “controversies” on GMOs and pesticide use. Our failure in leadership is why there even are controversies: GMOs are regularly used for the production of medicines (e.g., insulin, hormones, chemotherapeutics)

...our two biggest public failures born out of this lack of leadership in the agricultural sciences exist within the context of the ongoing “controversies” on GMOs and pesticide use.

and chemical intervention for human health is all but unquestioned and certainly not controversial. We see a similar parallel playing out in the field of nanotechnology, a moratorium of which exists with food, but not medicine.

The skills we develop as scientists, educators, and extension specialists allow us to become successful leaders. And yet, too often, we ignore opportunities to use them to lead in places outside of the laboratory. At some point, we need to recognize that the boundaries of knowledge are extended not only by those people working at the edge of discovery, but by those who preserve and support the infrastructure that allows the discoverers to extend the boundaries in the first place. The movement of these boundaries requires a concerted effort by all three missions: That we work together to achieve the discovery, and that we continue to educate and extend that discovery to the public for the public good. It also requires leadership. “If you build it, they will come” works great in a pretend baseball field in Iowa. It will not work in an agricultural field anywhere—not without leaders who can work together to discover, educate, and extend that discovery for everyone.

We are soliciting columnists on the following topics: leadership skills in extension, leadership skills in regulatory plant pathology, leadership skills in industry, finding a niche: getting started on leadership in graduate school, and leadership in a teaching academic setting. Please contact **Janna Beckerman** (janna@purdue.edu) and/or **Bill Schneider** (William.Schneider@ARS.USDA.GOV) if you are interested in writing on these topics, or others, for inclusion in a future column. ■