

SARAH M. WARD - CURRICULUM VITAE

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EDUCATION

1994 Ph.D. in Plant Breeding and Genetics, Colorado State University
1991 M.S. in Plant Breeding and Genetics, Colorado State University
1988 M.A. Ed. in Science Education, East Carolina University
1980 B.Sc. (Honors) in Plant Sciences, University of London (U.K.)

EMPLOYMENT

2001 - pres. Associate Professor of Plant Genetics, Colorado State University
1994-2001: Assistant Professor of Plant Breeding and Genetics, Colorado State University
1991-1994: Graduate Research Assistant, Colorado State University
1989-1991: Graduate Teaching Assistant, Colorado State University
Earlier employment before I came to the U.S. includes several years as a high school teacher in the U.K., two years working on a women's agricultural development project in Ecuador, and time spent happily driving tractors, milking cows, and serving beer in local pubs where I grew up in southern England.

TEACHING

SOCR330 Principles of Genetics

** I teach this 3-credit general genetics class every fall to 100+ students in our agriculture, biology, natural resources, and pre-veterinary programs.*

SOCR344 Introduction to Crop Variety Development Techniques

** This is a new 1-credit course module I taught for the first time in spring 2008 for students in our Organic Agricultural Production Interdisciplinary Studies Program.*

SOCR535 Origin and Evolution of Crop Plants

** My longest-running graduate class (since 1996). I teach this 3-credit class in alternate years for graduate students in plant breeding, weed science, and botany.*

SOCR580 Genetic Variation in Plant Populations

** I developed this 3-credit experimental modular course in 2006 (and taught it again in spring 2008) in response to requests from graduate students in our weed science, plant breeding, and restoration ecology programs for a class on applied population genetics.*

PEER-REVIEWED PUBLICATIONS

Ward, S.M. and M. Jasieniuk. 2009. Sampling weedy plant populations for genetic diversity analyses. (Weed Science: in press).

Ward S.M., C.E. Fleischmann, M.F. Turner, and S.E. Sing. 2009. Hybridization between Invasive populations of Dalmatian toadflax (*Linaria genistifolia* subsp. *dalmatica*) and yellow toadflax (*Linaria vulgaris*) (Invasive Plant Science and Management: in press).

Preston C., D.S. Belles, P.H. Westra, S.J. Nissen, and **S.M. Ward**. 2009. Inheritance of resistance to the auxinic herbicide dicamba in *Kochia scoparia*. *Weed Science* 57:43-47.

Ward S.M., S.D. Reid, J. Harrington, J.R. Sutton and K.G. Beck. 2008. Genetic diversity in invasive populations of yellow toadflax (*Linaria vulgaris* Miller) in the western United States. *Weed Science* 56:394-399.

Ward S.M., J.F. Gaskin and L.M. Wilson. 2008. Ecological genetics of invasive plants: What do we know? *Invasive Plant Science and Management* 1: 98-109. (***Invited review for inaugural issue***).

Kothera L., **S.M. Ward** and S.E. Carney. 2007. Assessing the threat from hybridization to the rare endemic *Physaria bellii* Mulligan (Brassicaceae). *Biological Conservation* 140:110-118.

Hansen N., **S.M. Ward**, R.A. Khosla, J.F. Fenwick, and W. Moore. 2007. What does undergraduate enrollment in soil and crop sciences mean for the future of agronomy? *Agronomy Journal* 99:1169-1174.

Karam D., P. Westra, S.J. Nissen, **S.M. Ward** and J.E.F. Figueiredo. 2006. Assessment of silver-stained AFLP markers for studying DNA polymorphism in proso millet (*Panicum miliaceum* L.) *Revista Brasileira Botanica* 29:609-615.

Ward, S.M. 2006. Genetic analysis of invasive plant populations at different spatial scales. *Biological Invasions* 8:541-552. (***Invited paper***)

Ward, S.M. 2006. Molecular marker and sequence methodologies and related terms. Pages 347-369 in Motley T., and H. Cross (eds.) *Darwin's Harvest*. Columbia University Press, New York.

Ward, S.M. 2005. Quantitative Genetics and Multifactorial Traits. pp. 599-616 in Klug, Cummings and Spencer "Concepts of Genetics 8e" Prentice Hall.

Ward, S.M. 2005. Population Genetics. pp. 617-638 in Klug, Cummings and Spencer "Concepts of Genetics 8e" Prentice Hall.

Ward, S.M. 2005. Conservation Genetics. pp. 663-673 in Klug, Cummings and Spencer "Concepts of Genetics 8e" Prentice Hall.

Karam, D., P. Westra, S.J. Nissen, **S.M. Ward** and J.E.F. Figueirido. 2004. Genetic diversity among proso millet (*Panicum miliaceum*) biotypes assessed by AFLP technique. Plant Daninha 22:167-174.

S. Fritz, **S.M. Ward**, P. Byrne, D. Namuth and V. Egger. 2004. Short and long-term impacts of biotechnology education on professionals who communicate science to the public. Journal of Natural Resources and Life Science Education 33: 111-116. (*This paper was selected for inclusion in the ASA-CSSA-SSSA Science in Action technology transfer program*).

Fritz, S., **S.M. Ward**, P. Byrne, J. Harms and D. Namuth. 2004. Agricultural biotechnology training for extension educators. Journal of Extension 42 (1): <http://www.joe.org/joe/2004february/rb6.shtml> (Refereed online publication).

Pester, T.A., **S.M. Ward**, A.L. Fenwick, P. Westra and S.J. Nissen. 2003. Genetic diversity of jointed goatgrass (*Aegilops cylindrica*) determined with RAPD and AFLP markers. Weed Science 51:287-293

Byrne, P.F., D.M. Namuth, J. Harrington, **S.M. Ward**, D.J. Lee and P. Hain. 2002. Increasing public understanding of transgenic crops through the World Wide Web. Public Understanding of Science 11:1-12.

Ward, S.M. 2001. A recessive allele inhibiting saponin synthesis in two lines of Bolivian quinoa (*Chenopodium quinoa* Willd.) Journal of Heredity 92:83-86.

Fenwick, A.L. and **S.M. Ward**. 2001. Use of random amplified polymorphic DNA markers for cultivar identification in mint. HortScience 36:761-764.

Ward, S.M. 2000. Allotetraploid segregation for single-gene morphological characters in quinoa. Euphytica 116:11-16.

Ward, S.M. 2000. Response to selection for reduced grain saponin content in quinoa. Field Crops Research 68:157-163.

Ward, S.M. 1998. A new source of restorable male sterile cytoplasm in quinoa. Euphytica 101:157-163.

Ward, S.M. and D.L. Johnson. 1994. A recessive gene determining male sterility in quinoa. Journal of Heredity 85:231-233.

Ward, S.M. and D.L. Johnson. 1993. Cytoplasmic male sterility in quinoa. Euphytica 66:217-223.

CURRENT AND RECENT NATIONAL PROFESSIONAL SERVICE

Associate Editor for *Weed Science* (2007-present)

Weed Science Society of America Professional Development Committee
(member 2006-2007, chair 2007-present)

Invited Participant in Leadership Summit to Effect Change in Teaching and Learning,
National Academy of Sciences, Washington DC October 3-5, 2006

Associate Editor for special invasive plants issue of *Weed Technology* (2004)

Technical advisor for project to introduce quinoa to north China and Inner Mongolia.
Coordinated by the Adventist Development and Relief Agency and the Chinese Ministry
of Agriculture; funded by the Khadoorie Foundation. (2000-2001)

Technical adviser for quinoa development project in Mongolia coordinated by the
Adventist Development and Relief Agency (2000-2004)

Technical consultant for quinoa introduction project with the River Valley Development
Council, Maine. Funded by the Maine State Department of Agriculture (2001-2002)