

Food-grade grains training needs for Midwestern farmer advisors

Introduction

Upper Midwest farmers, and particularly organic farmers, are seeking alternative crops to extend corn/soybean rotations as a reaction to increasing weed and economic pressures. While cash grain rotations used to be extended with alfalfa and other forage crops, the separation of crop and livestock production systems restricts farmers' ability to use or market forages, which are often the most effective at diversifying rotations for pest mitigation. Grain farmers most often use a small grain like wheat or oats as a third crop, but in the last two decades have been restricted to sell into feed markets that pay a lower price than food-grade markets. The higher price of food-grade grains is capturing increasing interest among Midwest farmers as they look to diversify incomes and grow grains for their local communities. However, important management factors differ between producing food- versus feed-grade grains, and farmers new to the practice need information and technical support.

Farmer advisors play an active role providing information when a farmer wants to change management practices. Farmer advisors are extension educators, private crop consultants, employees at grain contract companies, agronomists in public and private sectors, and other outreach specialists in the agriculture space. To meet quality parameters for human consumption that make grains eligible for higher food-grade premiums, farmers must grow different/new varieties and manage and handle grains more intensively than has become customary for small grains grown for feed or straw. While growing grains for the food-grade market provides an opportunity for farmers outside the commodity grain system, there are only a few breeding programs working to develop varieties for culinary end-use that are adapted to Upper Midwest growing conditions (Sandro et al., 2022). With a lack of varieties designed for these specialty markets, there is an accompanying lack of easily accessible information about these crops in the hands of farmer-advisors. Despite farmer interest in growing more acres of food-grade small grains, farmer advisors do not have the information they need to support farmers in decision-making and finding resources.

The globalization of the grain value chain has largely displaced local and regional grain supply chains where grains were grown on small- to medium-sized farms, and direct marketed within a region. However, recognition of the risks inherent in our current one-size-fits-all commodity system has sparked new innovation in local/regional grain supply chains, with communities working to take back control of their grain production. New, quality resources for food-grade grain production is well behind those for and in commodity grain production systems, and thus required both aggregation and creation of those food-grade resources, as well as a participatory approach to disseminate the resources to farmer-advisors (Agunga and Igodan, 2007; Barbercheck et al., 2012).

NCR-SARE funded a Professional Development Program grant to develop a curriculum for farmer advisors to assist them in their interactions with farmers who are exploring growing and marketing food-grade grains. The grant project, *Seeding Success: A Food-Grade Grain*

Production Curriculum for Midwest Farmer Advisors, sought perspectives from a network of agricultural professionals to understand what the curriculum should cover. To get this information, project partners hosted roundtable focus group discussions to explore resource and support needs, information gaps, and what a successful network of advisors and resources related to growing, harvesting, cleaning, processing, certifying, and marketing food-grade grains should look like.

Methods

Four focus groups were conducted with farmer technical advisors (hereafter referred to as TAs), in fields related to conservation-focused agricultural practices. Two of these focus groups occurred in person (16 total participants in Madison, WI and in Frankenmuth, MI) and two were conducted virtually (14 total participants). Discussion leaders used the same facilitation guide for all four focus groups and notes were taken throughout the discussion.

Following all four focus groups, the notes were subject to a qualitative analysis using a grounded theoretical approach. The grounded theoretical approach uses a constructivist epistemological framework to generate grounded theory from the discussion notes. Open coding was used to group topics directly from the discussion notes, then axial coding grouped those codes into larger themes. In this analysis, there were 130 open codes and 7 axial codes. The seven axial codes were used to articulate observations made throughout the discussions and inform suggestions based on those observations. The observations were divided into content and delivery categories. Each observation is followed by a suggestion for fulfilling an identified need to inform eventual curriculum development.

The results below are a summary from farmer advisors on what information and support is needed for them to support farmers in all aspects of food-grade grains production, processing, and marketing.

Content on food-grade grains that is needed:

Observation: Identifying markets for food-grade grains was of interest to farmer advisors. This presented in connections with the craft beverage market, identifying specific buyer needs, and requests for a directory.

Suggestion: Suggested outcomes include a script for calling direct market potentials to share with farmers and finding the up-to-date databases of buyers and supporting processors. Centralizing these databases and resources will be helpful to TAs. In addition, as resources are acquired and centralized, grouping them by scale will be helpful.

Observation: Post-harvest considerations specific to seed cleaning and storage (at different scales) were recurring themes.

Suggestion: TAs should understand the storage options based on operation size. TAs should be able to recommend local seed cleaning facilities and explain the importance of seed cleaning and drying to farmers seeking alternative markets. TAs should know where to find resources for locating existing infrastructure for storage and seed cleaning in addition to dehulling and milling.

Observation: Financials of food-grade grains and a digestible economic analysis would be helpful when speaking with farmers

Suggestion: The [OGRAIN compass](#) updated and simplified for mobile-friendly devices in a dashboard format could be useful to plug in numbers easily and easily view.

Observation: TAs receive agronomic questions about ideal rotations, rotation effects, companion cropping, and disease and pest management in the context of risks to culinary grade quality.

Suggestion: Fact sheet or online dashboard with suggested crop rotations and rotational benefits of small grains in the rotation. Identify where in rotations risks to quality might occur. This is particularly concerning for disease management, and will require separate management plans detailed for organic production systems (rotation, scouting, residue management) and conventional growers (fungicide programs appropriate to growing food-grade grains).

Observation: The importance and lack of state-wide breeding programs for small grains for culinary end use were reiterated as a need.

Suggestion: Identify existing programs in each state working on small grain breeding. Interview breeders to assess perceived need and impending research for small grain breeding toward culinary end-use. Compile resources to share with farmers.

Observation: Many TAs brought up food safety concerns and quality related to management of mycotoxins like vomitoxin (also known as deoxynivalenol, DON) and allergens in post-harvest and processing stages.

Suggestion: A fact sheet or portion of an online dashboard to quickly identify how to handle contamination concerns for:

- allergens (What should I look out for when transporting my gluten-free grain? What do I need to think about when certifying my facility?) and
- vomitoxin (How do I get my DON levels down post-harvest? How much will cleaning reduce DON levels, if at all?)

Delivery of information and trainings to farmer advisors:

Observation: The formats that TAs prefer include video with an accompanying fact sheet and social media content linked to reputable resources.

Suggestion: New YouTube videos and video series should have direct downloads for verified /reputable fact sheets.

Observation: Peer networking and peer delivery of information was brought up as an effective way to communicate new information. A farmer leader was mentioned as a key driver in adoption of new practices.

Suggestion: Have TAs identify farm leaders in their farmer-led watershed groups or similar communities to drive information dissemination.

Observation: Finding a platform to host information that is accessible and open source is a challenge. Ideally this platform can host technical videos and accompanying fact sheets.

Suggestion: There are a few possibilities for this platform. Perhaps this looks like an open source “course” where folks can view videos in a particular order or a more informal YouTube playlist hosted on a website.

Conclusion

In addition to the creation of new resources, farmer technical advisors broadly wanted effective consolidation and searchability for existing resources. The new resources that farmer advisers need were predominantly post-harvest processing and handling to find an appropriate market. The gaps in agronomic knowledge centered around appropriate varieties due to a lack of regional breeding programs and communicating ideal rotations to make food-grade spec. To create the requested resources, the project partners will need to make a concerted effort to first gather existing resources into a searchable database. It was most helpful to farmer advisors to have resources scaled by market size with accompanying economic analyses to talk through with farmers.

Literature cited

Agunga, R., & Igodan, C. (2007). Organic Farmers' Need for and Attitude Towards Extension. *The Journal of Extension*, 45(6), Article 8. <https://tigerprints.clemson.edu/joe/vol45/iss6/8>

Barbercheck, M., Kiernan, N. E., Hulting, A. G., Duiker, S., Hyde, J., Karsten, H., & Sanchez, E. (2012). Meeting the ‘multi-’ requirements in organic agriculture research: Successes, challenges and recommendations for multifunctional, multidisciplinary, participatory projects. *Renewable Agriculture and Food Systems*, 27(2), 93–106. doi:10.1017/S1742170511000214

Delate, K., & DeWitt, J. (2004). Building a farmer-centered land grant university organic agriculture program: A Midwestern partnership. *Renewable Agriculture and Food Systems*, 19(2), 80–91. doi:10.1079/RAFS200365

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