EXTENSION INTO THE 21ST CENTURY: IMPLICATIONS FOR WEED SCIENCE EXTENSION PROGRAMS.

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Weed Science Extension efforts of the future will be influenced and affected both by changes in the discipline of weed science and by changes in the approach and philosophy of Extension education. With respect to Extension, significant changes are occurring in the focus of programs, clientele demographics, budgetary support, and methods for reaching an ever-changing audience. However, a constant which remains as valid today as it was nearly 100 years ago is that the mission of Extension is to "bring the university to the people" where they live and work and to "make a difference" in the lives of people. Staying relevant and executing that mission in today's Extension environment means connecting with new sources of information across the campus and elsewhere, integrating a broad range of disciplines, and reaching new audiences in new and different ways.

The discipline of weed science also faces changes, as shifts occur from a focus on weed management through herbicide development and application, to a more integrated, biology-based, agro-ecosystem approach to weed management. The advent of biotechnology and its subsequent impact on crop production and weed management approaches also has a significant influence on the demand for and the approach to Extension weed science programming. Further, as with Extension overall, the audience for weed science Extension programming is changing. Fewer traditional, full-time production farmers are in need of Extension weed science programming, while a larger number of part-time farmers, urban gardeners, and ecology-focused end users will be the target audience of the future.

The following is a non-exhaustive list of trends that will affect future Extension weed science programs and approaches:

- Shift from herbicide focus to integrated, biology/ecology based weed management
- Application of biotechnology to crop production and weed management
- Team approach to solutions for complex problems
- Shrinking base of full-time agricultural producers and changing demographics
- Increasing reliance on grant funding, fee-based systems, and other non-formula funds
- Regionalization of approach to Extension programming
- Electronic delivery of information tailored to individual needs
- Globalization of agriculture
- Increased societal concerns regarding food safety and food source
- Concerns for maintenance of biodiversity
- Desire for "natural"/ biological approaches over chemical weed management
- Increasing complexity of problems and the resulting solutions required

Extension is needed now more than ever. The programs that remain viable and of increasing value to clientele are those that will become more flexible, responsive and targeted toward today's and tomorrow's clientele needs. Extension professionals must become more entrepreneurial, and must develop integrated approaches to educational programming addressing complex problems in a meaningful way, providing relevant educational programming to a broader clientele. In the same way, Extension weed science programs have the potential to meet even greater needs in the future with the rapidly changing demands of clientele, increasingly complex problems associated with rapid changes in technology, and a desire for society at large for ecologically sound and "natural" approaches over chemicals. However, weed scientists will need to adapt new techniques, partner outside their discipline, and become part of broader teams to address the issues society identifies as most important relevant to the weed science discipline.

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