Curriculum Vitae:

Albie Felix Miles
Ph.D. Candidate
Environmental Science, Policy and Management (ESPM)
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Teaching and Research Interests

Teaching: agroecology; horticultural science; integrated pest management; biological control; food systems and sustainability; introduction to environmental science; nature and properties of soils; soil ecology; integrated soil fertility management; research internships in agroecology; international agricultural development; urban agriculture; agriculture and human values.

Research: the influence of biological diversity in farming systems on the enhancement of ecosystem services to and from agriculture, including natural pest regulation, crop pollination, biodiversity conservation, productivity, and the protection of water and soil quality; traditional agricultural systems; the ecological basis of agroecosystem sustainability; political economy of agricultural development; agroecological approaches to food security in sub-Saharan Africa; environmental and social ethics in sustainable agriculture; learning theory and post-secondary education in sustainable agriculture.

Ph.D. Dissertation

Title: Evaluating the Influence of Floral Resource Provisioning on Biological Control of *Erythroneura* Leafhoppers (Homoptera: Cicadellidae) and *Planococcus* Mealybug (Homoptera: Pseudococcidae) in California Vineyards.

Committee: Dr. Miguel A. Altieri (Chair), Dr. Kent M. Daane, and Dr. John G. Hurst

Abstract: The two-year research project assesses the impact of four flowering ground covers, including annual buckwheat (*Fagopyrum esculentum*), lacy phacelia (*Phacelia tanacetifolia*), sweet alyssum (*Lobularia maritima*), and common carrot (*Daucus carota*) on biological control of *Erythroneura* leafhoppers (*E. elegantula* and *E. variabilis*) and vine mealybug (*Planococcus ficus)* by the parasitoid wasps *Anagrus spp.* (Hymenoptera: Mymaridae) and *Anagyrus pseudococci* (Hymenoptera: Encyrtidae) in California vineyards. The research includes eight split-block trials in commercial vineyards in Napa and Sonoma County and two fully replicated research designs in Lodi, California and the UC Kearney Agriculture Center in Fresno County. The research tests multiple hypotheses

of biological control in vineyards to advance scientific knowledge of cost-effective and ecologically based pest management strategies that meet USDA standards for certified organic production. The study will quantify population-level impacts and analyze the biological mechanisms theorized to be enhanced through Floral Resource Provisioning (FRP). Comparative cost-benefit analyses of FRP and conventional practices will evaluate cost-effectiveness of tested strategies. The project aims to support California producers interested in eliminating pesticide use with new information on ecologically based pest management options for viticulture.

Education

Ph.D. Candidate, Environmental Science, Policy and Management
University of California, Berkeley (December 2011)

Certificate in Ecological Horticulture
Center for Agroecology and Sustainable Food Systems
University of California, Santa Cruz (1994)

B.S. Environmental Studies and Education
California State University, Chico (1993)

Fellowships and Awards

University of California, Berkeley Center for Biological Control, Robert Van den Bosch Memorial Scholarship: Graduate Student Research in Biological Control (2009, 2010).

University of California, Berkeley Johannes Joos Memorial Scholarship: Graduate Student Research in Entomology and Pest Management (2009).

Bears Breaking Boundaries Award for Curriculum Innovation. Awarded for proposal outlining curriculum for new undergraduate minor in *'Food Systems and Sustainability'* for the College of Natural Resources, University of California, Berkeley (2008).

Academic/Teaching Experience

Graduate Student Instructor, University of California, Berkeley (2007-2010): Graduate Student Instructor, teaching lecture and laboratory sections in Urban Agriculture course (ESPM 117) to undergraduate and graduate students averaging 70 students.

Instructor, University of California, Santa Cruz (2005): Teaching laboratory sections in Agroecology Practicum course (ENVS 131) to 35 undergraduate students.

Instructor, University of California, Santa Cruz, Center for Agroecology and Sustainable Food Systems, Santa Cruz, California (1995-2006): Teaching agroecology and organic farming for Apprenticeship in Ecological Horticulture averaging 35 post-graduate students annually.

Curriculum and Program Development

For the Department of Environmental Science, Policy and Management at the University of California, Berkeley (2010), I am currently serving as the graduate student representative on the committee charged with developing a new Ph.D. concentration in Diversified Farming Systems and Multi-functional Agriculture.

For the University of California, Berkeley Urban Agriculture course (2007-2010), I fully revised and updated the curriculum to be inter-disciplinary, experiential and community-based, while developing a new hands-on laboratory section in ecological horticulture.

For the College of Natural Resources at UC Berkeley (2008), I developed an award-winning proposal for a new undergraduate minor in *'Food Systems and Sustainability'* in response to the food crisis of 2008 and growing student interest in agroecology and sustainable agriculture.

For the University of California, Santa Cruz Center for Agroecology and Sustainable Food Systems (1999-2005), I evaluated and updated the course curriculum for the Apprenticeship in Ecological Horticulture and edited a two-volume set of sustainable agriculture curricula based on the program. Publications include: *Teaching Organic Farming and Gardening* (published in 2003) and *Teaching Direct Marketing and Small Farm Viability* (published in 2005).

For the California Agriculture Teachers Association (2005), I developed two courses (*An Introduction to Sustainable Food Systems* and *The Development of US Agriculture*). I produced two course syllabi and reviewed, edited, and compiled instructional resources for use in teaching the courses throughout the California community college system.

For the University of California, Santa Cruz Center for Agroecology and Sustainable Food Systems (2003), I developed a comprehensive set of online instructional resources for a model college level sustainable agriculture course entitled '*Exploring Sustainability in Agriculture'*. Includes a wide range of topics in the social and environmental sciences.

Academic Conferences Organized

For the University of California, Santa Cruz Center for Agroecology and Sustainable Food Systems (2006), I initiated and co-coordinated the first national conference on sustainable agriculture education *"Facilitating Sustainable Agriculture: A Participatory National Conference on Post-Secondary Education"*, which is now in its fourth year. A

principle outcome of the conference was the formation of the *Sustainable Agriculture Education Association (SAEA)*, a non-profit academic association dedicated to the promotion and enhancement of post-secondary sustainable agriculture education in the US.

Professional Associations

The Ecological Society of America

The Society for Conservation Biology

The Sustainable Agriculture Education Association

The Entomological Society of America

Work Experience

University of California, Berkeley. Ph.D. Student Researcher and Graduate Student Instructor (2006-present).

The Oakland Institute. Agroecology Research Consultant. Oakland, California (2010).

University of California, Santa Cruz Center for Agroecology and Sustainable Food Systems. Horticulture Instructor and Curriculum Development Coordinator (2003 - 2006).

United Nations Food and Agriculture Organization (FAO). Research Consultant, FAO Organic Agriculture Program, Rome, Italy (2003).

University of California, Santa Cruz Center for Agroecology and Sustainable Food Systems. Horticulture Instructor and Curriculum Development Coordinator (1999 - 2003).

AmeriCorps Service Program. Curriculum Development Specialist and Horticulture Educator, Santa Cruz, California (1998).

Jardines del Futuro. Community Organizer and Garden Educator, Santa Cruz, California (1997).

University of California, Santa Cruz Center for Agroecology and Sustainable Food Systems. Teaching Assistant, Ecological Horticulture Program (1995).

Volunteer Experience

Advisory Committee for the University of California, Santa Cruz Center for Agroecology and Sustainable Food Systems Apprenticeship in Ecological Horticulture (January 2011-present).

Founding Member, Sustainable Agriculture Education Association (2006 – present).

Opportunities Industrialization Centers International (OIC International) FarmServe Africa Program. Organic Agriculture Consultant, Ghana West Africa (2006).

California Farm Link. Board of Directors (2003 – 2006).

US Agency for International Development USAID/Ecology Action. Organic Agriculture Consultant, Uzbekistan and Western Russia (1999).

University of California, Santa Cruz Center for Agroecology and Sustainable Food Systems. Nutrition Garden (1996).

Presentations

Conferences

"A Quantitative Review of the Ecological Costs and Benefits of Organic and Diversified Farming Systems." The California Climate and Agricultural Summit. University of California, Davis, Davis, California, March 2011.

"Evaluating the Influence of field-scale Habitat Management on Biological Control in California Vineyards." Constellation Wines U.S. 2011 Technical Conference. Pismo Beach, California, May 9 - 11, 2011.

Invited Guest Lectures

"Agroecology and Ecologically Based Pest Management in California Wine Grapes", Geography 130: Natural Resources & Population, UC Berkeley, June 2010.

"Floral Resource Provisioning and Conservation Biological Control in California Wine Grapes", ESPM 100, UC Berkeley, February 2011.

Selected Publications

Journal Articles

Kremen, Claire, Miles, Albie and Altieri, Miguel. 2011. Ecosystem Services and Diversified Farming Systems: analysis of costs, benefits and tradeoffs for food

production, resilience and biodiversity (submitted for a special issue of Ecology and Society).

Articles in Preparation

Miles, Albie, Wilson, Houston, Danne, Kent and Altieri, Miguel. Measuring the Impact of Floral Resource Provisioning on the Longevity, Fecundity and Parasitism of a Key Wine Grape Pest (*Planococcus* mealy bugs) by the Natural Enemy (*Anagyrus pseudococci*) Under Laboratory Conditions (in preparation).

Miles, Albie, Wilson, Houston, Danne, Kent and Altieri, Miguel. Measuring the Impact of Floral Resource Provisioning on Population Densities of Key Pests and Beneficial Insects in San Joaquin and Fresno County Vineyards (in preparation).

Miles, Albie, Wilson, Houston, Danne, Kent and Altieri, Miguel. Measuring the Impact of Methyl Salicylate Lures ('PredaLure') on Population Densities of *Erythroneura* leafhoppers, *Anagrus spp.* and Generalist Predators in Napa Valley Wine Grapes (in preparation).

Book Chapters

Miles, Albie, Wilson, Houston and Altieri, Miguel, Nicholls, Clara. 2011. Habitat Diversity at the Field and Landscape Level: A Review of Conservation Biological Control Research in California Viticulture. In Arthropod Management in Vineyards. N.J. Bostanian, R. Isaacs and C. Vincent (eds.). Springer (accepted).

IPM Manuals

Altieri, M.A., C.I. Nicholls, H. Wilson and A. Miles. 2011. Habitat management in vineyards: a growers manual for enhancing natural enemies of pests. Laboratory of Agroecology, University of California, Berkeley.

Training Materials/Post-secondary Curricula

Miles, Albie and Brown, Martha (eds.). 2005. Teaching Direct Marketing and Small Farm Viability: Resources for Instructors. Santa Cruz, CA: Center for Agroecology and Sustainable Food Systems.

Miles, Albie and Brown, Martha (eds.). 2003. Teaching Organic Farming and Gardening: Resources for Instructors. Santa Cruz, CA: Center for Agroecology and Sustainable Food Systems.

Reports and Working Papers

Scialabba, Nadia El-Hage and D. Williamson. 2004. The Scope of Organic Agriculture, Sustainable Forest Management and Eco-forestry in Protected Area Management.

Environment and Natural Resources Working Paper No. 18. Food and Agriculture Organization of the United Nations (FAO) Rome, Italy.

References:

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