

New Technologies for Extension Education in Organic Production

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Scholarly findings and new technologies in organic agriculture have emerged rapidly since the National Organic Standards were released in Oct. 2002. This expanding knowledge base creates a challenge for researchers, who are required to review literature from a wide range of disciplines to provide the best production information possible. To this end, the dissemination of research findings through web-based portals grants information providers immediate access to the latest research, as well as a current and relevant synthesis of interdisciplinary knowledge. “eXtension” is an Internet-based educational partnership of the 74 institutions that comprise the US Land Grant University System (LGUS). eXtension is an evolving, virtual, customer-centered educational environment that aims to provide the most current, objective, research-based information from the LGUS. Teams of subject specialists and support professionals (Communities of Practice or CoPs) interact with the clientele served (Communities of Interest or CoIs) to create educational materials that evolve over time based on the needs of the clientele and the latest research available. “eOrganic” is a new CoP created to address information gaps among many land grant universities for science-based information relevant to organic production systems.

eXtension is an evolving, virtual, customer-centered educational environment that provides the most current, objective, research-based information from the US Land Grant University System (LGUS). eXtension is founded on the principles of aiding in the distribution of useful and practical information by representing all 72 LGUS, in addition to the US Department of Agriculture (USDA) and the National Association of State Universities and Land Grant Colleges. Virtual teams of content specialists and support professionals (Communities of Practice or CoPs) interact constantly with the clientele served (Communities of Interest or CoIs). The educational materials that are developed will evolve over time as a result of these interactions, based on the needs of the clientele and the latest research available.

This virtual environment will transform the way the Cooperative Extension System nationwide develops and distributes educational programs. The result is a body of educational material that will minimize duplication among LGUS. This objective contributes to sustainable use of economic resources through the aggregation of essential and exceptional extension materials in one convenient location. Additional objectives of the eXtension communities are to increase the visibility of Cooperative Extension Programs by reaching new audiences and developing productive relationships with industry stakeholders as well as facilitate and enhance ongoing associations between CoPs and CoIs.

A CoP is defined by eXtension as “a virtual network of content providers who share knowledge or competence in a specific area who are willing to work and learn over time to further develop and share that knowledge in the forms of educational products and programs.” Currently, five CoPs have posted educational materials online at <http://www.eXtension.org>. The CoPs are as follows: Entrepreneurs and Their Communities, Imported Fire Ants, Financial Security for All, HorseQuest, and Wildlife Damage Management. Within the year, educational materials from a total

of eight CoPs will be released. There are 21 CoPs now (Table 1), and more will be developed. Membership within a CoP is fluid, so authors can contribute depending on time and availability. To learn how to join a community of practice, see Box 1.

The content on eXtension will have a national strength with a local customized focus. Once users register on eXtension, their “home” LGU logo will appear in the upper left corner of each eXtension content window. There is also a link that allows users to contact their local county extension office. The guiding principles and philosophies of Communities of Practice state that content authors will retain development recognition for promotion and tenure purposes even though the actual educational product

Table 1. eXtension Communities of Practice.

Beef Cattle
Consumer Horticulture
Corn and Soybean Production
Cotton
DAIReXNET
Diversity Across Higher Education
Entrepreneurs and Their Communities
Extension Disaster Education Network
Family Caregiving
Financial Security for All
HorseQuest
Imported Fire Ants
Just In Time Parenting
Livestock and Poultry Environmental Learning Centers
Map@Syst
Pesticide Environmental Stewardship
Pork Information
Urban Integrated pest Management
Wildlife Damage Management
Youth Literacy SET
eOrganic

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Box 1. How to join a Community of Practice.

- Step 1.** Go to: <https://people.extension.org> and create an eXtension ID. This ID is what you will use to work with all extension applications.
- Step 2.** Explore the Communities from the category list of CoP Wiki Home Pages (http://cop.extension.org/wiki/Category:eXtension_CoP_Home).
- Step 3.** Once you have selected the CoP you wish to join, go to their workspace in the wiki. Click on Community Home on the navigation menu found at the bottom of the page. On the CoP Community Home page, locate the page for CoP membership. There you will find the leadership contact information for the CoP.
- Step 4.** Send an email to the leadership of the CoP you wish to join. For more information, visit: http://cop.extension.org/wiki/How_to_Join_a_Community_of_Practice
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will belong to the system (CoP, eXtension and ultimately the Cooperative Extension System). The products belong to the CoP and will evolve as the science and the CoP and CoI evolves. This commitment to openly shared educational product development will lead to improved integration among content authors within a CoP and also among CoPs. For example, a document highlighting “small farm management” in one CoP might reference a document in the Personal Finance CoP on “creating business plans for farmers.” Although the actual content will be determined by the CoPs, the shared vision is that regional and local applications will be available through community highlights, case studies, and internet links to local extension educational pages.

eXtension content is developed through a collaborative process among members of the CoPs using a variety of on-line tools. Share Point is a software package designed to receive contributions from a variety of authors. A “wiki” is an electronic tool and internet site specific to each CoP where members can create and review educational materials prior to submission to eXtension. Elements common to all eXtension sites include articles, interactive “Ask the Expert” sessions (log in to participate), and FAQs (frequently asked questions). eXtension has also posted streaming video of expert presentations, learning modules, and in the future will offer certificate or continuing education courses. eXtension is evolving rapidly, and eOrganic and other pioneer CoPs will participate in shaping eXtension.

Financial support for eXtension is currently provided by funds from annual assessments of participating LGUS and a line item allocation through USDA CSREES. Assessments are based on extension federal formula fund allocations. eXtension is assisting the CoPs to develop long-term funding strategies from public and private sources to develop, evaluate, and maintain the site over the short and long term. CoPs including eOrganic, have received initial funding from competitive grants and industry donations.

eOrganic is a new Community of Practice created to address information gaps among many land grant universities for science-based information relevant to organic production systems. The growth in organic market opportunities has increased the demand on Extension personnel across the country to supply this clientele with information on all aspects of production. Extension faculty assisting organic producers must evaluate and synthesize existing literature from a variety of ecological and agronomic disciplines in the confines of organic regulations (Park and Lohr, 2007). Frequently, there is insufficient scientific evidence to provide definitive production recommendations. Information

providers often utilize a variety of resources, including conclusions drawn from industry trials and experience to strengthen educational programs.

Organic producers historically have not utilized Extension to the degree that conventional producers have. In a national survey of more than 1000 organic producers, the Organic Farming Research Foundation reported that 24% of respondents cited “uncooperative or uninformed extension agents” was a “serious constraint” to production (Walz, 1997). Although there is little reliable information to track usage data on organic information requests to Extension and other land grant university personnel, surveys of usage data for ATTRA (National Sustainable Agriculture Information Service; www.attra.org) and OAI (Organic Ag Info, an on-line searchable database of organic and biological agriculture resources; www.OrganicAgInfo.org) demonstrate the demand for reliable, science-based information on organic agriculture. ATTRA receives 2 million website hits a year, with over 200,000 unique users. Over 70% of these requests are from farmers or other agriculture professionals, and 6% are from Extension and LGU representatives (Alex Stone, Oregon State University, personal communication). OAI reports 10,000 requests a year, with 15% of these requests coming from LGUs. The eOrganic CoP currently has 100 members representing diverse organic production regions and content areas (Alex Stone, Oregon State University, personal communication). A virtual learning environment that grants equal access of the best educational material to all producers may improve production efficiency in areas of the US that historically lack sufficient university support to organic producers.

The current vision for eOrganic is to evolve through a participatory process involving Land Grant Research and Extension faculty, ATTRA, Sustainable Agriculture Research and Education Program (SARE), Organic Farming Research Foundation (OFRF), National Agriculture Library, OAI, New Farm (<http://www.newfarm.org>; Rodale Institute’s E-zine for farmers), and many other stakeholders. The roles and relationships will continue to evolve, but everyone is committed to working together to partner in a national, user-driven, web-based organic agriculture information system. Materials for a variety of educational backgrounds will be designated into one of three academic levels: beginning, for consumers and secondary school students; intermediate, for beginning farmers; and advanced, for experienced farmers and education professionals. The content on eOrganic will include:

- Searchable content for rapid access
- A national compilation of continuously updated and searchable FAQs
- Interactive “Ask the Expert” sessions
- Regionally specific farm case studies (similar to the Harvard Case Study model)
- Certification tools
- Portal to in-depth information available from eOrganic and partner sites (OAI, ATTRA, SARE) and local and regional Land-grant University and Cooperative Extension resources.

Research on organic and sustainable agriculture has been practiced since the early 1900s. Many new experiments were initiated following the 2002 National Organic Program debut to explore questions in organic systems defined by the new regulations. Since many research programs in organic agriculture are long term systems experiments, published results may not be available for five years or more from the start of the experiment. Therefore, extension faculty often utilize student thesis and annual reports to funding agencies to stay as informed as possible about project

conclusions. In the eOrganic CoP, this will be accomplished by linkages to sites external to eXtension, but within the broader LGU/USDA CSREES system. For example, partner sites such as SARE, ATTRA, and OAI are funded with Federal research competitive grants and/or Federal budget allocations.

The Scientific Congress on Agricultural Research (SCOAR); a group of researchers and producers formed in 1999 to plan and promote research and information exchange on issues pertinent to sustainable agriculture, recently released the “2007 National Organic Research Agenda” which outlines their research priorities for organic agriculture (Sooby et al., 2007). Outcomes from this meetings and similar meetings strongly influence the direction of university researchers and thus their educational programs. To date, the research efforts by LGUS in organic agriculture have benefited by the good professional relationships between LGUS researchers, organic producers, and industry partners.

Overall, eXtension has the potential for LGU extension professionals to have access to the best extension educational materials available. The quality of information available will depend on active peer review of existing content, interpretation and synthesis of the latest research findings into new educational materials, and an overall commitment by CoP members to work collaboratively and for the greater good of the general public. In the long term, the delivery of critical, accurate, and accessible information will be validated by user evaluations and community support. The biggest challenge is to get extension educators to

work in a new way: collaboratively on national issues and through a shared electronic portal. Liberty Hyde Bailey, considered by many to be the “Father of Horticulture,” envisioned an extension system whose central purpose was to broaden the cultural ideals of “self-sustaining” agriculture and personal happiness rather than the delivery of specific production practices to increase yields and profits (Peters, 2006). Perhaps the educational model of eXtension will serve as a vehicle for a more holistic agricultural education; by its nature, eXtension is unique due to its sum of many parts. Ultimately, talented, committed members with strong CoP leadership producing exceptional educational materials will contribute to the long-term success of eXtension.

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