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Preferred Knowledge Sources for Beginning Farmers: The Case of Kentucky

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Preferred Knowledge Sources for Beginning Farmers: The Case of Kentucky

Abstract

This article presents an analysis of preferred knowledge sources for beginning farmers and differences in knowledge networks between "heritage" and "nonheritage" farmers. The purpose of the analysis is to support the reassessment of training, technical assistance, and other needs of beginning farmers to be able to develop more precisely targeted training and educational programming for them. Data were drawn from a series of six listening sessions conducted across Kentucky from January through July 2013. We present three concluding recommendations for enhancing the relevance of Cooperative Extension by emphasizing its role as a "connector" of available resources to beginning farmers.

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Introduction

Cultivating new generations of farmers is critical to ensuring that U.S. agriculture remains productive and competitive in the global food economy. To realize this goal, federal grant programs, such as the Agricultural Act of 2014 (also known as the 2014 U.S. Farm Bill), provide funding for beginning farmer and rancher development, facilitate farmland transition to the next generation of farmers, and improve outreach to military veterans about farming and ranching opportunities (Williamson, 2014). Cooperative Extension agents, as well as agricultural educators at formal and nonformal educational institutions, have a vital role to play in these endeavors.

A mismatch seems to persist between resource and service providers' understanding of the challenges and needs of beginning and young farmers and the actual challenges and needs of that group. From their analysis of the 2007 Agricultural Resource Management Survey data, for example, Ahearn and Newton (2009) found that beginning farmers tend to have smaller farms, both in terms of acreage and revenue, and tend to grow specialty crops. Yet in a survey in Iowa, many Extension professionals expressed ambivalence toward the need for specific training for beginning farmers (Nelson & Trede, 2004). The survey revealed that these agents spent a low percentage of their time and effort assisting beginning farmers. Trede and Whitaker (1998) argued that agricultural educators need to reassess their roles and responsibilities in the planning and delivery of beginning farmer education.

Using the case of Kentucky, the study discussed here supports the reassessment of training, technical assistance,

and other needs of beginning farmers. This article provides insight about the diverse knowledge sources beginning farmers access and their motivations and justifications for the use of each source. In our study, we used the U.S. Department of Agriculture's definition of the term *beginning farmers*; that is, farmers with 10 or fewer years of experience as the principal operator of a farm enterprise.

We also compared "heritage" and "nonheritage" beginning farmers relative to use of the diverse knowledge sources available. Heritage farmers are those who were raised on a farm and/or are currently farming with a family member (including members of the farmer's extended family). Nonheritage farmers are those who do not have a family background in farming or who are more than one generation removed from a family farming operation. By providing an understanding of how these two types of beginning farmers access resources to build their agricultural knowledge, our study contributes to improving the capacity of Extension to design and implement more targeted training and educational programming for beginning farmers.

Methods and Procedures

As part of a broader multistate, multiyear project funded by a grant from the Southern Sustainable Agriculture Research and Education program (SSARE Grant No. LS12-251), six listening sessions were conducted across Kentucky from January through July 2013 with groups consisting of both heritage and nonheritage beginning farmers. Session locations were chosen on the basis of geographic location (western, south central, central, and eastern Kentucky), and recruitment was facilitated by advertisement through partner county Extension agents and partner community-based organizations.

Our listening sessions combined traditional focus group methodology with participatory (e.g., community-based) research methods (Whyte & Ed, 1991; Wilkinson, 1998). Each listening session involved asking semistructured interview questions and eliciting responses and guidance from session participants about ways our broader research project could best suit their evolving needs as beginning farmers. Each listening session lasted about 90 min. The semistructured interview questions discussed in this article investigated both technical and tacit knowledge sources the beginning farmers were using in developing their farm enterprises. In our interviews with study participants, we used the following open-ended prompts:

- To whom or where do you go first with questions about farming?
- What other resources do you draw on to answer questions about farming?

Follow-up prompts and discussion elucidated contexts, reasoning, and other factors that shaped participants' knowledge acquisition strategies. The listening session methodology was tested in a pilot listening session. Responses from that pilot session are included in this report as no significant revisions to the methodology were made following the pilot session.

All participants in our study were over the age of 18 and reported having 10 years or less of experience as a principal operator of a farm enterprise. To recruit diverse types of beginning farmers, we relied on county Extension agents in different regions for referrals. Also, we excluded horse farms from our study. At the beginning of a listening session, we asked participating farmers to complete a short profile survey about their demographic backgrounds and key characteristics of their farms.

A total of 30 beginning farmers participated in the listening sessions. Table 1 summarizes the demographic characteristics of participants and business characteristics of their farm enterprises. As shown in Table 1, the

heritage and nonheritage farmers shared relatively similar levels of previous farm experience, although the heritage farmers were working on family farm operations from which they were building their own enterprises whereas the nonheritage farmers had worked on nonfamily farms or in apprentice programs. Notable gender differences existed as heritage farmers were exclusively men and a significant number of nonheritage farmers were women. The heritage farmers owned and leased more land on average than the nonheritage farmers. This circumstance is in part attributable to the predominance of row crop, commodity grain, and conventional livestock or dairy farming among heritage farmers; these types of farming require larger land bases than the horticultural and other specialty operations more commonly engaged in by the nonheritage farmers. The heritage farmers were most likely to sell on the open market to an integrator, whereas the nonheritage farmers most commonly sold through farmers' markets.

Table 1.
Characteristics of Participating Farmers and Their Farms ($N = 25$)

Characteristic	Type of farmer	
	Heritage ($n = 11$)	Nonheritage ($n = 14$)
Farmers		
Gender		
Man	11	8
Woman	0	6
Average age	38	33
Average number of years of previous farming experience	15	11
Farms		
Average number of acres owned	50	28
Average number of acres leased	123	30
Most common market outlet	On the market to a grain or livestock integrator	Farmers' market

Note. Thirty beginning farmers participated in the listening sessions, but five declined to fill out profile surveys or neglected to turn them in.

Limitations of our study include the relatively small sample size and the nonrandom sampling method for farmer participation. Although we make no claims as to the representativeness of our findings for all beginning farmers, we do believe that initial insights provided through analysis of the study's listening sessions can inform thoughtful program development for beginning farmer trainings and guide future research efforts.

Findings

Our study found that beginning farmers in Kentucky commonly use five distinct categories of knowledge sources: other farmers, the Internet, Extension/land-grant university resources, industry representatives, and other (non-

Extension) publications. Although the two types of farmers in our study shared some opinions about and preferences for knowledge sources, there were also distinct differences in how they prioritized sources when seeking information specific to their enterprise lines and management philosophies. In particular, the nonheritage farmers, who were more likely to engage in alternative and diversified production systems, were more likely to seek information from the Internet and published resources (in the absence of a mentor farmer), whereas the heritage farmers identified industry representatives and family members as the best resources for production-specific knowledge.

We have summarized our findings related to preference for and typical use of each knowledge source category by farmer type in Table 2. In the narrative following Table 2, we discuss the knowledge source categories, explaining key differences in how heritage and nonheritage farmers access each type of knowledge source and identifying key gaps in local or regional accessibility of production-specific knowledge sources for both conventional and alternative management techniques.

Table 2.
Knowledge Source Preferences and Uses by Farmer Type

Knowledge source category and importance	Farmer type		
	Heritage	Nonheritage	Both
Other farmers	Immediate family member; first "go-to" resource	Nonfamily mentor farmer with shared management philosophy	Respected elders in community
Internet	Common use as resource, especially for market information	First "go-to" resource for all-around questions	Common use of smartphones
Extension/university resources	Secondary and supplementary resource	Not seen as valuable for alternative production; likely to directly contact Extension specialists	Value of knowledge source determined on an agent-by-agent basis
Industry representatives	Highly trusted resource for crop management	Not mentioned	
Other publications	Trade publications for the applicable commodity	Extensively used for diversified and alternative enterprise management	

Other Farmers

Our participants reported that other farmers, both established (veteran) or beginning (novice), were a primary source of information. Their questions to other farmers typically relate to specific farming or enterprise management practices and tap into the other farmers' tacit knowledge and experience, as indicated by the following comment:

"If somebody were like, 'This famer has the answer you can get,' I would call them. . . . for example, I've never done plasticulture strawberries. If there was a farmer in Kentucky that was really good at growing plasticulture strawberries, I think I would call them."

Heritage farmers commonly directed questions to a farming family member (e.g., father, uncle), as indicated by the following statement:

"The first person I go to is my dad. Twenty-two years and still tons of questions I haven't asked of him. And he's quick to tell me he doesn't know, and he can always tell me someone who would know, and he's just never had any initiative to ask or [is] too proud to ask or something like that."

Although heritage farmers recognized that family members have extensive knowledge, there also was general recognition that such knowledge often corresponded with strong opinions about the "right" way to do something and discouragement relative to new methods or enterprise lines.

Nonheritage farmers also valued the opinions and knowledge of established farmers. They tended to consult a "mentor" farmer with whom they had apprenticed or interned or a well-regarded farmer with whom they had a standing relationship and shared similar production philosophies or methods. Because many of these farmers were newly located in a region, they valued the insights of other farmers in the vicinity with regard to questions about area-specific issues, such as the unique characteristics of local soil and topography. The following comment illustrates this point:

"I would say I go to, when I have a question, go to mentor farmers first in the area. So, you know, we have our key people for vegetables or meat or whatever we have a question about."

Internet

For general day-to-day questions regarding production or marketing, the nonheritage farmers most commonly reported using the Internet and general web searches as a first "go-to" resource for information. Participants also reported using the Internet to access online Extension publications and using social media (e.g., Facebook) and electronic mailing lists related to agriculture. Using smartphones to access online information was another common tactic. The following comments relate to the beginning farmers' use of the Internet as a knowledge source:

"My go-to is probably the Internet. Unfortunately. If I have a question, the first thing [I do is] type it into my phone or get on the computer. That's probably my first line of defense."

"Maybe if I want to know something about fertilizer or a pest or disease management thing, you know, I'll usually just hop on . . . Google and do that. If that isn't satisfactory, then there are other things, but that's my first, usually."

Extension/Land-Grant University Resources

Use of land-grant university resources varied by enterprise and production type and between heritage and nonheritage farmers. Among heritage farmers, livestock farmers appeared to use more university resources than others. These heritage farmers reported using available resources from specific land-grant universities outside Kentucky and indicated feeling that these resources had high-value knowledge relative to particular enterprise lines or production practices. For example, they sought information from University of Missouri publications on grazing practices and University of Wisconsin publications on dairy production. For row crop publications, producers cited University of Illinois, Purdue University, and Ohio State University as valued sources.

Both heritage and nonheritage farmers reported contacting county Extension agents or Extension specialists. However, they indicated that their use of these resources was determined by having an individual relationship with a specific agent and that agent's attitudes toward or knowledge about the farmer's particular production practices and enterprise lines. Farmers made the following relevant comments:

"It seems to be county to county, just from my experience. Some counties have fantastic agents. They are really helpful for small farmers, but some counties are just commodity-driven, and they just don't know the resources or choose not to facilitate. I think I'm lucky in this county."

"I mean it's also Extension, but I have a personal connection with Extension specialists."

Nonheritage farmers who were alumni of LGUs or who had developed working relationships with faculty stated that they would likely contact Extension faculty directly with questions. These farmers viewed this option as a unique opportunity not available to all farmers. One farmer summarized this perspective with the following comment:

"I mean, if I have a high-tunnel question, I would email [an Extension faculty member] before I'd email Extension. I mean, just because [I've] made more connections [with the faculty at the university than with] our Extension office. We haven't utilized [the] Extension office as much as we probably should have because we'll email someone else first."

Farmers engaged in diversified horticulture or alternative production practices reported that Extension resources were not reliable sources of information for developing their enterprises or addressing their production issues.

These producers commonly expressed using publications and other resources from the Sustainable Agriculture Research and Education program and the National Sustainable Agriculture Information Service to answer production questions.

The farmers mentioned specialty trainings or research provided by Kentucky State University, Kentucky's 1890 land-grant university. Specifically, they had tapped these resources for such topics as aquaculture and had utilized a regular workshop series targeted to the needs of limited-resource and minority farmers.

Industry Representatives

Heritage farmers engaged in standard commodity or livestock production placed emphasis on consulting with industry representatives, including seed dealers, feed dealers, equipment dealers, and marketing professionals. Farmers saw these representatives as having specific knowledge about their particular production systems because the representatives had provided the inputs, medicines, or equipment the farmers were using. Industry representatives also were seen as having broad knowledge about the state of production in the county or region in which they worked. Although these farmers might not have been comfortable speaking to farmers outside their families about particular problems with their enterprises, they viewed industry representatives as proxies who could keep them informed about the general state of production in an area. These farmers' confidence in industry representatives as knowledge sources is summed up by the following comment:

"A close second would be our local rep from [a feed company]. We do a lot through feed, whether it's through the local rep or our nutritionist. I can reach out to either one of them through email or [a] phone call, and they just know . . . they know so much about what's going on in all the counties in central Kentucky, they can point me [toward] a farmer or some other specialist or some representatives that could answer any other question I have."

It should be noted that an evaluation of the relative neutrality or bias of information or consultation provided by industry representatives is outside the scope of this study but well worth future investigation.

Other Publications

Those nonheritage farmers who were engaged in alternative practices mentioned specific books and publications they found helpful in developing their production practices and enterprises. Reference books they mentioned, such as *The New Organic Grower* by Elliot Coleman (published in 1995 by Chelsea Green Publishing Company), contain specific information about organic or sustainable production methods and include topics such as weed, disease, and pest management and scale-appropriate technology options for small farms. Participants also mentioned many periodicals, including *Mother Earth News*, *Growing for Market*, *GRIT*, and *Acres USA*. These periodicals address specific production techniques, such as grass-fed livestock or organic vegetable production, and general small-farm topics.

Discussion and Conclusion

Beginning farmers of all backgrounds draw on a broad network of resources in their search for knowledge and problem-solving strategies while establishing their enterprises. Our findings suggest the importance of providing appropriately designed training programs and services to beginning farmers that account for and accommodate

differences in farming background (heritage vs. nonheritage farmers) and farm characteristics and production options (e.g., specialty livestock, commodity crops, organic products). The rapid expansion of high-quality online resources on farming topics allows farmers to easily access information that aligns with a particular production philosophy or with enterprise characteristics unique to an individual situation. However, many farmers express a continued need for research and recommendations applicable to particular biophysical regions and specific market contexts. Perhaps because of this need, we found that beginning farmers prefer to rely on other farmers as sources of knowledge and information; knowledge from other farmers is, in a very real sense, field-tested and proven.

A recent study by Crawford, Grossman, Warren, and Cubbage (2015) found that organic producers used Extension resources only as supplementary references. Building on these findings, we have shown that ambivalence on the part of producers toward the value and relevance of Extension services extends to both heritage and nonheritage beginning farmers and that the value of Extension services is viewed as dependent on the philosophical and personal characteristics of specific county agents or specialist faculty. To overcome these perspectives, Extension systems across the nation can integrate innovative learning methods, such as facilitated mentorship, and regular programming that translates timely and innovative research from other regions to the unique contexts of their communities.

Given the array of knowledge sources used by beginning farmers, we recommend that Extension enhance its relevance in the farming community by emphasizing its role as a curator of and connector to available resources for beginning farmers and as a community builder for the farming community as a whole. In particular, we outline three roles for Extension agents to play in the beginning farmer knowledge seeker community:

- *Extension agents as matchmakers.* Our findings agree with those of other studies that emphasize farmers' preferences for social and interpersonal learning for topics of farm management (Crawford et al., 2015). County Extension offices are an excellent resource for matching beginning farmers with potential mentor farmers and appropriate Extension specialists. For example, each year, two or three county offices could rotate the hosting of informal gatherings of beginning farmers for "speed dating" and "wisdom sharing" with local seasoned farmers and Extension specialists from the state's land-grant universities.
- *Extension websites as innovative information hubs.* The website of a county Extension office can become a portal that farmers can use to locate website links to appropriate technical information. State Extension systems need to design user-friendly databases of specialists and documents, enabling farmers to easily find reliable sources of information for addressing their issues. Additionally, access to low- and no-cost design, video, and web-based technologies now affords the opportunity to present information in a variety of attractive, innovative, and interactive formats that will capture the attention of beginning farmers and put the answers they seek at their fingertips. Innovative presentations of research or information could include the pairing of publications with web-based videos; infographics; interactive tools, such as online calculators; or step-by-step illustrated guides to technical topics.
- *Extension specialists as "advisers."* Through professional organizations and publications, Extension specialists tend to have knowledge networks that expand beyond state and national boundaries. When beginning farmers seek advice on specific technical problems, Extension specialists are better suited than agents for linking these farmers with appropriate technical information and suitable specialists outside their states. Also, Extension specialists can actively collaborate with specialists outside their states to identify common technical challenges

for beginning farmers and design targeted training programs for addressing these challenges. Most important, advising agents can provide a critical service to new farmers by translating research results and other resources from other regions so that they relate to the unique ecological, geophysical, economic, and social contexts of their home communities.

Today, regardless of age, beginning farmers tend to enter farming from diverse backgrounds, with differing motivations for entering the profession and goals for their enterprises. Collaborations among Extension agents and specialists and agricultural educators in formal and nonformal settings within a state and across a region are vital for building targeted programs for cultivating future generations of farmers.

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