

IMPACT OF AG INDUSTRY DOWNSIZINGS AND MERGERS ON THE WEED SCIENCE PROFESSION, INDUSTRY-UNIVERSITY RELATIONSHIPS, AND OUR OWN CAREERS. David H. Johnson, Senior Research Associate and Associate Professor, Penn State University, Manheim, PA 17545.

There have been dramatic changes in the crop protection industry in the past decade or so. There were at least 24 companies actively engaged in new herbicide research and development when I started graduate school in 1985. When I finished my Ph.D. in weed science in 1992 there were about 15. Now there are about 8, and most of these have scaled back new herbicide discovery efforts in favor of crop trait development or discovery efforts in pathology and entomology. On the other hand, there are 91 manufacturers listed on cdms.net under ag/crop and 81 listed under T and O/non-crop. This indicates that there are a lot of companies selling crop protection products in several markets. Many of these companies sell generic pesticides (glyphosate, atrazine, trifluralin, phenoxy, etc.), adjuvants, nutrients, and biocontrol agents. A few have fairly large research and service operations.

Company mergers and downsizings, combined with less hiring in the public sector, have resulted in fewer job opportunities for new graduates and for those forced to look for new work due to job loss. There is much more competition for those few jobs that are available. Field rep territories have been enlarged, job functions combined (sales, service, and R and D), and there is less service at the grower level. Job security has certainly decreased.

In universities, budget cuts have also forced downsizings, both in faculty and staff positions, and decisions not to replace retired faculty are common. Decreased support from industry in areas such as product testing has also reduced resources. Many universities are not replacing retired crop breeders, and those that are left often have very limited access to new crop traits. I believe that this will lead to fewer qualified graduates with expertise in classical breeding and genetics, an area in which many companies are expanding their efforts.

In industry-university relationships, there is now less face-to-face time between industry reps and university weed scientists. This and higher turnover among reps makes it more difficult to develop working relations. There is also much less interaction and networking with graduate students compared to 10 to 15 years ago. Attendance at weed science field days has declined dramatically, and many universities have discontinued them or made them part of experiment station field days. Other issues include shorter times to market launch, which means extension faculty have less time to evaluate new products, cost recovery at universities (facilities and administration charges, experiment station land charges), and limited access to new technologies. These and other issues may further decrease the amount of interaction that occurs.

Weed scientists of the future must not be purely herbicide technologists, but must have a broader base of knowledge of cropping systems management, including weed biology, soil and environmental chemistry, genetics, biotechnology, agronomy, crop protection, invasives, non-crop, T and O, social and business issues, and yes, herbicides. I believe that we must become more generalists rather than specialists to survive in this field for our careers, and we should be training our students in this way.

I believe that the future of weed science is secure because weed scientists address issues of importance to society, such as food production and safety, environmental quality, bioterrorism, etc.). However, we must be willing to join forces with other disciplines to address global issues on the cropping system and landscape levels, not just at the weed control level. Private industry and the public sector must work together to ensure this future, and continue to attract bright students to pursue this career path.