EDITORIAL

Agronomic education at a crossroads

David A. Munn*

This is my first issue as JAE Editor. I wish to thank my predecessor Bill Anderson and our American Society of Agronomy leadership for this opportunity to serve. It is my premise in this first editorial that education in and about agronomy in the USA has reached not just another milestone, but a crossroad where several pathways toward the future are possible. In my view, the forces for revision and change are going to make the content and context of agronomy, crops, and soils instruction very different in the future compared to the post-WWII period. I am going to call this post-WWII period the “golden age” of agronomy and indeed the other traditional agricultural disciplines as well.

My understanding is that agronomy (crops and soils) courses and faculty arose in the land-grant universities in the USA to meet special needs to adapt advances in the physical and biological sciences to the challenges and circumstances in agriculture. Many “agronomy” faculty of the pre-WWII era were, in fact, trained at the B.S. or even the graduate level in chemistry, physics, botany, geology, etc. There was another generation of agricultural departments before WWII that took the basic sciences and adapted them to agriculture’s situation. Agricultural chemistry, agricultural bacteriology, agricultural biochemistry, and crop botany are names of departments from this era. Just as agronomy came out of the more basic sciences in the forepart of this century, it seems bent upon fracturing back into chemistry, physics, mineralogy, microbiology, plant breeding, plant genetics, plant physiology, etc. An issue facing agronomy departments is the question: Is there still a core of basic agronomic knowledge sufficient to warrant study and faculty faced with enrollment decline might be perceived as simple self-interest in protecting their budgets and careers as public educators and scientists. Society may simply be sending the signal that fewer college-trained agriculturalists/agronomists are needed. After all, food is plentiful and when calculated as a percentage of U.S. personal income, it is cheap. As federal and state budgets grow tight, can agriculture in general and agronomy realistically expect to hold or increase their funding base? As far as most of our nation’s young people are concerned, agricultural careers may be perceived as neither especially challenging and altruistically rewarding nor financially lucrative.

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The previous candid assessments of the current situation should not be confused with negativism or despair about the prospects for educators and researchers in the agricultural sciences. Agriculture as an occupation and profession goes back to the earliest written period and before in the human experience. A safe and adequate food supply is basic to human welfare as are shelter, health care, and social order and responsibility. Agriculture and agronomy’s histories are stories of change, challenge, discovery and adaptation.

1. How can extension agronomists serve not only farmers (their traditional audience), but the general public, all of whom pay for public sector agronomy?

2. What in the way of training educated persons would agronomy departments offer their university beyond the agriculture college?

The 1988 annual meetings in Anaheim included both a premeeting workshop titled “Positioning Agronomic Curricula for the Future” and a Division A-1 Symposium on Curriculum Issues. Also, ARCPACS continues to discuss issues related to the training and certification of agronomists. Surely, the ARCPACS core of courses are a place to begin any examination of agronomy curriculum. Many of the nation’s colleges and universities are reexamining their total educational experience and curriculum, often to enhance the liberal arts emphasis across all program areas. For several years, the buzzword in higher education as a whole has been “excellence” just as colleges of agriculture have been infatuated with the buzzword “biotechnology.” These three forces: the liberal arts emphasis, the press toward excellence, and the surge in interest in biotechnology in the plant and animal sciences are affecting programs, courses of study and research problem/project direction, and funding in our nation’s agricultural colleges. These forces are given a sense of urgency by near universal declines in the undergraduate enrollments in agriculture.

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The Ohio State Univ., Agricultural Technical Institute, 1328 Dover Road, Wooster, OH 44691. Received 19 Dec. 1988. *Corresponding author.

But many cross currents are at work on the traditional courses of study: the need for communications and interpersonal skill enhancement; the need for problem-solving abilities to be nurtured; and the need to provide practical hands-on experiences with soil, plants, animals, and farm equipment to a current generation of students with little or no such personal experiences to draw upon. There is the need to study more basic physical and biological sciences and to build more of the same into agronomy courses. So it seems the issue is, What knowledge about agronomy is vital to the training of agronomists? How much time and how many courses or special efforts such as work experiences, internships, etc. will be needed to impart this knowledge to today’s students who will be tomorrow’s faculty and agronomy practitioners?

I am proud to be an agronomist. Our profession is both as old as soil and crop husbandry (thus rooted in antiquity) and as modern and high tech as any of today’s science and technology careers. I feel that if agronomy wants to recruit for its share of today and tomorrow’s bright young minds, agronomists must work more and more directly with the general public. In my personal church and community contacts, I often have to explain what agronomy is when asked where I work or what I do. To some, this means we need new names for departments and programs. I say we need to go public with our profession. Everyone knows what veterinary science is. Most people have an idea what horticulture is. Why are these agricultural sciences better understood by the general public? I affirm that these areas work more directly and effectively with our nation’s citizens. When the American Society of Agronomy sponsors six journals and only one (Journal of Production Agriculture) uses the units of weights and measures common in our society, I say it is no accident that the general public cannot define or relate to agronomy. Our agronomy monographs are wonderful scholarly works (and economical also), but who in our profession is writing about agricultural issues with the passion and skill of a Louis Bromefield or a Hugh Hammond Bennet? Many of today’s school children picture cereal as something that comes in a box with a prize at the bottom. The connection between pizza dough and soil resources, plant genetics, and plant pest management are total mysteries. Meat comes wrapped in cellophane or styrofoam tray. Milk from grass and grain, not likely! Americans have an ignorance of their food production system.

In this golden opportunity of curriculum reform, agronomists and agricultural educators must develop courses on the nature and impact, the issues and benefits of agricultural science and technology on society as a whole. We have important things to share with anyone who wished to be an educated person. Don’t crop and soil scientists have something to offer in environmental matters like acid rain, soil erosion and salinization, ground water pollution, pesticides in the nation’s food supply, etc.?

I will close by affirming that agronomy (crop and soil) professionals must interface more and more effectively with our general population. If we don’t we face only empty classrooms and shrinking budgets. Those who are moved to agree or disagree with this essay are encouraged to write letters to the editor, an editorial or a well-documented article to this journal. If you agree with me, I hope you will do something with the general public that builds appreciation for agronomy as a profession.

Your comments concerning the content of this editorial or other published material in this journal are welcome at any time. Please send your Letter to the Editor to: David A. Munn, JAE Editor, The Ohio State Univ., Agricultural Technical Institute, 1328 Dover Road, Wooster, OH 44691.