# GRADUATE CERTIFICATE IN WEED SCIENCE

The Graduate Certificate in Weed Science provides advanced training in weed science topics including herbicide mode of action, herbicide resistance, integrated pest management, and weed population dynamics. Knowledge and skills gained from the certificate will enable students to identify and solve complex problems in natural and managed systems, especially to implement effective and sustainable weed management. This certificate is an excellent choice for weed science graduate students as well as current working professionals in careers as researchers, crop protection biologists, crop advisors, extension educators, growers, agricultural consultants, production managers, inspectors, diagnosticians, and regulatory professionals.

Students interested in graduate work should refer to the Graduate and Professional Bulletin (http://catalog.colostate.edu/general-catalog/graduate-bulletin/).

## Learning Objectives

Upon successful completion, students will be able to demonstrate proficiency in each of the following learning objectives:

1. **Breadth and depth of knowledge in weed science (a.k.a. technical competencies)**:
   a. demonstrate expertise in weed science and how it intersects with other, related disciplines.
   b. explain the physiological, biochemical, and molecular processes that determine herbicide mechanisms of action and resistance to herbicides.
   c. evaluate results and information from technical and scientific literature.
2. **Agricultural literacy**: Demonstrate an understanding of the social, economic, biological, and physical aspects of weed management problems in natural and managed ecosystems:
   a. develop coherent, objective arguments regarding contemporary issues in weed science in agricultural and natural (eco)systems.
   b. explain how weed science can contribute to the resolution of relevant environmental and social issues.
3. **Leadership and Professionalism**: Develop professional and leadership skills to succeed in future careers:
   a. organize and work effectively within diverse teams to solve complex problems and achieve desired outcomes in natural and managed ecosystems.
   b. manage one's time effectively, work independently, take initiative, and collaborate with colleagues on group class projects.
4. **Communication**: Develop professional communication skills suitable for diverse audiences, with an emphasis on sharing scientific results in written, oral, and graphical forms:
   a. develop materials to engage the public (including scientists, industry and government personnel, the general public) in the identification of weed management needs and solutions.